Pacific Gas and Electric Company

Iain Baker
Topock Project Manager
Environmental Remediation

Topock Compressor Station
145453 National Trails Hwy
Needles, CA 92363

Mailing Address
P.O. Box 337
Needles, CA 92363

760.791.5884
Fax: 760.326.5542
E-Mail: ixbj@pge.com

September 2, 2022

Mr. Aaron Yue
Project Manager
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Subject: *Second Quarter 2022 Quarterly Progress Report, PG&E Topock Compressor Station, Needles, California* (PGE20180115A)

Dear Mr. Yue:

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

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

Please contact me at 760.791.5884 if you have any questions about the quarterly progress report.

Sincerely,

Iain Baker
Topock Remediation Project Manager

Cc: Chris Guerre/DTSC
Veronica Dickerson/DOI
Ken Foster/CA-SLC
Bruce Campbell/AZ-SLD

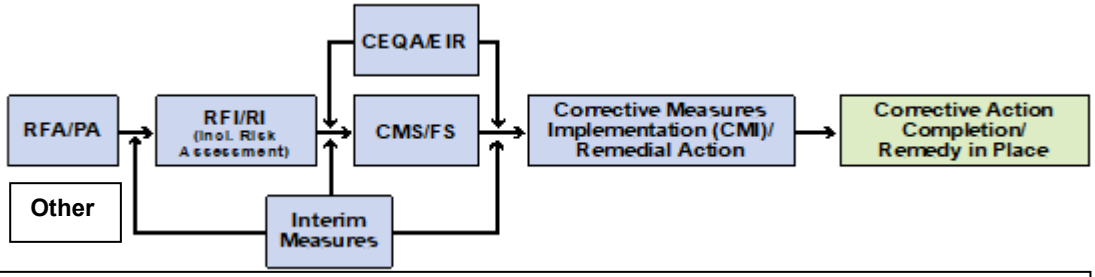
Topock Project Executive Abstract

Document Title: Second Quarter 2022 Quarterly Progress Report, PG&E Topock Compressor Station, Needles CA

Submitting Agency: DTSC and DOI

Final Document? ☒ Yes ☐ No

Date of Document:	September 2, 2022
Who created this document?: (i.e. PG&E, DTSC, DOI, Other)	PG&E
Priority Status:	☐ HIGH ☐ MED ☒ LOW
Is this time critical?	☐ Yes ☒ No
Type of Document:	☐ Draft ☒ Report ☐ Letter ☐ Memo ☐ Other / Explain:
Action Required:	☒ Information Only ☐ Review & Comment Return to: _____ By Date: _____ ☐ Other / Explain:
What does this information pertain to?	☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) ☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) ☐ Corrective Measures Study (CMS)/Feasibility Study (FS) ☒ Corrective Measures Implementation (CMI)/Remedial Action ☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) ☐ Interim Measures ☐ Other / Explain:
Is this a regulatory requirement?	☒ Yes ☐ No If no, why is the document needed?
What is the consequence of NOT doing this item? What is the consequence of DOING this item?	Submittal of this report is a compliance requirement under DTSC and DOI requirements.
Other Justification/s:	☐ Permit ☐ Other / Explain:
Brief Summary of Attached Document:	In December 2021, startup began for Phase 1 of the groundwater remedy system, including start of National Trails Highway in-situ reactive zone (IRZ) system operation, maintenance, and monitoring to address hexavalent chromium in groundwater. Full and continuous operation of the IRZ injection and extraction wells using Topock Compressor Station power continued in Second Quarter 2022 (January April through March June 2022). Periodic planned and unplanned downtime occurred throughout the quarter. Groundwater and surface water monitoring was performed to evaluate the performance of the groundwater remedy to attain the remedial action objectives and comply with Applicable or Relevant and Appropriate Requirements. In accordance with the reporting requirements outlined in the Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy, this quarterly progress report presents an overview of the groundwater remedy and remedial action objectives; a summary of Second Quarter 2022 communications, operations, and performance; and recommendations and planned activities for the next reporting period Written by: PG&E
Recommendations:	None.

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

Pacific Gas and Electric Company

Second Quarter 2022 Quarterly Progress Report

Topock Compressor Station

Needles, California

September 2, 2022

Second Quarter 2022 Quarterly Progress Report

Topock Compressor Station

Needles, California

September 2, 2022

Prepared By:
Arcadis U.S., Inc.
100 Montgomery Street, Suite 300
San Francisco
California 94104
Phone: 415 374 2744
Fax: 415 374 2745

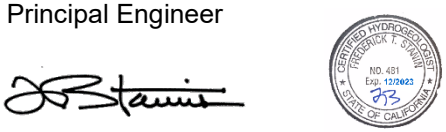
Prepared For:
California Department of Toxic Substances Control

Our Ref:
30139442

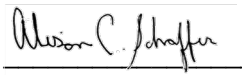
This report was prepared under the supervision of a California Professional Engineer and Professional Geologist.



Margaret Gentile, P.E., PhD
Principal Engineer



Frederick T. Stanin, P.G., C. Hg
Principal Hydrogeologist



Alison Schaffer
Arcadis Report Lead



Treck Hohman
Arcadis Project Manager

Contents

Acronyms and Abbreviations v
Executive Summary vii
1 Introduction 1-1
1.1 Remedial Action Objectives 1-2
1.2 Phase 1 Remedy Overview 1-2
1.3 Phase 1 Monitoring Program Overview 1-3
1.4 Second Quarter 2022 Communications 1-5
2 Second Quarter 2022 Operations Summary 2-1
2.1 Water Level Monitoring Results 2-1
2.2 Ethanol Injections and Carbon Amendment System Monitoring Results 2-1
2.3 Well Fouling Monitoring and Prevention 2-3
2.4 Waste Management 2-4
3 Second Quarter 2022 Performance Summary 3-1
3.1 Summary of Second Quarter 2022 Monitoring Performed 3-1
3.1.1 Modifications to the Phase 1 Monitoring Program 3-1
3.1.2 Data Validation and Completeness 3-2
3.2 Summary of Second Quarter 2022 Monitoring Results 3-3
3.2.1 Process Control Monitoring Results 3-3
3.2.2 Remedy Compliance Monitoring Results 3-6
3.2.3 C O P C Monitoring Results 3-7
4 Recommendations and Planned Activities for Next Reporting Period 4-1
5 References 5-1

Tables

Table 2.1 NTH IRZ System Operational Overview
Table 2.2 Summary of NTH IRZ System Discharges to Groundwater
Table 2.3 NTH IRZ System Operations and Non-Routine Maintenance Log
Table 2.4 Carbon Amendment System Monitoring Results (in text)
Table 2.5 Extraction Well Monitoring Results (in text)
Table 2.6 Backwash Water Field Parameters and Analytical Results

Table 3.1 **Groundwater Remedy Phase 1 Monitoring Program Summary**
Table 3.2 **Remedy Well Construction Details**
Table 3.3 **Monitoring Well Construction Details**
Table 3.4 **Process Control Monitoring Analytical Results**
Table 3.5 **NTH IRZ Dose Response Monitoring Wells Performance Summary**
Table 3.6 **NTH IRZ Downgradient Monitoring Wells Performance Summary**
Table 3.7 **Calculated Flow Vector Azimuth Directions**
Table 3.8 **Remedy Compliance Monitoring Analytical Results**
Table 3.9 **COPC Monitoring Analytical Results**

Figures

Figure 1.1 **Partial Remedy System Layout**
Figure 1.2 **MW-20 Bench Process Flow Diagram**
Figure 1.3 **Process Control Monitoring Network**
Figure 1.4 **Remedy Compliance Monitoring Network**
Figure 1.5 **COPC Monitoring Network**
Figure 1.6 **Pressure Transducer Monitoring Network**
Figure 2.1a **Layer 1 (425 – 455) & Layer 2 (400 – 425) Average Potentiometric Surface: April & May 2022**
Figure 2.1b **Layer 3 (350 – 400) Average Potentiometric Surface: April & May 2022**
Figure 2.1c **Layer 4 (300 – 350) & Layer 5 (250 – 300) Average Potentiometric Surface: April & May 2022**
Figure 3.1 **Phase 1 Monitoring Program: Second Quarter 2022**
Figure 3.2a **Cr6 Concentrations in Groundwater by Elevation Interval**
Figure 3.2b **Cr6 Concentrations in Groundwater by Elevation Interval**
Figure 3.3a **Dissolved Arsenic Concentrations in Groundwater by Elevation Interval**
Figure 3.3b **Dissolved Arsenic Concentrations in Groundwater by Elevation Interval**
Figure 3.4a **Dissolved Iron Concentrations in Groundwater by Elevation Interval**
Figure 3.4b **Dissolved Iron Concentrations in Groundwater by Elevation Interval**
Figure 3.5a **Dissolved Manganese Concentrations in Groundwater by Elevation Interval**
Figure 3.5b **Dissolved Manganese Concentrations in Groundwater by Elevation Interval**
Figure 3.6a **Average Flow Direction On the Northern End of the NTH IRZ**
Figure 3.6b **Average Flow Direction On the Northern End of the NTH IRZ**

Appendices

Appendix A **Second Quarter 2022 Field Parameters**

Appendix B **January 2020 to June 2022 Analytical Results**

Appendix C **Laboratory Reports, Second Quarter 2022**

Appendix D **Referenced Documents**

Acronyms and Abbreviations

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

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

Executive Summary

Startup of the Phase 1 groundwater remedy system began in December 2021, including the start of National Trails Highway (NTH) in-situ reactive zone (IRZ) system operation, maintenance, and monitoring to address hexavalent chromium (Cr6) in groundwater. Full and continuous operation of the IRZ injection and extraction wells using Topock Compressor Station (TCS) power continued in Second Quarter 2022. Periodic planned and unplanned downtime occurred throughout the quarter. Ethanol injections into operational IRZ injection wells occurred once weekly, when operating.

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

- The process control monitoring results indicated that initial Cr6 treatment was observed at dose response monitoring wells MW-26, MW-31-060, MW-51, MW-78-070, MW-79-102, and MW-80-082. These results suggest heterogenous hydraulic distribution of injected water. To enhance hydraulic distribution from each injection well, flow to the southern IRZ injection wells (IRZ-27 [lower], IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37) was increased by approximately 50 percent on June 15, 2022.
- Cr6 concentrations in the downgradient monitoring wells are evaluated to determine if concentrations are within expectations provided in the Final BOD (CH2M Hill 2015a). In Second Quarter 2022, Cr6 concentrations were below 32 micrograms per liter (µg/L), except for MW-39-100 (170 µg/L; June 15, 2022) and MW-77-187 (33 µg/L; June 15, 2022). The sampling frequency at select downgradient monitoring wells was increased from quarterly in the Phase 1 Monitoring Plan to monthly to better evaluate changes in Cr6 concentrations over time in response to system operation. Cr6 concentrations at MW-39-100 and MW-77-187 and monitoring wells downgradient of those wells will be further evaluated in the monthly datasets.
- In-situ byproduct (dissolved arsenic, dissolved iron, and dissolved manganese) concentrations at the dose response and downgradient monitoring wells were below the action levels, except for the dissolved manganese concentration at MW-31-060, located 10 feet from injection well IRZ-18, collected on April 12, 2022 (5.4 milligrams per liter [mg/L]); see table below.
- On the northern end of the NTH IRZ, the Cr6 plume was controlled, as evidenced by the landward hydraulic gradient and Cr6 concentrations in the NTH IRZ extraction monitoring wells (below 32 µg/L) and surface water monitoring locations (non-detect).
- Remedy compliance monitoring data were collected in Second Quarter 2022 to evaluate progress towards achievement of RAOs 2, 3, and 4. RAO progress is anticipated to be evaluated throughout the duration of the remedy. Data collected each quarter will contribute to the overall evaluation.

- Constituents of Potential Concern (COPCs) Perimeter Assessment Plan (PAP) monitoring results in Second Quarter 2022 were below the trigger levels. Verification sampling at COPC PAP monitoring well MW-90-031 was performed on May 5, 2022 to confirm an exceedance of the trigger level in First Quarter 2022; see table below.

The table below provides a summary of in-situ byproduct action level and COPC PAP trigger level exceedances from Second Quarter 2022 and associated response actions.

Program	Well	Constituent	Action Level or Trigger Level	Second Quarter 2022 Result	Response Actions
Process Control Monitoring	MW-31-060	Dissolved manganese	Action Level: 5 mg/L	5.4 mg/L (April 12, 2022)	Re-sampled on May 20, 2022 (0.69 mg/L). Result was below the action level. No further actions needed
COPC Monitoring	MW-90-031	Nitrate as N	Trigger Level: 0.22 mg/L (nitrate/nitrite as N)	<0.5 mg/L nitrate as N (May 5, 2022; Method 300.0) <0.1 mg/L nitrate/nitrite as N (May 5, 2022; Method 353.2)	Notified Agencies of trigger level exceedance on April 29, 2022 Verification sampling performed on May 5, 2022. Nitrate/nitrite and nitrate results did not confirm the exceedance of a trigger level observed in First Quarter 2022. Notified Agencies on July 25, 2022. No further actions needed.

Note:
mg/L = milligram per liter

1 Introduction

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

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

Construction of Phase 1 was completed in December 2021 sufficient for initial system startup. The design was modified during construction to accommodate conditions encountered including a plume footprint smaller than documented in the Final BOD. Modifications included changes to the remediation and monitoring well networks and associated infrastructure including deferral of wells to Phase 2. Construction of the Phase 2a remedy was initiated in First Quarter 2022. Construction of Phase 2b is anticipated to begin in 2023 and be completed in 2026.

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

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

- Overview of the groundwater remedy and RAOs;
- Communications Summary. Summary of remedy-related communications with the DTSC, DOI, PG&E, Tribes, and other project stakeholders, which have been distributed as part of community outreach efforts;
- Operations Summary. Description of routine and non-routine downtime, operational data, and process monitoring data; utilities and consumables used and waste handling/disposal; issues encountered with

system operation; system optimizations and maintenance performed; and material deviations from design documents and the O&M Plan;

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

1.1 Remedial Action Objectives

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

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

1.2 Phase 1 Remedy Overview

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

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

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

- A monitoring well network composed of monitoring wells that existed before the groundwater remedy (174 monitoring locations) and monitoring wells constructed for Phase 1 of the groundwater remedy (69 newly constructed monitoring locations; a total of 243 monitoring locations; see Section 3);
- Riverbank Extraction Wells (four extraction wells). The riverbank extraction wells are not currently plumbed into the remedial system, and were, therefore, not operated in Second Quarter 2022.

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

During Phase 1, the NTH IRZ system is planned to operate for a period of time, nominally for 6 months, followed by a period of downtime, nominally 18 months. Actual duration of the operational and rest periods will be determined based on the amount of active operation runtime each month and data collected in the process control monitoring program (see Section 1.3). Based on data collected in the first 6 months of operation in 2022, operations are planned to continue through the rest of 2022.

1.3 Phase 1 Monitoring Program Overview

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

- *Process control monitoring*. This program assesses the extent to which the NTH IRZ is functioning as designed according to the NTH IRZ DQOs presented in the BOD SMP (CH2M Hill 2015a) and listed below. The DQOs guide data collection and establish decision rules that outline how the data collected will be used to adjust system operations. The NTH IRZ decision rules and operational framework are provided in Figure 2.2-2 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a).
    - The carbon substrate amendment system must be working to amend the organic carbon substrate into the recirculated groundwater (NTH IRZ DQO 1).
    - The NTH IRZ must be complete and maintain Cr6 treatment over time (NTH IRZ DQO 2).
    - In-situ byproduct (dissolved arsenic, dissolved manganese, dissolved iron, and dissolved barium) generation and migration from the NTH IRZ must be controlled (NTH IRZ DQO 3).
    - Extraction on the north end of the NTH IRZ will be conducted to control Cr6 with the NTH and riverbank extraction systems (NTH IRZ DQO 4).

  - Extraction will be conducted to minimize extraction of organic carbon and reduced metal byproducts (iron and manganese; NTH IRZ DQO 5).

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

- *Remedy compliance monitoring*. This program consists of surface water and groundwater sampling to evaluate achievement of RAOs 2, 3, and 4, as defined in Section 1.1. Note that RAO 1, which involves prevention of the ingestion of water with elevated Cr6 concentrations, requires no action within the remedy compliance monitoring program because institutional controls are being implemented to achieve this RAO. The remedy compliance groundwater monitoring and surface water monitoring network is shown on **Figure 1.4**. Results are presented in Section 3.2.2.
- *Constituent of potential concern (COPC) monitoring*. The DTSC and DOI consider selenium, molybdenum, and nitrate as COPCs potentially related to site activities and have directed that these constituents be monitored throughout remediation. The RAOs defined in Section 1.1 are not applicable to the COPCs. The COPC monitoring program consists of surface water and groundwater sampling to monitor COPC concentrations during Phase 1 of remedy startup. The COPC monitoring network is shown on **Figure 1.5.** Results are presented in Section 3.2.3.
- *Water level monitoring*. The purpose of this program is to assess changes in hydraulic gradients in the floodplain affected by system operations. The pressure transducer monitoring network is shown on **Figure 1.6.** Results are presented in Sections 2.1 and 3.2.
- *RPWC system monitoring*. The purpose of this program is to monitor the quality of water at the RPWC system. The primary objective is to evaluate effluent water quality as it affects the reuse options. During Phase 1, the planned reuse is re-injection to the NTH IRZ wells. Results are presented in Section 2.3.
- *Former IM-3 injection area monitoring*. The purpose of this program is to evaluate the change in conditions in the IM-3 injection area following the end of injection associated with IM-3 operations. Former IM-3 injection area monitoring is performed annually; therefore, it is not discussed in this quarterly progress report. The next monitoring event is planned for Fourth Quarter 2022.
- *Domestic well sampling*. Per direction from the DTSC, domestic/private wells are sampled to evaluate the potential effects the remedy could impart to domestic wells chemically and hydraulically. Domestic well sampling is performed biennially; therefore, it is not discussed in this quarterly progress report. The next sampling event is planned for Fourth Quarter 2022.

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

1.4 Second Quarter 2022 Communications

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

- On June 3, 2022, PG&E submitted the First Quarter 2022 Quarterly Progress Report (Arcadis 2022c) to the DTSC and DOI.
- On June 28, 2022, PG&E notified the DTSC and DOI about a planned outage for the remedy the week of June 27 for transformer repairs.
- On June 30, 2022, PG&E submitted the First Quarter 2022 Well Performance Report (Arcadis 2022d) to the DTSC and DOI.
- On July 25, 2022, PG&E submitted a follow-up notification to the DTSC and DOI about the March 2022 nitrate detection in COPC Perimeter Assessment Plan (PAP) monitoring well MW-90-031, which exceeded the COPC PAP trigger level in First Quarter 2022 (Arcadis 2022e).

2 Second Quarter 2022 Operations Summary

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

Operation using TCS power continued in Second Quarter 2022. System runtime, ethanol and recirculated groundwater injection volumes and flowrates, and average flowrates are summarized in **Tables 2.1** and **2.2**. An IRZ system operations and non-routine maintenance log is presented as **Table 2.3**.

A notable operational change during Second Quarter 2022 was the increase of flowrates by approximately 50 percent for the injection wells along the southern forcemain (IRZ-27 [lower], IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37) to further influence development of an IRZ for Cr6 treatment. Additionally, multiple planned and unplanned shutdowns occurred during Second Quarter 2022. One planned shutdown period occurred in late June to conduct transformer repairs. TCS turning off power to the remedy based on station activities.

2.1 Water Level Monitoring Results

Water level monitoring was performed at a subset of monitoring wells to assess hydraulic gradients in the floodplain affected by system operations. Pressure transducer data were downloaded on June 6, 2022. Therefore, April and May data are analyzed in this quarterly progress report and June data will be analyzed in the Third Quarter 2022 quarterly progress report.

Figure 2.1 shows the average daily groundwater elevations for April and May 2022 and the associated groundwater contours for Layers 1 and 2, Layer 3, and Layers 4 and 5. **Table 2.2** provides the active operation time for each IRZ extraction and injection well in April and May 2022. The NTH IRZ extraction and injection wells were actively operating for longer periods in May 2022 compared to April 2022.

The following observations were made based on the April and May 2022 potentiometric surface maps:

- During active extraction, cones of depression formed near IRZ extraction wells IRZ-13S (Layers 1 and 2), IRZ-13D (Layers 4 and 5), and IRZ-23 (Layer 3).
- In the area near injection wells, particularly near IRZ-17 through IRZ-20 in Layers 4 and 5, mounding was observed during periods of injection.
- During April and May 2022, the Colorado River stage was high, resulting in the river generally losing to the aquifer within the floodplain area, with groundwater flow from the river toward the NTH IRZ.

2.2 Ethanol Injections and Carbon Amendment System Monitoring Results

In April, May, and June 2022, ethanol was generally injected into operational injection wells once weekly. A total of 347 gallons of ethanol was injected in Second Quarter 2022. Volumes of ethanol injected per month and per individual well are provided in **Tables 2.1** and **2.2**.

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

Total organic carbon (TOC) and ethanol samples were collected in April, May, and June 2022 (see **Table 2.4**, below). Both TOC and ethanol were analyzed because the initial TOC results collected from January through April 2022 were very low in comparison to anticipated TOC concentrations (540 milligrams per liter [mg/L] TOC in each injection pulse). Low results could indicate that the carbon amendment system may not have been achieving the targeted ethanol dose, but, in this case, the dosing equipment appeared to be functioning properly and the measured volumes of ethanol used matched expectations (**Table 2.4**). Therefore, it was suspected that the laboratory analysis was not accurate. In addition to measuring ethanol specifically, verification of the TOC analytical method was performed on May 24, 2022 by analyzing the carbon amendment system samples using TOC methods 5310C (listed in the PG&E Program Quality Assurance Project Plan [QAPP], CH2M Hill 2014; Critigen 2020) and 5310B (alternative TOC analytical method).

In the May troubleshooting analysis, TOC analysis by both methods 5310C and 5310B yielded concentrations within the anticipated order of magnitude, although 5310B results were somewhat lower than 5310C results. Both methods provided TOC results that were higher than those in January through April 2022 including the previously used 5310C method. The data suggest that TOC method 5310C is now providing representative TOC concentrations and will continue to be used to analyze for TOC, although it is not clear what change occurred between April and May to bring the results within expectations. Ethanol results from March through June also confirm that ethanol was being properly dosed and support the interpretation that the January through April TOC results by method 5310C were not accurate.

As stated in the BOD SMP (CH2M Hill 2015a), carbon amendment system monitoring is required to be performed weekly or biweekly during remedy startup until the data verify that the system is working properly. Once the system operations are verified, the sampling frequency can be reduced to quarterly or semi-annually. Because the recent TOC and ethanol results confirm that the system is working properly, the sampling frequency of the carbon amendment system will be reduced to semi-annually. The next TOC and ethanol samples from the carbon amendment system will be collected in Fourth Quarter 2022.

Table 2.4 Carbon Amendment System Monitoring Results

Location ID	Sample Date	TOC (mg/L) by SM 5310C	TOC (mg/L) by SM 5310B	Ethanol (µg/L) by SW 8260B	Ethanol-TOC Equivalent[1] (mg/L)
CAB_MIXER_606	1/6/2022	5.9	--	--	--
CAB_MIXER_606	1/24/2022	3.0	--	--	--
CAB_MIXER_606	2/7/2022	Less than 5.0	--	--	--
CAB_MIXER_606	3/18/2022	230	--	1,400,000	730
CAB_MIXER_606	5/9/2022	690	--	1,000,000	520
CAB_MIXER_606	5/24/2022	860	790	2,200,000	1,100
CAB_MIXER_606	6/7/2022	640	--	1,100,000	570
CAB_MIXER_606	6/21/2022	610	--	1,400,000	730
CAB_MIXER_607	1/6/2022	8.0	--	--	--
CAB_MIXER_607	1/24/2022	3.7	--	--	--
CAB_MIXER_607	3/18/2022	9.3	--	1,300,000	680
CAB_MIXER_607	4/13/2022	3.6	--	1,400,000	730
CAB_MIXER_607	5/9/2022	640	--	1,300,000	680
CAB_MIXER_607	5/24/2022	700	490	1,500,000	780
CAB_MIXER_607	6/7/2022	450	--	670,000	350
CAB_MIXER_607	6/21/2022	610	--	1,400,000	730

-- = not applicable or not available

µg/L = microgram per liter

J = estimated concentration

mg/L = milligram per liter

TOC = total organic carbon

[1]The equation to convert ethanol to TOC is (mg/L ethanol)*(1 mole ethanol/46.07 grams ethanol)*(12.0107 grams carbon/mole carbon)*(2 moles carbon/1 mole ethanol).

2.3 Well Fouling Monitoring and Prevention

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

Table 2.5 shows the baseline and monthly analytical results from extraction wells IRZ-9, IRZ-23, IRZ-13S, and IR Z-13D. TOC, total iron, dissolved iron, and dissolved manganese concentrations were generally lower than the reporting limits, with several isolated exceptions. The isolated detections do not indicate a consistent trend that would be of concern for causing well fouling; therefore, no adjustments to operations were needed in Second Quarter 2022. Extraction well IRZ-9 was not operated in Second Quarter 2022.

The extraction wells will continue to be monitored monthly in Third Quarter 2022.

Table 2.5. Extraction Well Monitoring Results

Extraction Well	Sample Date	Active Time Operating (percent)	TOC (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)
IRZ-9	Baseline: January 2022	9	Less than 1	Less than 0.02	Less than 0.02	0.0027
IRZ-9	April 2022	Not operating	Less than 1	0.34	Less than 0.02	0.0018
IRZ-9	May 2022	Not operating	Less than 1	0.14 J	Less than 0.02 J	Less than 0.0005
IRZ-9	June 2022[1]	Not operating	Less than 1	--	0.048 J	Less than 0.0005
IRZ-23	Baseline: December 2021	8	Less than 10	0.69	0.091 J	Less than 0.0005
IRZ-23	April 2022	75	Less than 1	0.130	Less than 0.02	Less than 0.0005
IRZ-23	May 2022	64	Less than 1	Less than 0.02	Less than 0.02	Less than 0.0005
IRZ-23	June 2022[1]	88	Less than 1	--	Less than 0.02	Less than 0.0005
IRZ-13S	Baseline: March 2022	53	Less than 1	0.06	Less than 0.02	Less than 0.0005
IRZ-13S	April 2022	33	Less than 1	0.18	Less than 0.02	0.0029
IRZ-13S	May 2022	63	Less than 1	0.054 J	Less than 0.02 J	Less than 0.0005
IRZ-13S	June 2022[1]	87	Less than 1	--	Less than 0.02	Less than 0.0005
IRZ-13D	Baseline: March 2022	53	Less than 50	Less than 0.02	0.059	0.062
IRZ-13D	April 2022	31	Less than 1	0.63	Less than 0.02	0.028
IRZ-13D	May 2022	63	Less than 1	Less than 0.1 J	Less than 0.02 J	0.0025
IRZ-13D	June 2022[1]	88	Less than 1	--	Less than 0.02 J	Less than 0.0005

mg/L = milligram per liter
J = estimated concentration
[1]Total iron was inadvertently not analyzed in June 2022

The IRZ injection wells were backwashed weekly when they were operating. The backwash water was stored in frac tanks at the MW-20 bench while the RPWC system was being finished. The RPWC system is planned to begin operation in Third Quarter 2022. Before re-injection into the IRZ injection wells, the backwash water was analyzed for field parameters and select constituents (Cr6, total chromium, dissolved iron, and dissolved manganese). A summary of field parameters and analytical results from the backwash water is provided in **Table 2.6**. The data demonstrate that the water met the conditions specified in the BOD SMP for re-injection into IRZ injection wells (pH between 6.5 and 8.5).

2.4 Waste Management

In Second Quarter 2022, IRZ backwash water, purge water from well sampling, and stormwater pumped from vaults was stored in frac tanks at the MW-20 bench. The water was filtered and used for re-injection into IRZ injection wells.

3 Second Quarter 2022 Performance Summary

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

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

3.1 Summary of Second Quarter 2022 Monitoring Performed

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

- Process control monitoring;
- Remedy compliance monitoring;
- COPC monitoring; and
- Water level monitoring.

Note that the monitoring wells included in each monitoring program vary by quarter. **Table 3.1** and **Figure 3.1** show the monitoring wells and surface water monitoring locations monitored in Second Quarter 2022.

The following monitoring and extraction wells were not sampled in Second Quarter 2022 for the reasons noted below:

- MW-57-050 and MW-58-065: dry;
- PGE-07BR: inoperable pump;
- TW-01: inaccessible due to remedy construction.

Field parameters (temperature, pH, specific conductivity, oxidation-reduction potential [ORP], turbidity, total dissolved solids [TDS], and salinity) were measured before groundwater and surface water sample collection. Samples were sent to Asset Laboratories in Las Vegas, Nevada for laboratory analysis. Samples collected from monitoring wells in Arizona were sent to EMAX Laboratories, Inc. in Torrance, California. Total iron was inadvertently not analyzed for extraction wells IRZ-9, IRZ-13S, IRZ-13D, and IRZ-13 in June 2022; total iron will be analyzed at these locations in Third Quarter 2022.

3.1.1 Modifications to the Phase 1 Monitoring Program

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

- Extraction wells IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23 continued to be sampled monthly (see **Section 2.3**).

- Inactive injection wells IRZ-15, IRZ-21, and IRZ-25 were incorporated into the dose response monitoring program in Second Quarter 2022 to further evaluate the influence of active IRZ operations adjacent to extraction wells. The wells were sampled in April 2022; however, they were not sampled in May or June 2022 because the equipment at the wells was removed and transferred to other wells in the system after the March 29, 2022 storm damage while waiting for replacement parts.
- The sampling frequency at select downgradient monitoring wells (MW-30-050, MW-34-080, MW-36-090, MW-36-100, MW-39-040, MW-39-050, MW-39-060, MW-39-070, MW-39-080, MW-39-100, MW-44-115, MW-44-125, MW-45-095a, MW-77-046, MW-77-102, MW-77-158, MW-77-187, MW-81-043, MW-81-098, MW-82-046, MW-82-112, MW-82-168, and MW-82-198) increased from quarterly to monthly starting in June 2022 to better evaluate changes in Cr6 concentrations over time in response to system operation. Samples collected from these wells were analyzed for the constituents listed in **Table 3.1** as well as sulfate.
- The sampling frequency at monitoring wells MW-167-185 and MW-168-180, located in the vicinity of the TCS, was increased to monthly to evaluate changes in Cr6 concentrations over time.
- Starting in May 2022, samples collected from the COPC PAP monitoring wells were analyzed for nitrate using USEPA Method 300.0 and nitrate/nitrite using USEPA Method 353.2. Refer to Section 3.2.3 for additional details.

3.1.2 Data Validation and Completeness

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

- Precision of the data was verified through the review of the laboratory data quality indicators that include matrix spike/matrix spike duplicate (MS/MSD) and field duplicate relative percent differences. Precision for several analytes fell outside of performance indicators due to matrix interference; data validation qualifiers were applied for results that did not meet quality control criteria.
- Accuracy of the data was verified through the review of the calibration, laboratory control samples, MS/MSDs, as well as the evaluation of method/field blank data. Accuracy was acceptable for all analyses with some exceptions due to matrix interference; data validation qualifiers were applied for results that did not meet quality control criteria.
- Representativeness of the data was verified through the samples' collection, storage, and preservation procedures and the verification of holding-time compliance. The laboratory did not note any problems with the samples' collection, holding time, and storage. Chain-of-custody issues were minor and were resolved and documented in the data packages.
- Comparability of the data was ensured using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.
- Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements

compared to planned measurements. Valid data are defined as all data that are not rejected for project use and flagged “R” for rejected during validation. All data are considered valid except for the following results:

- MW-39-060-Q222 and MW-39-100-Q222 (May 2022): These results were rejected because the analytical results indicated the samples had been switched (sample delivery group number 50583).
- TW-03D-Q222 and MW-913-Q222 (June 2022): Two nitrite results were rejected because there was no recovery in the MS associated with the samples.

The completeness goal of 90 percent was met for all method/constituent combinations.

3.2 Summary of Second Quarter 2022 Monitoring Results

This section summarizes the Second Quarter 2022 process control monitoring, remedy compliance monitoring, and COPC monitoring results. Field parameter monitoring results are presented in **Appendix A**. Analytical results for all monitoring wells and surface water monitoring locations in the Phase 1 Monitoring Program from January 2020 to June 2022 are provided in **Appendix B**. Laboratory reports from Second Quarter 2022 are provided in **Appendix C**.

3.2.1 Process Control Monitoring Results

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

3.2.1.1 Dose Response and Downgradient Well Monitoring Results

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

3.2.1.1.1 NTH IRZ Treatment Results

Dose response well monitoring results, including changes in TOC, Cr6, and/or dissolved iron concentrations, are used to determine establishment of the NTH IRZ and Cr6 treatment. **Table 3.5** provides a performance summary for these parameters for the dose response wells in Second Quarter 2022. The performance summary is based on the decision rules and operational framework provided on Figure 2.2-2 of the BOD SMP.

As indicated in **Table 3.5**, initial Cr6 treatment, based on declining Cr6 concentrations and/or increasing dissolved iron concentrations, was observed at the following monitoring wells (listed from north to south):

- MW-26;

- MW-31-060;
- MW-51;
- MW-78-070;
- MW-79-102; and
- MW-80-082.

TOC was sampled at the dose response wells, and concentrations were non-detect. The lack of TOC detections could reflect the periodic ethanol dosing or organic carbon consumption before reaching the dose response wells, as reducing conditions were initially being established or could indicate that not enough ethanol is being injected to reach the monitoring well locations.

Although Cr6 treatment is being observed at dose response wells monitoring several different IRZ injection wells, treatment has not been observed at all depth intervals and directions from those injection wells. For example, on the southern end of the NTH IRZ, three dose response wells (MW-78-142, MW-79-058, and MW-80-057) yielded results that do not show evidence of arrival of treated water, while wells in other directions and depth intervals listed above did show evidence of arrival of treated water. These results indicate heterogenous hydraulic distribution of injected water. To enhance hydraulic distribution from each injection well, flow to the southern IRZ injection wells (IRZ-27 [lower], IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37) was increased by approximately 50 percent on June 15, 2022. The Third Quarter 2022 results will be evaluated to determine whether the increased flow improved hydraulic distribution.

Based on operation to date, continued NTH IRZ system operation is warranted to further generate sustained Cr6 reducing conditions.

3.2.1.1.2 Downgradient Hexavalent Chromium Results

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

Table 3.6 provides a performance summary of the downgradient monitoring wells in Second Quarter 2022 to evaluate Cr6 distribution and changes in Cr6 concentrations downgradient of the NTH IRZ. **Figure 3.2** shows the distribution of Cr6 in downgradient monitoring wells in Second Quarter 2022 for wells monitoring Layers 1 through 5**.** Cr6 concentrations were below 32 µg/L at all monitoring wells, except at the following two wells:

- MW-39-100 (170 µg/L; June 15, 2022). Table 2.1-4 of the BOD SMP (Appendix L, Volume 2; CH2M Hill 2015a) indicates that Cr6 concentrations at this monitoring well may increase during the initial remedy operation. Although the June Cr6 concentration at MW-39-100 exceeded 32 µg/L, concentrations at monitoring wells further downgradient (MW-34-080, MW-34-100, MW-36-070, MW-36-090, MW-36-100, and MW-45-095a) remained below 32 µg/L (non-detect to 0.93 µg/L). In addition, **Figure 2.1** indicates that flow in this area was generally toward active extraction well IRZ-23. Cr6 concentrations at MW-39-100 and downgradient wells will continue to be monitored monthly.

- MW-77-187 (33 µg/L; June 15, 2022). Cr6 concentrations at MW-77-187 increased since startup of remedy operations in December 2021. However, Cr6 concentrations at monitoring wells further downgradient of MW-77-187 (MW-46-175 and MW-46-205) remained below 32 µg/L in May 2022 (non-detect to 6.9 µg/L). As the IRZ is established by injections at IRZ-18, it is expected that treated water will flow toward MW-77-187 and the Cr6 concentration will decline. To verify this expectation, MW-77-187, along with the rest of the wells in the MW-77, MW-81, and MW-82 monitoring well clusters, will continue to be sampled monthly to evaluate changes in Cr6 concentrations over time in response to system operation.

3.2.1.1.3 In-Situ Byproduct Results

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

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

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

Figures 3.3 through **3.5** show the distribution of Second Quarter 2022 dissolved arsenic, dissolved iron, and dissolved manganese concentrations for the dose response and downgradient monitoring wells monitoring Layers 1 through 5. In-situ byproduct concentrations at the dose response and downgradient monitoring wells were below the action levels, except for the dissolved manganese concentration at dose response well MW-31-060 (located 10 feet from IRZ-18) collected on April 12, 2022 (5.4 mg/L; above the action level of 5 mg/L). The dissolved manganese concentration at MW-31-060 previously exceeded the action level in February 2022 (7.8 mg/L). In response to the February 2022 action level exceedance, the ethanol injection frequency was reduced from two dosses per week to one dose per week on March 7, 2022. Monitoring well MW-31-060 was subsequently sampled on May 20 and June 13, 2022, and the dissolved manganese concentrations decreased to 0.69 mg/L and 0.024 mg/L, respectively. Both results were below the action level of 5 mg/L; therefore, no operational changes were warranted in Second Quarter 2022.

3.2.1.2 Northern NTH IRZ Extraction Monitoring Results

On the northern end of the NTH IRZ, the system is designed to control potential migration of Cr6 via groundwater extraction rather than the establishment of an IRZ. **Figure 1.3** shows the area addressed by northern extraction, with the northern extraction monitoring wells identified in green. Multiple lines of evidence can be used to evaluate

achievement of control of the Cr6 plume at the northern end of the NTH IRZ (NTH IRZ DQO 4), including interpreted water levels, concentration trends, and numerical modeling (CH2M Hill 2015a).

In Second Quarter 2022, Cr6 concentrations and groundwater elevation data demonstrate control of the Cr6 plume in this area. Cr6 concentrations in the northern NTH IRZ extraction monitoring wells (green symbols on **Figure 1.3**) were below 32 µg/L and Cr6 concentrations at the surface water monitoring locations were non-detect at the reporting limit (see **Tables 3.4** and **3.8** and **Figure 3.2)**, indicating Cr6 plume control in Second Quarter 2022**.** It should be noted that Cr6 concentrations have fluctuated at MW-75-033, which yielded 40 µg/L in First Quarter 2022. Nearby monitoring wells MW-76-039/-156/-181/-218 yielded maximum Cr6 concentrations of 88, 15, 2,200, and 460 µg/L, respectively, in Second Quarter 2022. This northern portion of the contiguous Cr6 plume at the MW-76 cluster will ultimately be treated by injection at IRZ-15, but injections have not been conducted to date. In the meantime, northern extraction at IRZ-13S and IRZ-13D is being evaluated to understand the influence of IRZ operations on this portion of the Cr6 plume, as described below.

Hydraulic influence of IRZ-13S and IRZ-13D was evaluated using potentiometric surface maps (see Section 2.1) and horizontal hydraulic gradient vectors. Gradient vectors were calculated using water level elevations in three wells located in a triangular fashion (“triplets”). These vectors provide a unique solution for each well triplet and viewing multiple such vectors in an area can describe the approximate groundwater flow field in an area. This is done for the area around IRZ-13S and IRZ-13D in Layers 1 and 2 and Layers 4 and 5, which are the layers where Cr6 is or has been present above 32 µg/L in the MW-75 and MW-76 monitoring well clusters. The monitoring wells used in the triplets are shown on **Figure 3.6** and flow vector azimuth directions calculated from average monthly water levels from pressure transducers are listed in **Table 3.7**. Note that April and May 2022 data are analyzed in this quarterly progress report and June 2022 data will be analyzed in the Third Quarter 2022 quarterly progress report.

IRZ-13S and IRZ-13D operated approximately 32 percent of the month in April 2022 and approximately 63 percent of the month in May 2022. The potentiometric surface map for Layers 1 and 2 (**Figure 2.1a**) shows an area of groundwater flow toward IRZ-13S achieved by extraction operations in April and May 2022, including the area by MW-75-033 and MW-76-039. Flow vectors described by triplets MW-75-033/MW-96-045/MW-97-042 and MW-76-039/MW-86-030/MW-97-042 (**Figure 3.6a**) also show flow towards IRZ-13S in April and May 2022. The potentiometric surface map for Layers 4 and 5 (**Figure 2.1c**) shows an area of groundwater flow toward IRZ-13D, including the area by MW-76-156/-181. Flow vectors described by triplets MW-35-135/MW-49-135/MW-76-181 shows landward flow in April and May 2022 and flow vectors described by triplets MW-76-181/MW-86-120/MW-77-158 and MW-76-181/MW-86-140/MW-77-187 show flow toward IRZ-13D in April and May 2022 (**Figure 3.6b**).

Collectively, Cr6 concentration and water level data demonstrate that any potential migration of the Cr6 plume targeted by northern extraction is controlled.

3.2.2 Remedy Compliance Monitoring Results

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

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

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

  Although RAO 2 is specifically intended to address Cr6, IRZ in-situ byproducts dissolved arsenic and dissolved manganese are also monitored in the Colorado River to verify that concentrations do not exceed the surface water quality standards. In Second Quarter 2022, dissolved arsenic concentrations at the 16 surface water monitoring locations were below the National Recommended Water Quality Criteria (NRWQC) for aquatic life of 150 µg/L. There is no NRWQC for aquatic life for dissolved manganese (USEPA 2022). Dissolved arsenic and dissolved manganese concentrations were below the California primary and secondary maximum contaminant levels (MCLs) of 10 µg/L (primary MCL) and 0.05 mg/L (secondary MCL), respectively (State of California 2022).

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

  Changes in Cr6 concentrations inside the plume as a result of IRZ system operations are discussed in Section 3.2.1.1. In Second Quarter 2022, Cr6 treatment (i.e., decreasing Cr6 concentrations) was observed at six dose response monitoring wells. **Figure 3.2** shows the distribution of Cr6 in groundwater across the Site in Second Quarter 2022 for wells monitoring Layers 1 through 5. As IRZ system operations continue, Cr6 data from monitoring wells located inside the plume will continue to be collected and assessed to evaluate progress towards this RAO.

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

3.2.3 COPC Monitoring Results

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

The COPC PAP was developed to notify the DTSC when COPC threshold concentrations (i.e., trigger levels) in select outer plume compliance groundwater monitoring wells (i.e., COPC PAP monitoring wells) are exceeded. Thirty-one monitoring wells are included in the COPC PAP; however, not all COPC PAP monitoring wells were scheduled for sampling in Second Quarter 2022 (see **Table 3.1**). The trigger levels are based on Shewhart control limits calculated from the most recent eight sample results for each monitoring well; the method for calculating the trigger levels is provided in Appendix D of the Fourth Quarter 2021 Quarterly Progress Report (Arcadis 2022a). The COPC PAP decision tree, also provided in Appendix D of the Fourth Quarter 2021 Quarterly Progress Report (Arcadis 2022a), outlines notifications and actions to be taken when COPC concentrations in a COPC PAP monitoring well exceed a trigger level.

In First Quarter 2022, the nitrate concentration in COPC PAP monitoring well MW-90-031 (0.66 mg/L nitrogen [N]) exceeded the trigger level of 0.22 mg/L N (see Appendix D of the Fourth Quarter 2021 Quarterly Progress

Report [Arcadis 2022a]). The trigger level was calculated for the baseline dataset using nitrate/nitrite results since nitrate was not historically analyzed at this monitoring well. In accordance with the COPC PAP decision tree, PG&E notified the Agencies of this exceedance on April 29, 2022 (Arcadis 2022b), and a verification sample was collected on May 5, 2022, within 45 days of receipt of the validated data. Both nitrate/nitrite (USEPA Method 353.2) and nitrate (USEPA Method 300.0) were analyzed.

The May 2022 nitrate/nitrite and nitrate results were non-detect at a reporting limit of 0.1 mg/L N and 0.5 mg/L N, respectively. These results do not confirm the exceedance of the trigger level observed in First Quarter 2022. In accordance with the PAP procedures, PG&E notified the Agencies of the May 2022 verification results on July 25, 2022 (Arcadis 2022e; Appendix D), and remedial operations continued. In addition, groundwater samples collected from MW-90-031 will continue to be analyzed for both nitrate/nitrite (Method 353.2) and nitrate (Method 300.0) until sufficient nitrate data are collected to establish a nitrate COPC PAP trigger level.

4 Recommendations and Planned Activities for Next Reporting Period

Phase 1 remedy operations and the Phase 1 Monitoring Program will continue to be performed in Third Quarter 2022 (July to September 2022) in accordance with the O&M Plan (CH2M Hill 2015a) and Phase 1 Monitoring Plan (Arcadis 2021). Because the system operated intermittently in the First Half of 2022, reducing conditions are still being established; therefore, IRZ operations will continue (see Figure 2.2-2 of the BOD SMP [CH2M Hill 2015a]). The monitoring program outlined in **Table 3.1** will continue with modifications as noted below.

In addition to routine remedy operations and monitoring, the following activities are planned for Third Quarter 2022:

- Injection wells closest to an extraction well (IRZ-15, IRZ-21, and IRZ-25), along with extraction well IRZ-9, will remain offline.
- Initiate operation of the RPWC system and perform RPWC system monitoring in accordance with the BOD SMP (CH2M Hill 2015a).
- Continue to sample extraction wells IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23 monthly (while operational) in Third Quarter 2022 to evaluate the potential for well fouling. In addition, sulfate and nitrate will be analyzed to determine the concentrations that are extracted at each well.
- Continue to incorporate wells IRZ-15, IRZ-21, and IRZ-25 into the dose response monitoring program to further evaluate the influence of active IRZ operations adjacent to extraction wells.
- Continue to sample select downgradient monitoring wells (MW-30-050, MW-34-080, MW-36-090, MW-36-100, MW-39-040, MW-39-050, MW-39-060, MW-39-070, MW-39-080, MW-39-100, MW-44-115, MW-44-125, MW-45-095a, MW-67-185, MW-68-180, MW-77-046, MW-77-102, MW-77-158, MW-77-187, MW-81-043, MW-81-098, MW-82-046, MW-82-112, MW-82-168, and MW-82-198) monthly to evaluate changes in Cr6 concentrations in response to system operation.
- Continue construction of the Phase 2a remedy.

IRZ operations, monitoring, and monitoring results will be reported in a Third Quarter 2022 Quarterly Progress Report. A Third Quarter 2022 Well Performance Report will also be submitted to document well performance tracking data from Third Quarter 2022 in accordance with the O&M Plan (CH2M Hill 2015a).

5 References

Arcadis. 2021. Groundwater Remedy Phase 1 Interim Monitoring Plan. Topock Compressor Station, Needles, California. October 1.

Arcadis. 2022a. Fourth Quarter 2021 Quarterly Progress Report. PG&E Topock Compressor Station, Needles, California. March 31.

Arcadis. 2022b. Email from M. Gentile (Arcadis) to A. Yue (DTSC), C. Guerre (DTSC), P. Innis (DOI), and V. Dickerson (NPS). RE: Topock-First Quarter 2022 COPC Exceedance Notification for MW-90-031. April 29.

Arcadis. 2022c. First Quarter 2022 Quarterly Progress Report. PG&E Topock Compressor Station, Needles, California. June 3.

Arcadis. 2022d. First Quarter 2022 Well Performance Report. PG&E Topock Compressor Station, Needles, California. June 30.

Arcadis. 2022e. Email from M. Gentile (Arcadis) to A. Yue (DTSC), C. Guerre (DTSC), P. Innis (DOI), and V. Dickerson (NPS). RE: Topock-Second Quarter 2022 COPC Verification Sample Result Notification: Exceedance. July 25.

CH2M Hill. 2014. Final PG&E Program Quality Assurance Project Plan. November.

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

CH2M Hill. 2015b. Construction/Remedial Action Work Plan for the Final Groundwater Remedy. PG&E Topock Compressor Station, Needles, California. November.

Critigen. 2020. Addendum to the PG&E Program Quality Assurance Project Plan for Groundwater and Surface Water Sampling at the Topock Chromium Site. April.

DOI. 2010. Groundwater Record of Decision, Pacific Gas and Electric Company, Topock Compressor Station, Needles, San Bernardino County, California. ROD cover date is December 2010; signed/approved by DOI on January 20, 2011.

DTSC and DOI. 2011. Memorandum of Understanding (MOU) concerning the coordination in overseeing the implementation of groundwater response action at Topock Compressor Station. November 22.

State of California. 2022. Title 22. California Code of Regulations. Division 4 Environmental Health. Chapter 15 Domestic Water Quality and Monitoring Regulations.

USEPA. 2022. National Recommended Water Quality Criteria. USEPA Office of Water, Office of Science and Technology. Available online at: http://water.ea.gov/scitech/swguidance/standards/criteria/current/index.cfm.

Tables

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

Month	Recirculated Groundwater Extraction Volume (gal)	Recirculated Groundwater Injection Volume (gal)	Average Injection Flow Rate, During Operation (gpm)	Average Extraction Flow Rate, During Operation (gpm)	Ethanol Injection Volume (gal)	Run Time (hours)[a]	Run Time (percent)[b]
November 2021	--	--	--	--	--	--	--
December 2021	307,610	312,416	93.0	91.6	84.0	56	8
January 2022	790,773	807,489	62.9	61.6	195	214	29
February 2022	615,500	634,662	63.0	61.1	136	168	25
March 2022	4,154,763	4,226,217	113	112	186	621	83
April 2022	2,732,956	2,834,615	84	81	74	561	78
May 2022	3,528,183	3,670,117	122	117	153	501	67
June 2022	4,985,560	5,141,918	134	130	121	640	89

Notes:

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

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

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

Abbreviations:

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

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

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-15	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-15	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-15	Upper	Injection	Jan-22	--	--	--	--	--
IRZ-15	Upper	Injection	Feb-22	--	--	--	--	--
IRZ-15	Upper	Injection	Mar-22	--	--	--	--	--
IRZ-15	Upper	Injection	Apr-22	--	--	--	--	--
IRZ-15	Upper	Injection	May-22	--	--	--	--	--
IRZ-15	Upper	Injection	Jun-22	--	--	--	--	--
IRZ-15	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-15	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-15	Lower	Injection	Jan-22	--	--	--	--	--
IRZ-15	Lower	Injection	Feb-22	--	--	--	--	--
IRZ-15	Lower	Injection	Mar-22	--	--	--	--	--
IRZ-15	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-15	Lower	Injection	May-22	--	--	--	--	--
IRZ-15	Lower	Injection	Jun-22	--	--	--	--	--
IRZ-16	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-16	Upper	Injection	Dec-21	18,090	5.1	55	7	5.5
IRZ-16	Upper	Injection	Jan-22	47,945	11	150	20	5.3
IRZ-16	Upper	Injection	Feb-22	3,011	--	10	1	5.0
IRZ-16	Upper	Injection	Mar-22	188,133	8.8	610	82	5.1
IRZ-16	Upper	Injection	Apr-22	201,577	6.0	521	72	6.4
IRZ-16	Upper	Injection	May-22	159,085	6.5	495	67	5.4
IRZ-16	Upper	Injection	Jun-22	204,790	5.3	634	88	5.4
IRZ-16	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-16	Lower	Injection	Dec-21	37,913	10	56	8	11
IRZ-16	Lower	Injection	Jan-22	83,007	21	139	19	10
IRZ-16	Lower	Injection	Feb-22	5,621	--	10	1	9.4
IRZ-16	Lower	Injection	Mar-22	368,922	17	608	82	10
IRZ-16	Lower	Injection	Apr-22	344,997	11	521	72	11
IRZ-16	Lower	Injection	May-22	308,301	13	494	66	10
IRZ-16	Lower	Injection	Jun-22	415,866	10	633	88	11
IRZ-17	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-17	Upper	Injection	Dec-21	25,091	6.6	56	8	7.5
IRZ-17	Upper	Injection	Jan-22	61,929	15	153	21	6.7
IRZ-17	Upper	Injection	Feb-22	3,761	--	10	1	6.3
IRZ-17	Upper	Injection	Mar-22	253,824	12	636	85	6.7
IRZ-17	Upper	Injection	Apr-22	260,224	7.1	560	78	7.7
IRZ-17	Upper	Injection	May-22	206,311	8.7	484	65	7.1
IRZ-17	Upper	Injection	Jun-22	246,831	5.9	634	88	6.5
IRZ-17	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-17	Lower	Injection	Dec-21	48,210	13	56	8	14

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

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-17	Lower	Injection	Jan-22	126,137	30	153	21	14
IRZ-17	Lower	Injection	Feb-22	7,626	--	10	1	13
IRZ-17	Lower	Injection	Mar-22	511,032	24	632	85	14
IRZ-17	Lower	Injection	Apr-22	450,449	12	558	78	14
IRZ-17	Lower	Injection	May-22	361,052	15	480	65	13
IRZ-17	Lower	Injection	Jun-22	521,889	12	635	88	14
IRZ-18	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-18	Upper	Injection	Dec-21	23,330	6.5	56	8	6.9
IRZ-18	Upper	Injection	Jan-22	57,708	14	150	20	6.4
IRZ-18	Upper	Injection	Feb-22	3,581	--	10	1	6.0
IRZ-18	Upper	Injection	Mar-22	237,093	9.6	598	80	6.6
IRZ-18	Upper	Injection	Apr-22	134,493	2.9	221	31	10
IRZ-18	Upper	Injection	May-22	204,232	8.1	497	67	6.8
IRZ-18	Upper	Injection	Jun-22	222,597	5.6	635	88	5.8
IRZ-18	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-18	Lower	Injection	Dec-21	46,126	13	56	8	14
IRZ-18	Lower	Injection	Jan-22	124,878	30	152	20	14
IRZ-18	Lower	Injection	Feb-22	7,496	--	10	1	13
IRZ-18	Lower	Injection	Mar-22	441,208	17	598	80	12
IRZ-18	Lower	Injection	Apr-22	133,829	3.6	221	31	10
IRZ-18	Lower	Injection	May-22	355,640	14	497	67	12
IRZ-18	Lower	Injection	Jun-22	500,638	12	636	88	13
IRZ-20	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-20	Upper	Injection	Dec-21	18,890	5.2	56	8	5.6
IRZ-20	Upper	Injection	Jan-22	48,376	12	151	20	5.3
IRZ-20	Upper	Injection	Feb-22	2,701	--	9	1	5.0
IRZ-20	Upper	Injection	Mar-22	202,257	10	630	85	5.4
IRZ-20	Upper	Injection	Apr-22	253,197	6.9	560	78	7.5
IRZ-20	Upper	Injection	May-22	132,019	5.9	472	63	4.7
IRZ-20	Upper	Injection	Jun-22	197,493	5.0	632	88	5.2
IRZ-20	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-20	Lower	Injection	Dec-21	34,313	9.5	55	7	10
IRZ-20	Lower	Injection	Jan-22	93,639	22	152	20	10
IRZ-20	Lower	Injection	Feb-22	5,767	--	10	1	9.6
IRZ-20	Lower	Injection	Mar-22	388,733	19	631	85	10
IRZ-20	Lower	Injection	Apr-22	384,225	10	559	78	12
IRZ-20	Lower	Injection	May-22	288,041	12	477	64	10
IRZ-20	Lower	Injection	Jun-22	384,856	9.4	633	88	10
IRZ-21	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-21	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-21	Upper	Injection	Jan-22	--	--	--	--	--
IRZ-21	Upper	Injection	Feb-22	--	--	--	--	--

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

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-21	Upper	Injection	Mar-22	--	--	--	--	--
IRZ-21	Upper	Injection	Apr-22	--	--	--	--	--
IRZ-21	Upper	Injection	May-22	--	--	--	--	--
IRZ-21	Upper	Injection	Jun-22	--	--	--	--	--
IRZ-21	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-21	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-21	Lower	Injection	Jan-22	--	--	--	--	--
IRZ-21	Lower	Injection	Feb-22	--	--	--	--	--
IRZ-21	Lower	Injection	Mar-22	--	--	--	--	--
IRZ-21	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-21	Lower	Injection	May-22	--	--	--	--	--
IRZ-21	Lower	Injection	Jun-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Nov-21	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Dec-21	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Jan-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Feb-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Mar-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Apr-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	May-22	--	--	--	--	--
IRZ-25	Upper / Upper Middle	Injection	Jun-22	--	--	--	--	--
IRZ-25	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-25	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-25	Lower	Injection	Jan-22	--	--	--	--	--
IRZ-25	Lower	Injection	Feb-22	--	--	--	--	--
IRZ-25	Lower	Injection	Mar-22	--	--	--	--	--
IRZ-25	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-25	Lower	Injection	May-22	--	--	--	--	--
IRZ-25	Lower	Injection	Jun-22	--	--	--	--	--
IRZ-27	Upper / Upper Middle	Injection	Nov-21	--	--	--	--	--
IRZ-27	Upper / Upper Middle	Injection	Dec-21	36,743	7.3	56	8	11
IRZ-27	Upper / Upper Middle	Injection	Jan-22	103,663	27	154	21	12
IRZ-27	Upper / Upper Middle	Injection	Feb-22	113,867	25	169	23	11
IRZ-27	Upper / Upper Middle	Injection	Mar-22	395,578	15	594	80	11
IRZ-27	Upper / Upper Middle	Injection	Apr-22	160,844	3.6	232	32	12
IRZ-27	Upper / Upper Middle	Injection	May-22	336,518	14	495	67	11
IRZ-27	Upper / Upper Middle	Injection	Jun-22	425,095	9.5	633	88	11
IRZ-27	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-27	Lower	Injection	Dec-21	23,710	7.9	56	8	7.1
IRZ-27	Lower	Injection	Jan-22	47,797	12	154	21	5.4
IRZ-27	Lower	Injection	Feb-22	53,661	12	167	22	5.4
IRZ-27	Lower	Injection	Mar-22	190,998	7.1	594	80	5.4
IRZ-27	Lower	Injection	Apr-22	82,801	1.9	232	32	6.0

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

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-27	Lower	Injection	May-22	152,496	6.2	495	67	5.1
IRZ-27	Lower	Injection	Jun-22	238,803	5.3	633	88	6.3
IRZ-29	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-29	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-29	Upper	Injection	Jan-22	740	--	3	0	4.1
IRZ-29	Upper	Injection	Feb-22	50,817	12	157	21	5.4
IRZ-29	Upper	Injection	Mar-22	121,397	5.2	388	52	5.2
IRZ-29	Upper	Injection	Apr-22	71,497	1.6	241	33	5.0
IRZ-29	Upper	Injection	May-22	155,773	6.6	475	64	5.5
IRZ-29	Upper	Injection	Jun-22	236,587	5.4	632	88	6.2
IRZ-29	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-29	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-29	Lower	Injection	Jan-22	3,450	--	5	1	12
IRZ-29	Lower	Injection	Feb-22	70,677	16	158	21	7.5
IRZ-29	Lower	Injection	Mar-22	167,369	7.4	389	52	7.2
IRZ-29	Lower	Injection	Apr-22	92,461	2.0	243	34	6.3
IRZ-29	Lower	Injection	May-22	200,840	7.9	497	67	6.7
IRZ-29	Lower	Injection	Jun-22	306,910	7.2	637	88	8.0
IRZ-31	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-31	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-31	Upper	Injection	Jan-22	2,620	--	4	1	11
IRZ-31	Upper	Injection	Feb-22	60,855	15	160	22	6.3
IRZ-31	Upper	Injection	Mar-22	141,661	6.2	389	52	6.1
IRZ-31	Upper	Injection	Apr-22	91,150	1.9	247	34	6.2
IRZ-31	Upper	Injection	May-22	180,400	7.6	476	64	6.3
IRZ-31	Upper	Injection	Jun-22	286,700	6.3	633	88	7.5
IRZ-31	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-31	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-31	Lower	Injection	Jan-22	3,380	--	5	1	11
IRZ-31	Lower	Injection	Feb-22	60,795	14	161	22	6.3
IRZ-31	Lower	Injection	Mar-22	144,199	6.4	389	52	6.2
IRZ-31	Lower	Injection	Apr-22	90,213	1.9	247	34	6.1
IRZ-31	Lower	Injection	May-22	172,157	7.4	474	64	6.1
IRZ-31	Lower	Injection	Jun-22	283,737	6.1	632	88	7.5
IRZ-33	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-33	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-33	Upper	Injection	Jan-22	560	--	2	0	4.7
IRZ-33	Upper	Injection	Feb-22	42,259	10	158	21	4.5
IRZ-33	Upper	Injection	Mar-22	97,704	4.2	389	52	4.2
IRZ-33	Upper	Injection	Apr-22	--	--	--	--	--
IRZ-33	Upper	Injection	May-22	92,191	3.1	160	22	9.6
IRZ-33	Upper	Injection	Jun-22	199,182	4.2	634	88	5.2

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

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-33	Lower	Injection	Nov-21	--	--	--	--	--
IRZ-33	Lower	Injection	Dec-21	--	--	--	--	--
IRZ-33	Lower	Injection	Jan-22	480	--	2	0.3	4.0
IRZ-33	Lower	Injection	Feb-22	41,839	9.8	158	21	4.4
IRZ-33	Lower	Injection	Mar-22	97,074	4.2	389	52	4.2
IRZ-33	Lower	Injection	Apr-22	--	--	--	--	--
IRZ-33	Lower	Injection	May-22	119,857	6.1	395	53	5.1
IRZ-33	Lower	Injection	Jun-22	198,892	4.2	633	88	5.2
IRZ-35	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-35	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-35	Upper	Injection	Jan-22	800	--	2	0	
IRZ-35	Upper	Injection	Feb-22	51,887	12	158	21	5.5
IRZ-35	Upper	Injection	Mar-22	118,638	5.1	387	52	5.1
IRZ-35	Upper	Injection	Apr-22	76,787	1.7	190	26	6.7
IRZ-35	Upper	Injection	May-22	156,513	6.4	327	44	8.0
IRZ-35	Upper	Injection	Jun-22	170,729	5.5	427	59	6.7
IRZ-37	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-37	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-37	Upper	Injection	Jan-22	380	--	2	0	3.2
IRZ-37	Upper	Injection	Feb-22	31,301	7.0	153	21	3.4
IRZ-37	Upper	Injection	Mar-22	76,904	3.4	383	51	3.3
IRZ-37	Upper	Injection	Apr-22	60	--	0.3	0.04	3.3
IRZ-37	Upper	Injection	May-22	88,691	4.4	405	54	3.6
IRZ-37	Upper	Injection	Jun-22	100,323	1.3	425	59	3.9
IRZ-39	Upper	Injection	Nov-21	--	--	--	--	--
IRZ-39	Upper	Injection	Dec-21	--	--	--	--	--
IRZ-39	Upper	Injection	Jan-22	--	--	--	--	--
IRZ-39	Upper	Injection	Feb-22	17,140	2.9	72	10	4.0
IRZ-39	Upper	Injection	Mar-22	83,493	4.0	384	52	3.6
IRZ-39	Upper	Injection	Apr-22	5,811	0.15	37	5	2.6
IRZ-39	Upper	Injection	May-22	--	--	--	--	--
IRZ-39	Upper	Injection	Jun-22	--	--	--	--	--

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

Well ID	Aquifer Interval	Well Type	Operating Period	Recirculated Groundwater Volume (gal)	Ethanol Volume (gal)	Total Hours Operating (hours)	Active Time Operating (percent)	Average Flow Rate When Operating (gpm)
IRZ-9	Upper	Extraction	Nov-21	--	--	--	--	--
IRZ-9	Upper	Extraction	Dec-21	--	--	--	--	--
IRZ-9	Upper	Extraction	Jan-22	207,010	--	66	9	52
IRZ-9	Upper	Extraction	Feb-22	--	--	--	--	--
IRZ-9	Upper	Extraction	Mar-22	612	--	1	0.1	10
IRZ-9	Upper	Extraction	Apr-22	420	--	0.0	0.0	42
IRZ-9	Upper	Extraction	May-22	1,189	--	0.3	0.0	66
IRZ-9	Upper	Extraction	Jun-22	2,649	--	1	0.1	44
IRZ-13D	Lower	Extraction	Nov-21	--	--	--	--	--
IRZ-13D	Lower	Extraction	Dec-21	--	--	--	--	--
IRZ-13D	Lower	Extraction	Jan-22	--	--	--	--	--
IRZ-13D	Lower	Extraction	Feb-22	--	--	--	--	--
IRZ-13D	Lower	Extraction	Mar-22	937,033	--	391	53	40
IRZ-13D	Lower	Extraction	Apr-22	353,835	--	220	31	27
IRZ-13D	Lower	Extraction	May-22	728,432	--	472	63	26
IRZ-13D	Lower	Extraction	Jun-22	1,071,385	--	630	88	28
IRZ-13S	Upper	Extraction	Nov-21	--	--	--	--	--
IRZ-13S	Upper	Extraction	Dec-21	--	--	--	--	--
IRZ-13S	Upper	Extraction	Jan-22	--	--	--	--	--
IRZ-13S	Upper	Extraction	Feb-22	--	--	--	--	--
IRZ-13S	Upper	Extraction	Mar-22	674,317	--	391	53	29
IRZ-13S	Upper	Extraction	Apr-22	491,289	--	241	33	34
IRZ-13S	Upper	Extraction	May-22	1,115,829	--	470	63	40
IRZ-13S	Upper	Extraction	Jun-22	1,594,436	--	629	87	42
IRZ-23	Lower	Extraction	Nov-21	--	--	--	--	--
IRZ-23	Lower	Extraction	Dec-21	307,610	--	56	8	92
IRZ-23	Lower	Extraction	Jan-22	583,763	--	148	20	66
IRZ-23	Lower	Extraction	Feb-22	615,500	--	168	23	61
IRZ-23	Lower	Extraction	Mar-22	2,542,801	--	621	83	68
IRZ-23	Lower	Extraction	Apr-22	1,887,412	--	543	75	58
IRZ-23	Lower	Extraction	May-22	1,682,733	--	476	64	59
IRZ-23	Lower	Extraction	Jun-22	2,317,090	--	634	88	61

Abbreviations:

-- = not applicable

gal = gallon

gpm = gallons per minute

ID = identification

IRZ = In Situ Reactive Zone

NTH = National Trails Highway

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

Date	Approximate IRZ Systemwide Down Time (days)	Operations and Maintenance Log	Notes
4/1/2022	--	Backwashed operating injection wells IRZ-16, IRZ-17, and IRZ-20.	--
4/5/2022	--	Injection well IRZ-39 resumed operation.	--
4/6/2022	--	Approximately 2,000 gallons of stormwater from secondary containment added to backwash tank.	--
4/6/2022	--	Ethanol dosing of IRZ-16, IRZ-17, IRZ-20, IRZ-39 occurred.	--
4/6/2022 through 4/7/2022	--	Functional testing of RPWC system occurred. Clean water was transferred between conditioned water storage tank to clean-in-place tank. Water was not reinjected.	--
4/7/2022	--	Injection well IRZ-39 offline.	Control panel parts from this well were moved to allow operation of other IRZ wells.
4/8/2022	0.3	IRZ system offline. IRZ-23 shut down, causing wells IRZ-16, IRZ-17, and IRZ-20 to shut down. Alarm reset and wells resumed operation.	Communications alarm.
4/8/2022	--	Backwashed operating injection wells. IRZ-16, IRZ-17, IRZ-20.	--
4/11/2022	--	Processed backwash water to conditioning tank and collected backwash sample from processed backwash water.	--
4/12/2022	--	Samples collected from IRZ-15, IRZ-21, IRZ-25, IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23.	--
4/13/2022	--	Ethanol dosing of IRZ-16, IRZ-17, and IRZ-20 occurred. Collected ethanol and TOC samples from carbon amendment system.	--
4/14/2022	--	IRZ-27, IRZ-29, IRZ-31, and IRZ-13S resumed operation. Wells operating: Extraction wells: IRZ-13S, IRZ-23 Injection wells: IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31.	Equipment components inspected and tested to verify functionality prior to operation.
4/14/2022 through 4/15/2022	--	Reinjected conditioned water.	--
4/15/2022	--	Backwash injection wells IRZ-16, IRZ-17, and IRZ-20.	Remaining operating wells not backwashed due to limited operational time to date.
4/15/2022	--	Extraction well IRZ-13D resumed operation.	--
4/16/2022	--	Injection well IRZ-35 resumed operation.	--
4/18/2022 through 4/19/2022	--	Reinjected conditioned water.	--
4/20/2022	--	Ethanol dosing occurred.	--
4/22/2022	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-20, IRZ-27 , IRZ-29, IRZ-31.	IRZ-18 and IRZ-35 not backwashed.
4/24/2022 through 5/6/2022	11.9	IRZ system offline.	TCS shut down system during load shedding.

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

Date	Approximate IRZ Systemwide Down Time (days)	Operations and Maintenance Log	Notes
5/7/2022 through 5/8/2022	--	SCADA offline over the weekend, resulting in data loss. Wells continued to operate based on staff observation on 5/7/2022 and SCADA totalizer data recorded on 5/9/2022.	SCADA software was corrupted during prior system shutdown and needed to be reinstalled.
5/9/2022	--	Resolved SCADA issues and completed troubleshooting of IRZ-33 (lower) backwash pump and IRZ-37 flowmeter. Wells operating: Extraction: IRZ-13S, IRZ-13D, IRZ-23 Injection: IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33 (lower), IRZ-35, IRZ-37.	Software reinstallation successful.
5/9/2022	--	Ethanol dosing occurred. Collected ethanol and TOC samples from carbon amendment system.	--
5/10/2022 through 5/11/2022	--	SCADA offline while troubleshooting software bugs, resulting in data loss. Wells continued to operate based on staff observation and SCADA totalizer data recorded on 5/11/2022.	Software bugs occurred following software reinstallation.
5/12/2022	--	A work truck fuel tank was punctured on the corner of one of the electrical vaults located near MW-22. Approximately 1 gallon of diesel spilled into vault.	System was shut down on 5/18/2022 in order to pump the fuel and water out of the vault.
5/13/2022	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27 (upper/middle), IRZ-29 (upper), and IRZ-31.	--
5/13/2022 through 5/16/2022	2.8	IRZ system offline.	TCS power loss.
5/17/2022	--	Sampled IRZ-23, IRZ-13S, and IRZ-13D.	--
5/17/2022	--	Ethanol dosing occurred.	--
5/18/2022	--	Sampled IRZ-9.	--
5/18/2022	0.2	IRZ system offline.	Removed approximately 1 gallon of diesel and water from electrical vault near MW-22.
5/19/2022 through 5/20/2022	1.3	IRZ system offline.	TCS power loss.
5/20/2022	--	IRZ system online. Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33 (lower), IRZ-35, and IRZ-37.	--
5/23/2022	--	Processed backwash water to conditioned water storage tank and collected backwash samples	--
5/23/2022	0.1	IRZ system offline.	Instrumentation and controls server reboot.
5/24/2022	0.1	IRZ system offline.	E-stops rewired.

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

Date	Approximate IRZ Systemwide Down Time (days)	Operations and Maintenance Log	Notes
5/24/2022	--	Injection well IRZ-33 (upper) resumed operation.	Backwash pump operational. New motor starter arrived.
5/24/2022	--	Ethanol dosing occurred. Collected ethanol and TOC samples from carbon amendment system.	--
5/25/2022	0.1	IRZ system offline.	Troubleshooting E-stops and repairing flood damage to IRZ-33.
5/25/2022 through 5/26/2022	--	Installed motor starter in IRZ-33 (upper). IRZ-33 resumed operation on 5/26/2022.	--
5/26/2022	--	Reinjected conditioned water.	--
5/27/2022	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
5/31/2022	--	Ethanol Dosing occurred.	--
6/1/2022 through 6/3/2022	--	Processed backwash water to conditioned water storage tank and reinjected conditioned water.	--
6/3/2022	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, and IRZ-37.	IRZ-35 backwash pump was not operating.
6/6/2022	--	Injection wells IRZ-35 and IRZ-37 offline to replace programmable logic controller and to continue troubleshooting IRZ-35 backwash pump.	--
6/7/2022	--	Ethanol dosing occurred. Collected ethanol and TOC samples from carbon amendment system.	--
6/9/2022	0.1	IRZ system offline.	TCS power outage.
6/10/2022	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, and IRZ-33.	--
6/13/2022	--	Samples collected from IRZ-9, IRZ-13S, IRZ-13D, and IRZ-23.	--
6/14/2022	--	Ethanol dosing occurred.	--
6/15/2022	--	Injection wells IRZ-35 and IRZ-37 resumed operation. Extraction flowrates increased to accommodate additional wells. Injection well flowrates for southern forcemain wells (IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37) increased by 50% to increase treatment.	Programmable logic controller issues resolved, allowing IRZ-35 and IRZ-37 to resume operation.
6/15/2022	0.04	IRZ system offline.	Water being sprayed by water truck filled sump in IRZ-35/37, triggering a high water alarm.
6/15/2022 through 6/16/2022	--	Processed backwash water into conditioned water storage tank. Reinjected conditioned water into injection wells.	--
6/17/2022	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, and IRZ-33.	--
6/21/2022	--	Ethanol dosing occurred. Collected ethanol and TOC samples from carbon amendment system.	--

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

Date	Approximate IRZ Systemwide Down Time (days)	Operations and Maintenance Log	Notes
6/23/2022	--	Processed backwash water into conditioned water storage tank.	--
6/24/2022	0.1	IRZ system offline.	TCS power load shedding.
6/24/2022	--	Backwashed injection wells IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, and IRZ-37.	--
6/27/2022 through 6/30/2022	3.0	IRZ system offline.	Planned outage to conduct transformer repairs.
6/30/2022	--	System re-energized. Wells operating: Extraction wells: IRZ-13S, IRZ-13D, IRZ-23. Injection wells: IRZ-16, IRZ-17, IRZ-18, IRZ-20, IRZ-27, IRZ-29, IRZ-31, IRZ-33, IRZ-35, IRZ-37, IRZ-39.	--

Abbreviations:
-- = not applicable
IRZ = in-situ reactive zone
NTH = National Trails Highway
SCADA = supervisory control and data acquisition
TOC = total organic carbon
TCS = Topock Compressor Station

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

Sample Description	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Chromium (µg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Temperature (deg C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	pH	ORP (mV)	Turbidity (NTU)
BACKWASH PRE-FILTER	4/11/2022	N	410	380	<0.02	0.070	25	3.17	4,964	7.63	32.8	0
BACKWASH POST-FILTER	4/11/2022	N	420	420	<0.02	0.071	24.6	3.06	4,880	7.67	22.8	0
BACKWASH PRE-FILTER	5/23/2022	N	400	400	0.025	0.0051	31.1	3.59	10,940	7.91	31.1	2.3
BACKWASH POST-FILTER	5/23/2022	N	390	450	<0.02	0.0052	30.5	4.12	10,817	7.84	22.8	1.49
BACKWASH PRE-FILTER	6/15/2022	N	370	390	<0.02	0.041	29.1	2.85	11,864	7.76	31.8	2.31
BACKWASH POST-FILTER	6/15/2022	N	370	440	<0.02	0.017	31.6	2.39	12,411	7.66	38.4	1.53

Abbreviations:
-- = not available
< = not detected at the reporting limit, as shown
deg C = degrees Celsius
J = estimated concentration
mg/L = milligram(s) per liter
mV = millivolts
N = primary sample
NTU = nephelometric turbidity units
ORP = oxidation-reduction potential
µg/L = microgram(s) per liter
µS/cm = microsiemens per centimeter

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

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

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

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Domestic Well Sampling	Hexavalent Chromium	Total Dissolved Chromium	Total Organic Carbon	Dissolved Arsenic	Dissolved Manganese	Dissolved Iron	Total Iron	Dissolved Barium	Nitrate	Nitrite and Ammonium [1]	Ammonia as N	Nitrate/ Nitrite as N	Sulfate	Dissolved Molybdenum	Dissolved Selenium	Other Dissolved Metals [2]	Total Dissolved Solids	Alkalinity
MW-33-210	X						X						Q	SA															
MW-34-055	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-34-080	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-34-100	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-35-060	X						X	M(Q), Q			X		Q	SA							A					A	A			
MW-35-135	X						X	M(Q), Q			X		Q	SA							A					A	A			
MW-36-020	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-36-040	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-36-050	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-36-070	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-36-090	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-36-100	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-37D	X										X		SA	SA		A	A				A					A	A			
MW-37S	X										X		SA	SA		A	A				A					A	A			
MW-38D		X									X		Q	Q		A	A				Q					Q	Q			
MW-38S		X									X		Q	Q		A	A				Q					Q	Q			
MW-39-040	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-39-050	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-39-060	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-39-070	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-39-080	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-39-100		X			X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-40D		X									X		SA	SA		A	A				A					A	A			
MW-40S	X										X		SA	SA		A	A				A					A	A			
MW-41D	X										X		SA	SA		A	A				A					A	A			
MW-41M	X										X		SA	SA		A	A				A					A	A			
MW-41S	X										X		SA	SA		A	A				A					A	A			
MW-42-030	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-42-055	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-42-065	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-43-025	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-43-075	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-43-090	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-44-070	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-44-115	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-44-125	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-45-095a	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-46-175	X				X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-46-205	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-47-055	X						X						Q	SA															
MW-47-115	X						X	M(Q), Q					Q	SA															
MW-48	X										X		SA	SA		A	A				SA					SA	SA			
MW-49-135	X						X	M(Q), Q					Q	SA															
MW-49-275	X						X						Q	SA															
MW-49-365	X						X						Q	SA															
MW-50-095	X							M(Q), Q					SA	SA		A	A												
MW-50-200		X									X		SA	SA		A	A				A								
MW-51		X		X				M(Q), Q			X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed
MW-52D	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-52M	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-52S	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-53D	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-53M	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-53S	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
MW-54-085	X							M(Q), Q			X		SA	SA		A	A				A					A	A			
MW-54-140	X							M(Q), Q			X		SA	SA		A	A				A					A	A			
MW-54-195	X							M(Q), Q			X		SA	SA		A	A				A					A	A			
MW-55-045	X												SA	SA		A	A												
MW-55-120	X												SA	SA		A	A												

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

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

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

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

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

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Domestic Well Sampling	Hexavalent Chromium	Total Dissolved Chromium	Total Organic Carbon	Dissolved Arsenic	Dissolved Manganese	Dissolved Iron	Total Iron	Dissolved Barium	Nitrate	Nitrite and Ammonium [1]	Ammonia as N	Nitrate/ Nitrite as N	Sulfate	Dissolved Molybdenum	Dissolved Selenium	Other Dissolved Metals [2]	Total Dissolved Solids	Alkalinity
PGE-08	X												SA	SA		A	A												
PT5D		X			X			M(Q), Q			X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
PT5M	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
PT5S	X				X						X		Q	SA	Q	Q	Q	Q		Q	Q					A	A			
PT8D		X											SA	SA		A	A												
PT9D		X									X		SA	SA		A	A				A					A	A			
PT9M		X									X		SA	SA		A	A				A					A	A			
PT9S		X									X		SA	SA		A	A				A					A	A			
R-19			X								X		Q	SA		Q	Q				A					A	A			
R-28			X								X		Q	SA		Q	Q				A					A	A			
R-63			X								X		Q	SA		Q	Q				A					A	A			
RRB			X					M(Q), Q			X		Q	SA		Q	Q				A					A	A			
SW1			X								X		Q	SA		Q	Q				A					A	A			
SW2			X								X		Q	SA		Q	Q				A					A	A			
TW-01		X									X		SA	SA		A	A				SA					SA	SA			
TW-02D		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed
TW-02S		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed
TW-03D		X		X							X		M(yr), Q	Q (yr), SA	M(yr), Q	M(yr), Q	M(yr), Q	M(yr), Q		M(yr), Q	M(yr), Q	Q(yr)			M(yr), Q	Q	Q		As needed	As needed
TW-04	X						X						Q	SA															
TW-05	X												SA	SA		A	A												
PM-03												X	B	B		B	B	B			B		B		B	B	B		B	B
PM-04												X	B	B		B	B	B			B		B		B	B	B		B	B
Marina-1												X	B	B		B	B	B			B		B		B	B	B		B	B
MTS-1												X	B	B		B	B	B			B		B		B	B	B		B	B
MTS-2												X	B	B		B	B	B			B		B		B	B	B		B	B
Topock-2												X	B	B		B	B	B			B		B		B	B	B		B	B
Topock-3												X	B	B		B	B	B			B		B		B	B	B		B	B
CAB_MIXER_606									X						M(Q), SA [5]														
CAB_MIXER_607									X						M(Q), SA [5]														

Notes:

1. The monitoring program will be re-evaluated after 2 years of operation.

[1] Ammonium and nitrite will be monitored for the first year. If not detected within the first year of monitoring, sampling for these analytes will be discontinued. If increases in ammonium or nitrite concentrations are detected in dose response wells, recommendations for continued sampling and potential expansion of the monitoring network for these analytes will be provided.

[2] Other dissolved metals: boron, calcium, magnesium, potassium, sodium, and vanadium

[3] Chloride and fluoride

[4] Dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium, chloride, fluoride

[5] Samples are collected biweekly (1 time every 2 weeks) until the system operations are verified. The sampling frequency is reduced to semi-annual thereafter.

X(X): Frequency for the first year (yr) or quarter (Q); frequency reduction to be considered thereafter
A = Annually
B = biennially (every 2 years)
COPC = constituent of potential concern
ID = identification
IM-3 = Interim Measure 3
IRZ = In-site Reactive Zone
M = Monthly
NTH = National Trails Highway
Q = Quarterly
SA = Semi-annually

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

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Cations/ Anions
C-BNS			X								X	
C-CON			X								X	
C-I-3			X					M(Q), Q			X	
C-MAR			X								X	
C-NR1			X								X	
C-NR3			X								X	
C-NR4			X								X	
C-R22A			X								X	
C-R27			X								X	
C-TAZ			X								X	
CW-01D										X		A [3]
CW-01M										X		A [3]
CW-02D										X		A [3]
CW-02M										X		A [3]
CW-03D										X		A [3]
CW-03M										X		A [3]
CW-04D										X		A [3]
CW-04M										X		A [3]
IRZ-13S						X						
IRZ-13D						X						
IRZ-23						X						
IRZ-09						X						
MW-09		X									X	
MW-10		X									X	
MW-10D		X									X	
MW-11		X										
MW-11D		X										
MW-12		X									X	
MW-13	X										X	
MW-14	X										X	
MW-15	X											
MW-19		X										
MW-20-070		X		X				M(Q), Q			X	As needed
MW-20-100		X		X				M(Q), Q			X	As needed
MW-20-130		X		X				M(Q), Q			X	As needed
MW-21	X			X							X	As needed
MW-22	X				X			M(Q), Q			X	
MW-23-060		X									X	
MW-23-080	X										X	
MW-24A		X									X	
MW-24B		X									X	
MW-24BR	X											
MW-25		X									X	
MW-26		X		X				M(Q), Q			X	As needed
MW-27-020	X				X			M(Q), Q			X	
MW-27-060	X				X			M(Q), Q			X	
MW-27-085	X				X			M(Q), Q			X	
MW-28-025	X				X			M(Q), Q			X	
MW-28-090	X				X			M(Q), Q			X	
MW-29	X						X					
MW-30-030	X				X						X	
MW-30-050	X				X						X	
MW-31-060		X		X				M(Q), Q			X	As needed
MW-31-135	X			X				M(Q), Q			X	As needed
MW-32-020	X				X						X	
MW-32-035	X				X			M(Q), Q			X	
MW-33-040	X						X	M(Q), Q			X	
MW-33-090	X						X	M(Q), Q			X	
MW-33-150	X						X	M(Q), Q			X	

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

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Cations/ Anions
MW-33-210	X						X					
MW-34-055	X				X			M(Q), Q			X	
MW-34-080	X				X			M(Q), Q			X	
MW-34-100	X				X						X	
MW-35-060	X						X	M(Q), Q			X	
MW-35-135	X						X	M(Q), Q			X	
MW-36-020	X				X			M(Q), Q			X	
MW-36-040	X				X						X	
MW-36-050	X				X			M(Q), Q			X	
MW-36-070	X				X						X	
MW-36-090	X				X						X	
MW-36-100	X				X			M(Q), Q			X	
MW-37D	X										X	
MW-37S	X										X	
MW-38D		X									X	
MW-38S		X									X	
MW-39-040	X				X			M(Q), Q			X	
MW-39-050	X				X						X	
MW-39-060	X				X			M(Q), Q			X	
MW-39-070	X				X						X	
MW-39-080	X				X			M(Q), Q			X	
MW-39-100		X			X						X	
MW-40D		X									X	
MW-40S	X										X	
MW-41D	X										X	
MW-41M	X										X	
MW-41S	X										X	
MW-42-030	X				X			M(Q), Q			X	
MW-42-055	X				X						X	
MW-42-065	X				X			M(Q), Q			X	
MW-43-025	X				X			M(Q), Q			X	
MW-43-075	X				X						X	
MW-43-090	X				X			M(Q), Q			X	
MW-44-070	X				X			M(Q), Q			X	
MW-44-115	X				X			M(Q), Q			X	
MW-44-125	X				X			M(Q), Q			X	
MW-45-095a	X				X						X	
MW-46-175	X				X			M(Q), Q			X	
MW-46-205	X				X						X	
MW-47-055	X						X					
MW-47-115	X						X	M(Q), Q				
MW-48	X										X	
MW-49-135	X						X	M(Q), Q				
MW-49-275	X						X					
MW-49-365	X						X					
MW-50-095	X							M(Q), Q				
MW-50-200		X									X	
MW-51		X		X				M(Q), Q			X	As needed
MW-52D	X				X						X	
MW-52M	X				X						X	
MW-52S	X				X						X	
MW-53D	X				X						X	
MW-53M	X				X						X	
MW-53S	X				X						X	
MW-54-085	X							M(Q), Q			X	
MW-54-140	X							M(Q), Q			X	
MW-54-195	X							M(Q), Q			X	
MW-55-045	X											
MW-55-120	X											

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

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Cations/ Anions
MW-56D	X										X	
MW-56M	X										X	
MW-56S	X										X	
MW-57-050		X										
MW-57-070		X									X	
MW-57-185	X										X	
MW-58-065	X										X	
MW-58-115	X										X	
MW-58-205	X										X	
MW-58BR	X										X	
MW-59-100		X									X	
MW-60-125		X									X	
MW-60BR-245	X											
MW-61-110		X									X	
MW-62-065		X									X	
MW-62-110		X									X	
MW-62-190	X										X	
MW-63-065	X										X	
MW-64-150	X											
MW-64-205	X											
MW-64-260	X											
MW-64BR	X										X	
MW-65-160		X									X	
MW-65-225		X									X	
MW-66-165		X									X	
MW-66-230		X									X	
MW-66BR-270	X											
MW-67-185		X									X	
MW-67-225		X									X	
MW-67-260		X									X	
MW-68-180		X									X	
MW-68-240		X									X	
MW-68BR-280	X											
MW-69-195		X									X	
MW-70-105		X									X	
MW-70BR-225		X									X	
MW-70BR-287		X										
MW-71-035	X			X							X	As needed
MW-72-080		X									X	
MW-72BR-200	X											
MW-73-080		X									X	
MW-74-240	X										X	
MW-75-033		X					X	M(Q), Q				
MW-75-117	X						X	M(Q), Q				
MW-75-202	X						X	M(Q), Q				
MW-75-267	X						X	M(Q), Q				
MW-75-337	X						X	M(Q), Q				
MW-76-039		X		X				M(Q), Q			X	As needed
MW-76-156		X		X				M(Q), Q			X	As needed
MW-76-181		X		X				M(Q), Q			X	As needed
MW-76-218		X		X							X	As needed
MW-77-046	X				X			M(Q), Q			X	
MW-77-102	X				X			M(Q), Q			X	
MW-77-158	X				X			M(Q), Q			X	
MW-77-187	X				X			M(Q), Q			X	
MW-78-070		X		X							X	As needed
MW-78-142		X		X							X	As needed
MW-79-058		X		X							X	As needed
MW-79-102		X		X							X	As needed

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

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Cations/ Anions
MW-80-057		X		X				M(Q), Q			X	As needed
MW-80-082		X		X				M(Q), Q			X	As needed
MW-81-043	X				X						X	
MW-81-098	X				X						X	
MW-82-046	X				X						X	
MW-82-112	X				X						X	
MW-82-168	X				X						X	
MW-82-198	X				X						X	
MW-83-090		X									X	
MW-83-180	X										X	
MW-83-225		X									X	
MW-83-245		X									X	
MW-84-057		X									X	
MW-84-095	X										X	
MW-84-132	X										X	
MW-84-193		X									X	
MW-85-129		X									X	
MW-85-217		X									X	
MW-85-237		X									X	
MW-86-030	X				X			M(Q), Q			X	
MW-86-066	X				X			M(Q), Q			X	
MW-86-120	X				X			M(Q), Q			X	
MW-86-140	X				X			M(Q), Q			X	
MW-87-109	X										X	
MW-87-139	X										X	
MW-87-192	X										X	
MW-87-275	X										X	
MW-88-107		X										
MW-89-183	X										X	
MW-89-273	X										X	
MW-90-031	X				X						X	
MW-91-045	X										X	
MW-91-120	X										X	
MW-91-170	X										X	
MW-91-320	X										X	
MW-92-037	X										X	
MW-92-072	X										X	
MW-92-102	X										X	
MW-92-122	X										X	
MW-93-050	X											
MW-93-213	X											
MW-95-113	X										X	
MW-95-157	X										X	
MW-96-045	X						X	M(Q), Q				
MW-96-217	X						X	M(Q), Q				
MW-97-042							X	M(Q), Q				
MW-97-202							X	M(Q), Q				
MW-98-055		X										
MW-98-077		X										
OW-01D										X		A [3]
OW-01M										X		A [3]
OW-01S								M(Q), Q		X		A [3]
OW-02D										X		A [3]
OW-02M										X		A [3]
OW-02S								M(Q), Q		X		A [3]
OW-05D								M(Q), Q		X		A [3]
OW-05M								M(Q), Q		X		A [3]
OW-05S								M(Q), Q		X		A [3]
PGE-07BR	X											

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

Location ID	Remedy Compliance Monitoring: Outside Plume	Remedy Compliance Monitoring: Inside Plume	Remedy Compliance Monitoring: Surface Water	Process Control Monitoring: Dose Response Wells	Process Control Monitoring: Downgradient Monitoring Wells	Process Control Monitoring: Northern NTH Extraction Wells	Process Control Monitoring: Northern NTH IRZ Extraction Monitoring Wells	Water Level Monitoring	Process Control Monitoring: Carbon Amendment System Monitoring	Former IM-3 Injection Area Monitoring	COPC Monitoring	Cations/ Anions
PGE-08	X											
PT5D		X			X			M(Q), Q			X	
PT5M	X				X						X	
PT5S	X				X						X	
PT8D		X										
PT9D		X									X	
PT9M		X									X	
PT9S		X									X	
R-19			X								X	
R-28			X								X	
R-63			X								X	
RRB			X					M(Q), Q			X	
SW1			X								X	
SW2			X								X	
TW-01		X									X	
TW-02D		X		X							X	As needed
TW-02S		X		X							X	As needed
TW-03D		X		X							X	As needed
TW-04	X						X					
TW-05	X											
PM-03												B [4]
PM-04												B [4]
Marina-1												B [4]
MTS-1												B [4]
MTS-2												B [4]
Topock-2												B [4]
Topock-3												B [4]
CAB_MIXER_606									X			
CAB_MIXER_607									X			

Notes:

1. The monitoring program will be re-evaluated after 2 years of operation.

[1] Ammonium and nitrite will be monitored for the first year. If not detected within the first year of monitoring, sampling for these analytes will be discontinued. If increases are detected in dose response wells, recommendations for continued sampling and potential expansion of the monitoring network for these analytes will be provided.

[2] Other dissolved metals: boron, calcium, magnesium, potassium, sodium, and vanadium

[3] Chloride and fluoride

[4] Dissolved calcium, dissolved magnesium, dissolved potassium, dissolved sodium, chloride, fluoride

[5] Samples are collected biweekly (1 time every 2 weeks) until the system operations are verified. The sampling frequency is reduced to semi-annual thereafter.

X(X): Frequency for the first year (yr) or quarter (Q); frequency reduction to be considered thereafter
A = Annually
B = biennially (every 2 years)
COPC = constituent of potential concern
ID = identification
IM-3 = Interim Measure 3
IRZ = In-site Reactive Zone
M = Monthly
NTH = National Trails Highway
Q = Quarterly
SA = Semi-annually

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

Well ID	Well Type	Easting (NAD83)	Northing (NAD83)	Drilling Method	Completion Date	Boring Depth (feet bgs)	Screen Type	Upper Screen Interval 1 (feet bgs) Start	Upper Screen Interval 1 (feet bgs) End	Upper Middle Screen Interval 2 (feet bgs) Start	Upper Middle Screen Interval 2 (feet bgs) End	Lower Screen Interval 4 (feet bgs) Start	Lower Screen Interval 4 (feet bgs) End	Sump Interval (feet bgs) Start
IRZ-09	Extraction	7615565.51	2103560.78	Dual Rotary	9/2/2020	107.6	Single	55.0	99.8	--	--	--	--	99.8
IRZ-13S	Extraction	7615711.28	2103302.8	Dual Rotary	7/24/2020	103.6	Single	53.0	95.8	--	--	--	--	95.8
IRZ-13D	Extraction	7615707.68	2103310.2	Dual Rotary	7/11/2020	227.7	Single	--	--	--	--	160.4	210.2	210.2
IRZ-23	Extraction	7615826.01	2102535.62	Dual Rotary	6/30/2019	150.4	Single	--	--	--	--	92.1	142.0	142.0
IRZ-15	Injection	7615772.94	2103152.1	Dual Rotary	1/16/2020	232.6	Dual	30.0	55.3	--	--	150.3	200.2	200.2
IRZ-16	Injection	7615823.34	2103042.34	Dual Rotary	12/11/2019	194.5	Dual	27.0	54.9	--	--	155.0	186.8	186.8
IRZ-17	Injection	7615870.94	2103001.18	Dual Rotary	11/19/2019	192.0	Dual	36.2	57.1	--	--	137.2	167.1	167.1
IRZ-18	Injection	7615808.45	2102885.15	Dual Rotary	8/11/2020	193.9	Dual	41.7	59.6	--	--	155.0	181.8	181.8
IRZ-20	Injection	7615813.89	2102761.96	Dual Rotary	4/23/2019	188.1	Dual	49	71	--	--	136.0	155	155.0
IRZ-21	Injection	7615817.31	2102689.08	Dual Rotary	6/15/2019	166.5	Dual	47.4	65.4	--	--	140.4	157.3	157.3
IRZ-25	Injection	7615824.68	2102414.88	Dual Rotary	5/29/2019	174.0	Triple[a]	50.1	67.1	77.1	100	135.0	166	166.0
IRZ-27	Injection	7615803.46	2102237.25	Dual Rotary	2/7/2020	144.3	Triple[a]	52	67	77	99.9	114.9	136.8	136.8
IRZ-29	Injection	7615788.78	2102085.65	Dual Rotary	2/22/2020	128.5	Dual	48.2	77	--	--	92.1	120.9	120.9
IRZ-31	Injection	7615789.12	2101940.52	Dual Rotary	3/7/2020	128.8	Dual	48.2	77.1	--	--	92.1	121	121.0
IRZ-33	Injection	7615828.03	2101792.54	Dual Rotary	3/22/2020	119.5	Dual[b]	51.4	77.3	--	--	87.2	111	111.0
IRZ-35	Injection	7615918.00	2101643.44	Dual Rotary	3/29/2020	97.0	Single	53.1	88.0	--	--	--	--	88.0
IRZ-37	Injection	7616004.52	2101556.06	Dual Rotary	2/4/2020	82.0	Single	49.0	74.0	--	--	--	--	74.0
IRZ-39	Injection	7616112.16	2101376.07	Dual Rotary	10/23/2019	47.0	Single	28.0	39.0	--	--	--	--	39.0

Notes:

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

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

Abbreviations:

-- = not applicable
bgs = below ground surface
NAD83 = North American Datum of 1983
NAVD88 = North American Vertical Datum of 1988
PVC = polyvinyl chloride

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

Well ID	Well Type	Easting (NAD83)	Northing (NAD83)	Sump Interval (feet bgs) End	Boring Diameter (inches; range if variable)	Well Casing Diameter (inches)	Well Casing Material	Screen Material	Upper Bentonite Seal Depth (range; feet bgs)	Upper Well Screen Slot Size (inches)	Upper Sand Pack Material
IRZ-09	Extraction	7615565.51	2103560.78	105.4	15.625 - 18	10	SDR17 PVC	316L SS Wire	41.7 - 44	0.05	#6
IRZ-13S	Extraction	7615711.28	2103302.8	101.6	18	10	SDR17 PVC	316L SS Wire	40.4 - 42.1	0.05	#6
IRZ-13D	Extraction	7615707.68	2103310.2	215.8	15.625 - 18	10	SDR17 PVC	316L SS Wire	146.7 - 148.8	0.01	#0/30
IRZ-23	Extraction	7615826.01	2102535.62	147.4	17.5 - 24	10	SDR17 PVC	316L SS Wire	--	--	--
IRZ-15	Injection	7615772.94	2103152.1	205.9	15.5 - 18	10	SDR17 PVC	316L SS Wire	--	0.025	#2/16
IRZ-16	Injection	7615823.34	2103042.34	192.5	16 - 18	10	SDR17 PVC	316L SS Wire	--	0.02	#1
IRZ-17	Injection	7615870.94	2103001.18	172.8	16 - 18	10	SDR17 PVC	316L SS Wire	25.5 - 26.9	0.50	#8
IRZ-18	Injection	7615808.45	2102885.15	187.4	16 - 18	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30
IRZ-20	Injection	7615813.89	2102761.96	160.0	18 - 24	10	SDR17 PVC	316L SS Wire	34.5 - 37.2	0.02	#1
IRZ-21	Injection	7615817.31	2102689.08	163.0	18 - 24	10	SDR17 PVC	316L SS Wire	35.2 - 36.7	0.025	#2/16
IRZ-25	Injection	7615824.68	2102414.88	171.6	15.5 - 18	10	SDR17 PVC	316L SS Wire	31.1 - 35.1	0.01	#0/30
IRZ-27	Injection	7615803.46	2102237.25	142.3	16 - 18	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30
IRZ-29	Injection	7615788.78	2102085.65	126.3	15.5 - 18	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30
IRZ-31	Injection	7615789.12	2101940.52	126.8	16 - 18	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30
IRZ-33	Injection	7615828.03	2101792.54	116.6	16 - 18	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30
IRZ-35	Injection	7615918.00	2101643.44	93.8	18	10	SDR17 PVC	316L SS Wire	--	0.01	#0/30
IRZ-37	Injection	7616004.52	2101556.06	79.8	12	8	SDR17 PVC	316L SS Wire	--	0.01	#0/60
IRZ-39	Injection	7616112.16	2101376.07	44.7	8 - 12	8	SDR17 PVC	316L SS Wire	--	0.008	#0/60

Notes:

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

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

Abbreviations:

-- = not applicable
bgs = below ground surface
NAD83 = North American Datum of 1983
NAVD88 = North American Vertical Datum of 1988
PVC = polyvinyl chloride

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

Well ID	Well Type	Easting (NAD83)	Northing (NAD83)	Upper Middle Bentonite Seal Depth (range; feet bgs)	Upper Middle Well Screen Slot Size (inches)	Upper Middle Sand Pack Material	Lower Bentonite Seal Depth (range; feet bgs)	Lower Well Screen Slot Size (inches)	Lower Sand Pack Material
IRZ-09	Extraction	7615565.51	2103560.78	--	--	--	--	--	--
IRZ-13S	Extraction	7615711.28	2103302.8	--	--	--	--	--	--
IRZ-13D	Extraction	7615707.68	2103310.2	--	--	--	--	--	--
IRZ-23	Extraction	7615826.01	2102535.62	--	--	--	66.5 - 68.6	0.01	#0/30
IRZ-15	Injection	7615772.94	2103152.1	--	--	--	59.8 - 140.9	0.030	#2/12
IRZ-16	Injection	7615823.34	2103042.34	--	--	--	59.0 - 146.0	0.015	#1/20
IRZ-17	Injection	7615870.94	2103001.18	--	--	--	61.3 - 128.2	0.015	#1/20
IRZ-18	Injection	7615808.45	2102885.15	--	--	--	63.9 - 133.8	0.018	#1/20
IRZ-20	Injection	7615813.89	2102761.96	--	--	--	75.4 - 125.6	0.02	#1
IRZ-21	Injection	7615817.31	2102689.08	--	--	--	70.2 - 132.1	0.015	#1/20
IRZ-25	Injection	7615824.68	2102414.88	69 - 74	0.03	#3	103.8 - 126	0.01	#0/30
IRZ-27	Injection	7615803.46	2102237.25	69.1 - 72.9	0.02	#2/16	104 - 108.3	0.008	#0/60
IRZ-29	Injection	7615788.78	2102085.65	--	--	--	80.4 - 85.9	0.01	#0/30
IRZ-31	Injection	7615789.12	2101940.52	--	--	--	79.9 - 85.5	0.008	#0/60
IRZ-33	Injection	7615828.03	2101792.54	--	--	--	--	0.01	#0/30
IRZ-35	Injection	7615918.00	2101643.44	--	--	--	--	--	--
IRZ-37	Injection	7616004.52	2101556.06	--	--	--	--	--	--
IRZ-39	Injection	7616112.16	2101376.07	--	--	--	--	--	--

Notes:

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

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

Abbreviations:

-- = not applicable
bgs = below ground surface
NAD83 = North American Datum of 1983
NAVD88 = North American Vertical Datum of 1988
PVC = polyvinyl chloride

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

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
C-BNS	SW	--	--	--	--	--	--	--	--	--	--	--
C-CON	SW	--	--	--	--	--	--	--	--	--	--	--
C-I-3	SW	--	--	--	--	--	--	--	--	--	--	--
C-MAR	SW	--	--	--	--	--	--	--	--	--	--	--
C-NR1	SW	--	--	--	--	--	--	--	--	--	--	--
C-NR3	SW	--	--	--	--	--	--	--	--	--	--	--
C-NR4	SW	--	--	--	--	--	--	--	--	--	--	--
C-R22A	SW	--	--	--	--	--	--	--	--	--	--	--
C-R27	SW	--	--	--	--	--	--	--	--	--	--	--
C-TAZ	SW	--	--	--	--	--	--	--	--	--	--	--
R-19	SW	--	--	--	--	--	--	--	--	--	--	--
R-28	SW	--	--	--	--	--	--	--	--	--	--	--
R63	SW	--	--	--	--	--	--	--	--	--	--	--
RRB	SW	--	--	--	--	--	--	--	--	--	--	--
SW1	SW	--	--	--	--	--	--	--	--	--	--	--
SW2	SW	--	--	--	--	--	--	--	--	--	--	--
TW-01	EW	X	X	X	--	--	--	620.55	271.0	169.0	269.0	5
TW-02D	EW	--	--	X	X	--	--	493.29	150.0	113.0	148.0	6
TW-02S	EW	X	X	--	--	--	--	499.05	97.5	42.5	92.5	6
TW-03D	EW	--	--	X	X	--	--	498.09	156.0	111.0	156.0	8
TW-04	EW	--	--	--	--	X	Layer 6	484.11	255.0	210.0	250.0	4
TW-05	EW	--	--	X	X	--	--	496.30	155.0	110.0	150.0	4
CW-01D	MW	--	--	--	X	X	--	566.46	300.2	250.0	300.0	2
CW-01M	MW	--	X	X	--	--	--	566.07	190.0	140.0	190.0	2
CW-02D	MW	--	--	--	--	X	Layer 6	549.43	355.0	285.0	335.0	2
CW-02M	MW	--	--	X	X	--	--	549.45	208.3	152.0	202.0	2
CW-03D	MW	--	--	--	--	X	Layer 6	534.14	340.0	270.0	320.0	2
CW-03M	MW	--	--	X	X	--	--	534.10	222.0	172.0	222.0	2
CW-04D	MW	--	--	--	--	X	Layer 6	518.55	303.0	233.0	283.0	2
CW-04M	MW	--	--	X	X	--	--	518.55	169.8	119.5	169.5	2
HNWR-1A	MW	--	X	X	X	--	--	467.69	400.0	63.0	133.0	--
MW-09	MW	X	--	--	--	--	--	536.56	89.4	77.0	87.0	4
MW-10	MW	X	--	--	--	--	--	530.65	96.9	74.0	94.0	4
MW-10D	MW	--	X	--	--	--	--	531.54	125.5	108.1	123.1	2
MW-11	MW	X	--	--	--	--	--	522.61	86.1	62.5	82.5	4
MW-11D	MW	--	X	X	--	--	--	522.59	132.4	110.0	130.0	2
MW-12	MW	X	--	--	--	--	--	484.01	50.4	27.5	47.5	4
MW-13	MW	X	--	--	--	--	--	486.67	52.0	28.5	48.5	4
MW-14	MW	X	--	--	--	--	--	570.99	133.8	111.0	131.0	4
MW-15	MW	X	--	--	--	--	--	641.52	203.0	180.5	200.5	4
MW-19	MW	X	--	--	--	--	--	499.92	65.8	46.0	66.0	4

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

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-20-070	MW	X	--	--	--	--	--	499.04	69.6	50.0	70.0	4
MW-20-100	MW	--	X	--	--	--	--	498.39	101.4	89.5	99.5	4
MW-20-130	MW	--	--	X	--	--	--	498.57	132.3	121.0	131.0	4
MW-21	MW	X	--	--	--	--	--	505.55	58.5	39.0	59.0	4
MW-22	MW	X	--	--	--	--	--	458.97	12.4	5.5	10.5	2
MW-23-060	MW	X	--	--	--	--	--	504.08	60.2	50.0	60.0	2
MW-23-080	MW	X	X	--	--	--	--	504.13	80.8	75.0	80.0	2
MW-24A	MW	X	--	--	--	--	--	567.16	127.5	104.0	124.0	4
MW-24B	MW	--	--	X	--	--	--	564.76	214.8	193.0	213.0	4
MW-24BR	MW	--	--	--	--	--	Layers 7, 8	563.95	441.0	378.0	437.0	4
MW-25	MW	X	--	--	--	--	--	542.90	106.5	84.5	104.5	4
MW-26	MW	X	--	--	--	--	--	502.22	70.1	51.5	71.5	2
MW-27-020	MW	X	--	--	--	--	--	460.56	14.4	7.0	17.0	2
MW-27-060	MW	--	X	--	--	--	--	461.38	59.0	47.3	57.3	2
MW-27-085	MW	--	--	X	--	--	--	460.99	92.0	77.5	87.5	2
MW-28-025	MW	X	--	--	--	--	--	466.77	21.1	13.0	23.0	2
MW-28-090	MW	--	--	X	--	--	--	467.53	98.4	70.0	90.0	2
MW-29	MW	X	--	--	--	--	--	485.21	41.5	29.5	39.5	2
MW-30-030	MW	X	--	--	--	--	--	468.12	26.9	12.0	32.0	2
MW-30-050	MW	X	X	--	--	--	--	468.81	52.6	40.0	50.0	4
MW-31-060	MW	X	--	--	--	--	--	496.81	64.0	41.5	61.5	4
MW-31-135	MW	--	--	X	--	--	--	495.33	135.5	113.0	133.0	2
MW-32-020	MW	X	--	--	--	--	--	461.51	19.6	10.0	20.0	2
MW-32-035	MW	X	--	--	--	--	--	461.63	37.2	27.5	35.0	4
MW-33-040	MW	X	--	--	--	--	--	487.38	41.8	29.0	39.0	2
MW-33-090	MW	--	X	X	--	--	--	487.55	88.3	69.0	89.0	4
MW-33-150	MW	--	--	X	X	--	--	487.77	155.4	132.0	152.0	2
MW-33-210	MW	--	--	--	--	X	--	487.25	223.0	190.0	210.0	2
MW-34-055	MW	--	X	--	--	--	--	460.95	56.6	45.0	55.0	4
MW-34-080	MW	--	--	X	--	--	--	461.20	84.3	73.0	83.0	4
MW-34-100	MW	--	--	X	--	--	--	460.97	117.0	89.5	99.5	2
MW-35-060	MW	X	X	--	--	--	--	482.06	56.8	41.0	61.0	2
MW-35-135	MW	--	--	X	X	--	--	481.72	158.7	116.0	136.0	2
MW-36-020	MW	X	--	--	--	--	--	469.33	20.3	10.0	20.0	1
MW-36-040	MW	X	--	--	--	--	--	469.59	40.3	30.0	40.0	1
MW-36-050	MW	--	X	--	--	--	--	469.62	108.0	46.0	51.0	1
MW-36-070	MW	--	X	X	--	--	--	469.27	70.3	60.0	70.0	1
MW-36-090	MW	--	--	X	--	--	--	469.64	90.3	80.0	90.0	1
MW-36-100	MW	--	--	X	--	--	--	469.65	108.0	88.0	98.0	2
MW-37D	MW	--	--	--	X	X	--	486.19	226.7	180.0	200.0	2
MW-37S	MW	--	X	--	--	--	--	485.97	85.0	64.0	84.0	2

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

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-38D	MW	--	--	X	X	--	--	525.31	190.9	163.0	183.0	2
MW-38S	MW	X	--	--	--	--	--	525.51	98.1	75.0	95.0	2
MW-39-040	MW	X	--	--	--	--	--	468.02	42.1	30.0	40.0	1
MW-39-050	MW	--	X	--	--	--	--	467.93	54.6	47.0	52.0	1
MW-39-060	MW	--	X	--	--	--	--	468.00	66.3	49.0	59.0	1
MW-39-070	MW	--	X	X	--	--	--	468.02	71.7	60.0	70.0	1
MW-39-080	MW	--	--	X	--	--	--	467.92	82.6	70.0	80.0	1
MW-39-100	MW	--	--	X	--	--	--	468.01	117.7	80.0	100.0	2
MW-40D	MW	--	--	--	X	--	--	566.08	266.0	240.0	260.0	2
MW-40S	MW	X	--	--	--	--	--	566.04	134.0	115.0	135.0	2
MW-41D	MW	--	--	--	--	--	Layer 6	479.42	311.5	271.0	291.0	2
MW-41M	MW	--	--	--	X	X	--	479.84	190.0	170.0	190.0	2
MW-41S	MW	X	X	--	--	--	--	480.07	60.0	40.0	60.0	2
MW-42-030	MW	X	--	--	--	--	--	463.74	30.1	9.8	29.8	2
MW-42-055	MW	--	X	--	--	--	--	463.85	52.8	42.5	52.5	2
MW-42-065	MW	--	X	X	--	--	--	463.37	80.0	56.2	66.2	2
MW-43-025	MW	X	--	--	--	--	--	462.54	25.0	15.0	25.0	2
MW-43-075	MW	--	--	X	--	--	--	462.71	75.0	65.0	75.0	2
MW-43-090	MW	--	--	X	--	--	--	462.76	97.0	80.0	90.0	2
MW-44-070	MW	--	X	--	--	--	--	471.90	70.0	61.0	71.0	2
MW-44-115	MW	--	--	X	--	--	--	472.01	113.5	105.0	115.0	2
MW-44-125	MW	--	--	X	X	--	--	472.04	128.8	116.0	125.0	2
MW-45-095a	MW	--	--	X	--	--	--	468.27	97.0	83.0	93.0	2
MW-46-175	MW	--	--	--	X	--	--	482.16	175.5	165.0	175.0	2
MW-46-205	MW	--	--	--	--	X	--	482.23	206.5	196.5	206.5	2
MW-47-055	MW	X	--	--	--	--	--	483.89	55.0	45.0	55.0	2
MW-47-115	MW	--	--	X	--	--	--	484.10	115.0	105.0	115.0	2
MW-48	MW	--	--	X	--	--	--	486.22	138.0	124.0	134.0	2
MW-49-135	MW	--	--	X	X	--	--	484.02	135.0	125.0	135.0	1.5
MW-49-275	MW	--	--	--	--	--	Layer 6	483.95	274.7	255.0	275.0	2
MW-49-365	MW	--	--	--	--	--	Layer 8	484.01	367.4	346.0	366.0	2
MW-50-095	MW	--	X	--	--	--	--	496.49	95.0	85.0	95.0	2
MW-50-200	MW	--	--	--	X	X	--	496.35	204.5	190.0	200.0	2
MW-51	MW	--	X	X	--	--	--	501.56	113.3	97.0	112.0	4
MW-52D	MW	--	--	X	--	--	--	462.16	89.5	85.0	87.0	0.75
MW-52M	MW	--	--	X	--	--	--	462.16	70.5	66.0	68.0	0.75
MW-52S	MW	--	X	--	--	--	--	462.16	51.5	47.0	49.0	0.75
MW-53D	MW	--	--	--	X	--	--	461.32	125.0	123.5	125.0	0.75
MW-53M	MW	--	--	X	--	--	--	461.32	125.0	98.5	100.0	0.75
MW-53S	MW	X	--	--	--	--	--	461.32	125.0	28.5	30.0	0.75
MW-54-085	MW	--	--	X	--	--	--	466.10	93.2	77.0	87.0	2

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

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-54-140	MW	--	--	--	X	--	--	465.98	138.0	128.0	138.0	2
MW-54-195	MW	--	--	--	--	X	--	466.32	195.0	185.0	195.0	2
MW-55-045	MW	X	X	--	--	--	--	465.66	54.1	37.0	47.0	2
MW-55-120	MW	--	--	X	X	--	--	465.46	120.3	108.0	118.0	2
MW-56D	MW	--	--	X	--	--	--	461.36	105.5	103.5	105.5	0.75
MW-56M	MW	--	--	X	--	--	--	461.36	105.5	73.5	75.5	0.75
MW-56S	MW	X	--	--	--	--	--	461.36	105.5	33.5	35.5	0.75
MW-57-050	MW	X	--	--	--	--	--	508.76	50.0	40.0	50.0	2
MW-57-070	MW	X	--	--	--	--	--	509.37	70.0	55.0	70.0	2
MW-57-185	MW	X	X	X	X	--	--	508.97	184.7	70.0	184.0	4
MW-58-065	MW	X	--	--	--	--	--	523.26	66.0	54.0	64.0	2
MW-58-115	MW	X	X	--	--	--	--	524.44	115.0	95.0	115.0	0
MW-58-205	MW	--	--	X	X	--	--	524.42	206.0	160.0	206.0	0
MW-59-100	MW	X	--	--	--	--	--	541.61	101.0	86.0	101.0	2
MW-60-125	MW	X	--	--	--	--	--	555.47	122.5	103.0	123.0	2
MW-61-110	MW	X	--	--	--	--	--	544.03	112.5	92.0	112.0	2
MW-62-065	MW	X	--	--	--	--	--	503.56	67.4	44.5	64.5	2
MW-62-110	MW	--	X	X	--	--	--	504.05	110.0	85.0	110.0	0
MW-62-190	MW	--	--	--	X	--	--	504.05	190.0	155.0	192.0	0
MW-63-065	MW	X	--	--	--	--	--	504.42	65.6	46.0	66.0	2
MW-64-150	MW	X	--	--	--	--	--	575.90	150.0	120.0	150.0	0
MW-64-205	MW	--	--	X	--	--	--	575.92	205.0	175.0	205.0	0
MW-64-260	MW	--	--	--	X	--	--	575.90	260.0	230.0	260.0	0
MW-65-160	MW	X	--	--	--	--	--	596.59	160.1	150.0	160.0	2
MW-65-225	MW	--	--	X	--	--	--	596.58	225.1	215.0	225.0	2
MW-66-165	MW	X	X	--	--	--	--	586.16	162.1	142.0	162.0	2
MW-66-230	MW	--	--	X	--	--	--	586.22	228.1	218.0	228.0	2
MW-67-185	MW	X	--	--	--	--	--	625.91	186.7	177.0	187.0	2
MW-67-225	MW	--	X	--	--	--	--	625.83	225.0	210.0	225.0	2
MW-67-260	MW	--	--	X	--	--	--	625.81	260.0	250.0	260.0	2
MW-68-180	MW	X	--	--	--	--	--	621.17	180.1	165.0	180.0	2
MW-68-240	MW	--	X	X	--	--	--	621.17	240.1	220.0	240.0	2
MW-69-195	MW	X	--	--	--	--	--	631.36	195.5	176.0	196.0	2
MW-70-105	MW	X	--	--	--	--	--	541.47	107.8	85.0	105.0	2
MW-70BR-287	MW	--	--	--	--	X	--	538.28	287.0	240.0	287.0	5.5
MW-71-035	MW	X	--	--	--	--	--	483.69	36.2	26.0	36.0	2
MW-72-080	MW	X	--	--	--	--	--	513.32	80.1	60.0	80.0	2
MW-73-080	MW	X	--	--	--	--	--	505.84	79.9	60.2	80.2	2
MW-74-240	MW	X	--	--	--	--	--	672.34	239.7	220.0	240.0	2
MW-75-033	MW	X	--	--	--	--	--	473.31	35.4	18.0	33.0	2
MW-75-117	MW	--	--	X	--	--	--	473.37	119.3	97.0	117.0	2

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

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-75-202	MW	--	--	--	--	X	--	473.01	204.0	182.0	202.0	2
MW-75-267	MW	--	--	--	--	--	Layer 6	472.88	269.3	247.0	267.0	2
MW-75-337	MW	--	--	--	--	--	Layers 7, 8	473.79	339.3	317.0	337.0	2
MW-76-039	MW	X	--	--	--	--	--	481.24	39.5	24.0	39.0	2
MW-76-156	MW	--	--	--	X	--	--	481.35	158.3	136.0	156.0	2
MW-76-181	MW	--	--	--	X	--	--	481.43	183.3	171.0	181.0	2
MW-76-218	MW	--	--	--	--	X	--	481.36	220.3	198.0	218.0	2
MW-77-046	MW	X	--	--	--	--	--	478.81	48.3	26.0	46.0	2
MW-77-102	MW	--	--	X	--	--	--	478.65	104.3	82.0	102.0	2
MW-77-158	MW	--	--	--	X	--	--	478.70	160.4	137.9	158.0	2
MW-77-187	MW	--	--	--	X	--	--	478.67	189.4	167.0	187.1	2
MW-78-070	MW	X	--	--	--	--	--	500.97	72.3	50.0	70.0	2
MW-78-142	MW	--	--	X	--	--	--	500.88	142.3	122.0	142.0	2
MW-79-058	MW	X	--	--	--	--	--	501.21	60.5	48.0	58.0	2
MW-79-102	MW	--	X	--	--	--	--	501.09	104.5	92.0	102.0	2
MW-80-057	MW	X	--	--	--	--	--	503.80	59.9	47.4	57.4	2
MW-80-082	MW	X	--	--	--	--	--	503.74	84.5	67.0	82.0	2
MW-81-043	MW	X	--	--	--	--	--	478.02	45.1	22.8	42.8	2
MW-81-098	MW	--	--	X	--	--	--	477.91	100.3	78.0	98.0	2
MW-82-046	MW	X	--	--	--	--	--	484.46	48.3	26.0	46.0	2
MW-82-112	MW	--	--	X	--	--	--	484.36	114.3	92.0	112.0	2
MW-82-168	MW	--	--	--	X	--	--	483.75	170.3	148.0	168.0	2
MW-82-198	MW	--	--	--	X	X	--	483.66	200.3	178.0	198.0	2
MW-83-090	MW	X	--	--	--	--	--	529.24	92.3	70.0	90.0	2
MW-83-180	MW	--	--	X	X	--	--	529.13	182.0	160.0	180.0	2
MW-83-225	MW	--	--	--	X	--	--	529.80	227.4	205.0	225.0	2
MW-83-245	MW	--	--	--	--	X	--	529.65	257.4	235.0	245.0	2
MW-84-057	MW	X	--	--	--	--	--	500.70	59.4	42.0	57.0	2
MW-84-095	MW	X	X	--	--	--	--	500.64	97.4	75.0	95.0	2
MW-84-132	MW	--	--	X	--	--	--	501.26	134.4	112.0	132.0	2
MW-84-193	MW	--	--	--	X	--	--	501.18	195.5	173.2	193.2	2
MW-85-129	MW	X	--	--	--	--	--	569.93	131.3	113.8	129.0	2
MW-85-217	MW	--	--	X	--	--	--	569.36	219.0	196.7	216.7	2
MW-85-237	MW	--	--	--	X	--	--	569.50	239.0	226.7	236.7	2
MW-86-030	MW	X	--	--	--	--	--	468.02	32.3	10.0	30.0	2
MW-86-066	MW	--	X	--	--	--	--	467.91	68.3	46.0	66.0	2
MW-86-120	MW	--	--	X	X	--	--	468.33	122.3	100.0	120.0	2
MW-86-140	MW	--	--	--	X	--	--	468.18	142.3	130.0	140.0	2
MW-87-109	MW	X	--	--	--	--	--	546.94	111.3	89.0	109.0	2
MW-87-139	MW	X	X	--	--	--	--	546.94	141.4	119.0	139.0	2
MW-87-192	MW	--	--	X	--	--	--	547.26	194.3	172.0	192.0	2

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

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
MW-87-275	MW	--	--	--	--	X	--	547.11	277.3	255.0	275.0	2
MW-88-107	MW	X	--	--	--	--	--	546.53	109.3	87.0	107.0	2
MW-89-183	MW	--	X	--	--	--	--	587.52	185.6	163.2	183.2	2
MW-89-273	MW	--	--	--	X	--	--	587.66	275.6	253.2	273.2	2
MW-90-031	MW	X	--	--	--	--	--	459.27	33.8	21.5	31.5	2
MW-91-045	MW	X	X	--	--	--	--	465.48	46.5	24.2	44.2	2
MW-91-120	MW	--	--	X	X	--	--	465.37	122.1	99.8	119.8	2
MW-91-170	MW	--	--	--	X	X	--	465.37	173.2	150.8	170.8	2
MW-91-320	MW	--	--	--	--	--	Layers 7, 8	465.28	323.2	300.8	320.8	2
MW-92-037	MW	X	X	--	--	--	--	462.00	39.4	17.0	37.0	2
MW-92-072	MW	--	X	X	--	--	--	461.97	74.4	52.0	72.0	2
MW-92-102	MW	--	--	X	--	--	--	462.38	104.3	82.0	102.0	2
MW-92-122	MW	--	--	X	X	--	--	462.30	124.3	112.0	122.0	2
MW-93-050	MW	X	--	--	--	--	--	486.41	52.3	30.0	50.0	2
MW-93-213	MW	--	--	--	--	X	--	486.33	215.3	193.0	213.0	2
MW-94-030	MW	X	--	--	--	--	--	468.39	32.2	10.0	30.0	2
MW-94-100	MW	--	--	X	--	--	--	468.41	102.3	70.0	100.0	2
MW-95-113	MW	X	--	--	--	--	--	553.64	115.3	93.0	113.0	2
MW-95-157	MW	--	X	X	--	--	--	553.60	159.3	137.0	157.0	2
MW-96-045	MW	X	--	--	--	--	--	483.84	47.3	25.0	45.0	2
MW-96-217	MW	--	--	--	--	X	--	483.61	219.3	197.0	217.0	2
MW-97-042	MW	X	--	--	--	--	--	481.81	42.8	22.3	42.3	2
MW-97-202	MW	--	--	--	--	X	--	481.648	201.8	191.3	201.3	2
MW-98-055	MW	X	--	--	--	--	--	502.12	57.3	39.9	55.0	2
MW-98-077	MW	X	--	--	--	--	--	502.02	79.3	67.0	77.0	2
MW-99-060	MW	X	--	--	--	--	--	500.61	62.3	40.0	60.0	2
MW-99-140	MW	--	--	X	--	--	--	500.55	142.3	120.0	140.0	2
OW-01D	MW	--	--	--	--	X	--	550.37	277.3	257.0	277.0	2
OW-01M	MW	--	--	X	--	--	--	550.36	185.8	165.0	185.0	2
OW-01S	MW	X	--	--	--	--	--	550.21	113.5	83.5	113.5	2
OW-02D	MW	--	--	--	--	--	Layer 6	549.01	340.0	310.0	330.0	2
OW-02M	MW	--	--	X	X	--	--	548.52	210.3	190.0	210.0	2
OW-02S	MW	X	--	--	--	--	--	548.88	103.6	71.0	101.0	2
OW-05D	MW	--	--	--	--	--	Layer 6	552.41	350.0	300.0	320.0	2
OW-05M	MW	--	--	--	X	--	--	551.81	250.3	210.0	250.0	2
OW-05S	MW	X	--	--	--	--	--	551.83	110.3	70.0	110.0	2
PGE-07BR	MW	--	--	--	--	--	Layer 9	--	300.0	249.0	300.0	7
PGE-08	MW	--	--	--	--	--	Layers 7, 8, 9	596.01	564.0	405.0	554.0	6.75
PT5D	MW	--	--	X	--	--	--	473.49	105.0	95.0	105.0	2
PT5M	MW	--	X	--	--	--	--	473.49	70.0	60.0	70.0	2
PT5S	MW	X	--	--	--	--	--	473.47	45.0	35.0	45.0	2

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

Location ID	Location Type	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Other Layer	Top of Casing Elevation (ft)	Depth of Well (ft bgs)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Diameter of Well (inches)
PT8D	MW	--	--	X	--	--	--	562.03	212.5	190.0	210.0	2
PT9D	MW	--	--	X	X	--	--	559.11	212.5	190.0	210.0	2
PT9M	MW	--	--	X	--	--	--	559.14	187.0	162.0	182.0	2
PT9S	MW	X	X	--	--	--	--	559.27	153.0	128.0	148.0	2
MW-58BR	MWBR	--	--	--	--	--	Layer 9	524.91	206.00	160.00	206.00	--
MW-60BR-245	MWBR	--	X	X	X	--	--	554.95	244.1	136.0	245.0	5
MW-64BR	MWBR	X	X	X	X	--	--	575.60	260.0	2.0	258.0	3
MW-66BR-270	MWBR	--	--	--	X	--	--	586.15	270.6	248.0	271.0	5
MW-68BR-280	MWBR	--	--	X	X	--	--	620.64	278.2	257.0	279.0	5
MW-70BR-225	MWBR	--	--	--	X	--	--	539.84	229.3	120.0	227.0	5
MW-72BR-200	MWBR	--	X	X	X	--	--	513.79	200.0	107.0	200.0	--

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

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

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)
IRZ-09-100	Extraction Wells	04/12/2022	N	11	--	--	--	0.34	<0.02	0.0018	--	--	--	--	<1
IRZ-09-100	Extraction Wells	05/18/2022	N	15	--	--	--	0.14 J	<0.02 J	<0.0005	--	--	--	--	<1
IRZ-09-100	Extraction Wells	06/13/2022	N	18	--	--	--	--	0.048 J	<0.0005	--	--	--	--	<1
IRZ-13D-210	Extraction Wells	04/12/2022	N	410	--	--	--	0.63	<0.02	0.028	--	--	--	--	<1
IRZ-13D-210	Extraction Wells	05/17/2022	N	500	--	--	--	<0.1 J	<0.02 J	0.0025	--	--	--	--	<1
IRZ-13D-210	Extraction Wells	06/13/2022	N	500	--	--	--	--	<0.02 J	<0.0005	--	--	--	--	<1
IRZ-13S-095	Extraction Wells	04/12/2022	N	6.2	--	--	--	0.18	<0.02	0.0029	--	--	--	--	<1
IRZ-13S-095	Extraction Wells	05/17/2022	N	23	--	--	--	0.054 J	<0.02 J	<0.0005	--	--	--	--	<1
IRZ-13S-095	Extraction Wells	06/13/2022	N	23	--	--	--	--	<0.02	<0.0005	--	--	--	--	<1
IRZ-15-055	Dose Response	04/12/2022	N	960	930	<0.1 J	31	--	<0.02	0.0059	--	1.6	--	770	<1
IRZ-15-200	Dose Response	04/12/2022	N	320	260	<0.1 J	82	--	<0.02	0.0038	--	1.5	--	500	<1
IRZ-21-065	Dose Response	04/12/2022	N	370	350	<0.1 J	63	--	<0.02	0.053	--	0.76	--	540	<1
IRZ-21-157	Dose Response	04/12/2022	N	410	460	<0.1 J	77	--	<0.02	0.16	--	0.5	--	600	<1
IRZ-23-143	Extraction Wells	04/12/2022	N	710	--	--	--	0.130	<0.02	<0.0005	--	--	--	--	<1
IRZ-23-143	Extraction Wells	05/17/2022	N	650	--	--	--	<0.02 J	<0.02 J	<0.0005	--	--	--	--	<1
IRZ-23-143	Extraction Wells	06/13/2022	N	660	--	--	--	--	<0.02 J	<0.0005	--	--	--	--	<1
IRZ-25-100	Dose Response	04/12/2022	N	2,600	2,500	0.85 J	25	--	<0.02	0.013	--	14	--	300	<1
IRZ-25-166	Dose Response	04/12/2022	N	1,400	1,300	<0.1 J	39	--	<0.02	0.0062	--	7.2	--	380	<1
MW-20-070	Dose Response	04/14/2022	N	320	--	1.4	24	--	<0.02	<0.0005	--	14 J	--	250	<5
MW-20-070	Dose Response	05/20/2022	N	330	--	1.1 J	29 J	--	<0.02	0.0016	--	16	--	280	<1
MW-20-070	Dose Response	05/20/2022	FD	330	--	0.95 J	26 J	--	<0.02	0.0013	--	16	--	270	<1
MW-20-070	Dose Response	06/13/2022	N	610	610 J	0.62 J	35	--	<0.02	<0.0005	<0.2	24	<5	410	<1
MW-20-100	Dose Response	04/14/2022	N	1,300	--	<0.1	83	--	<0.02	<0.0005	--	6.3 J	--	740	<1
MW-20-100	Dose Response	04/14/2022	FD	1,300	--	<0.1	83	--	<0.02	<0.0005	--	6.5 J	--	740	<1
MW-20-100	Dose Response	05/20/2022	N	880	--	<0.1 J	62 J	--	<0.02	<0.0005	--	4.3	--	650	<1
MW-20-100	Dose Response	06/13/2022	N	910	980 J	<0.1 J	66	--	<0.02 J	<0.0005	<0.2	5.1	<5	700	<1
MW-20-130	Dose Response	04/14/2022	N	3,300	--	<0.1	29	--	<0.1	0.00072	--	7 J	--	1,100	<1
MW-20-130	Dose Response	05/20/2022	N	2,000	--	<0.1 J	32 J	--	<0.02	0.0032	--	4	--	1,400	<1
MW-20-130	Dose Response	06/13/2022	N	1,700	1,600 J	<0.1 J	32	--	<0.02	0.0022	<0.2	4.3	<5	1,400	<1
MW-20-130	Dose Response	06/13/2022	FD	1,700	1,700 J	<0.1 J	34	--	0.04 J	0.0024	<0.2	4.3	<5	1,400	<1
MW-21	Dose Response	04/12/2022	N	0.34	--	6 J	31	--	0.068	0.14	--	1	--	1,500	<1
MW-21	Dose Response	05/18/2022	N	<0.2	--	7.6	35	--	0.93 J	0.48	--	<0.5	--	2,000	<1
MW-21	Dose Response	06/14/2022	N	<0.2	3.8	8.2	38 J	--	1.10	0.68	<0.2	<0.5	<5	1,900	<1
MW-22	Downgradient	05/05/2022	N	<1	<1	3.7 J	110 J	--	4.30	2.10	--	<0.5	--	--	1.8
MW-22	Downgradient	05/05/2022	FD	<1	<1	5.1 J	150 J	--	4.80	2	--	<0.5	--	--	1.8
MW-26	Dose Response	04/13/2022	N	740	--	<0.1	84	--	0.033 J	0.72	--	3.1	--	480	<1
MW-26	Dose Response	05/20/2022	N	340	--	<0.1 J	87 J	--	<0.02	0.12	--	1.2	--	560	<1
MW-26	Dose Response	06/14/2022	N	140	130	<0.1	88 J	--	0.049	0.88	<0.2	0.73	<5	550	<1
MW-27-020	Downgradient	05/05/2022	N	<0.2	<1	0.55 J	75 J	--	<0.02	<0.0005 J	--	0.44	--	--	1.5
MW-27-060	Downgradient	05/05/2022	N	<0.2	<1	9.1 J	68 J	--	0.43	0.24 J	--	<0.25	--	--	1.4
MW-27-085	Downgradient	05/05/2022	N	<1	<1	<0.1 J	37 J	--	0.24	0.13 J	--	<0.25	--	--	<1
MW-28-025	Downgradient	05/04/2022	N	<0.2	<1	0.57	57	--	<0.02 J	0.046	--	<0.25	--	--	<1
MW-28-090	Downgradient	05/04/2022	N	<0.2	<1	<0.1	29	--	0.99 J	0.43	--	<0.5	--	--	<1
MW-29	Northern Extraction	06/13/2022	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--
MW-30-030	Downgradient	05/03/2022	N	<1	<1	0.2	76	--	0.17	0.049	--	<0.5	--	--	5.6
MW-30-050	Downgradient	05/03/2022	N	<0.2	2.6	2.2	19	--	0.02	0.38	--	<0.1	--	--	<1
MW-30-050	Downgradient	06/17/2022	N	<0.2	--	2 J	21	--	0.058 J	0.54 J	--	<0.25	--	210	<1
MW-31-060	Dose Response	04/12/2022	N	<0.2	--	3.6 J	230	--	0.21	5.40	--	<0.5	--	540	<20
MW-31-060	Dose Response	05/20/2022	N	48	--	<0.1 J	79 J	--	0.14	0.69	--	<0.5	--	560	<1
MW-31-060	Dose Response	06/13/2022	N	340	340 J	<0.1 J	67	--	0.044 J	0.024	<0.2	2.6	<25	570	<50
MW-31-135	Dose Response	04/12/2022	N	26	--	<0.1 J	55	--	<0.02	0.00076	--	1.9	--	740	<1
MW-31-135	Dose Response	05/20/2022	N	26	--	<0.1 J	51 J	--	<0.02	0.003	--	1.5	--	720	<50
MW-31-135	Dose Response	06/13/2022	N	23	21 J	<0.1 J	49	--	0.048 J	0.0036	<0.2	1.4	<5	700	<1
MW-32-020	Downgradient	05/04/2022	N	<1	<1	<0.1 J	77 J	--	2.20	0.094 J	--	<0.5	--	--	2.8
MW-32-035	Downgradient	05/04/2022	N	<0.2	<1	5.7 J	84 J	--	1.90 J	0.74 J	--	<0.5	--	--	1.7
MW-32-035	Downgradient	05/04/2022	FD	<0.2	<1	10 J	83 J	--	2.90 J	0.62 J	--	<0.5	--	--	1.7
MW-33-040	Northern Extraction	06/09/2022	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-33-090	Northern Extraction	06/09/2022	N	2.7	3.2 J	--	--	--	--	--	--	--	--	--	--
MW-33-150	Northern Extraction	06/09/2022	N	3.3	5.1 J	--	--	--	--	--	--	--	--	--	--
MW-33-210	Northern Extraction	06/09/2022	N	9.9	10 J	--	--	--	--	--	--	--	--	--	--
MW-34-055	Downgradient	05/05/2022	N	<0.2	<1	2.1 J	27 J	--	0.027	0.058 J	--	<0.25	--	--	<1
MW-34-080	Downgradient	05/05/2022	N	<0.2	<1	<0.1 J	35 J	--	0.35	0.066 J	--	<0.25	--	--	<20
MW-34-080	Downgradient	06/17/2022	N	<0.2	--	<0.1 J	35	--	0.79 J	0.11 J	--	<0.25	--	490	<1
MW-34-100	Downgradient	05/05/2022	N	<0.2	<1	<0.1 J	20 J	--	0.15	0.25 J	--	<0.25	--	--	<1
MW-35-060	Northern Extraction	06/07/2022	N	20	21	--	--	--	--	--	--	--	--	--	--
MW-35-135	Northern Extraction	06/07/2022	N	27	29	--	--	--	--	--	--	--	--	--	--
MW-36-020	Downgradient	05/04/2022	N	<0.2	<1	0.79 J	80 J	--	0.62	0.29 J	--	<0.1	--	--	1.8
MW-36-040	Downgradient	05/04/2022	N	<0.2	<1	6.7 J	43 J	--	0.46	0.15 J	--	<0.1	--	--	2
MW-36-050	Downgradient	05/04/2022	N	<0.2	<1	4.8 J	25 J	--	0.13	0.3 J	--	<0.1	--	--	1.2
MW-36-070	Downgradient	05/04/2022	N	<0.2	<1	2.2 J	32 J	--	0.021	0.39 J	--	<0.1	--	--	<1
MW-36-090	Downgradient	05/04/2022	N	<0.2	<1	0.55 J	38 J	--	0.04	0.11 J	--	<0.25	--	--	<1
MW-36-090	Downgradient	05/04/2022	FD	<0.2	<1	0.51 J	39 J	--	0.037	0.11 J	--	<0.25	--	--	<1
MW-36-090	Downgradient	06/17/2022	N	<0.2	--	<0.1 J	37	--	0.042 J	0.13 J	--	<0.25	--	350	<1
MW-36-100	Downgradient	05/04/2022	N	<0.2	<1	1.5 J	59 J	--	0.52	0.51 J	--	<0.25	--	--	<1
MW-36-100	Downgradient	06/17/2022	N	0.93	--	<0.1 J	51	--	0.41 J	0.62 J	--	<0.25	--	470	<1
MW-36-100	Downgradient	06/17/2022	FD	0.81	--	<0.1 J	52	--	0.35 J	0.56 J	--	<0.25	--	470	<1
MW-39-040	Downgradient	05/03/2022	N	<0.2	<1	16	72	--	0.27	0.11	--	<0.1	--	--	2.3
MW-39-040	Downgradient	06/15/2022	N	<0.2	--	15	72	--	0.35	0.11	--	<0.25	--	150	2.5
MW-39-050	Downgradient	05/03/2022	N	<0.2	<1	1.8	37	--	<0.02	0.17	--	<0.1	--	--	<1
MW-39-050	Downgradient	06/15/2022	N	<0.2	--	1.6	41	--	<0.02	0.17	--	<0.25	--	200	<1
MW-39-060	Downgradient	05/03/2022	N	R	R	R	R	--	R	R	--	R	--	--	R
MW-39-060	Downgradient	06/15/2022	N	<1	--	2	24	--	<0.02	0.12	--	<0.25	--	200	<1
MW-39-070	Downgradient	05/03/2022	N	<0.2	<1	1.1	31	--	<0.02	0.0076	--	<0.1	--	--	<1
MW-39-070	Downgradient	06/15/2022	N	<0.2	--	0.39	40	--	<0.02	0.0085	--	<0.25	--	260	<1
MW-39-080	Downgradient	05/03/2022	N	0.33	<1	<0.1	16	--	<0.02	0.0029	--	0.3	--	--	<1
MW-39-080	Downgradient	06/15/2022	N	10	--	<0.1	25	--	<0.02	0.0036	--	<0.25	--	560	<1
MW-39-100	Downgradient	05/03/2022	N	R	R	R	R	--	R	R	--	R	--	--	R
MW-39-100	Downgradient	06/15/2022	N	170	--	<0.1	29	--	<0.02	0.011	--	<0.25	--	940	<1
MW-42-030	Downgradient	05/05/2022	N	<0.2	<1	2.5	62	--	0.33	0.085	--	<0.25	--	--	2.3
MW-42-055	Downgradient	05/05/2022	N	<0.2	<1	8.3	130	--	0.13	0.19	--	<0.25	--	--	<1
MW-42-065	Downgradient	05/05/2022	N	<0.2	<1	1.4	98	--	0.13	2.20	--	<0.25	--	--	<1
MW-43-025	Downgradient	05/03/2022	N	<0.2	<1	20	91	--	3.50 J	0.44	--	<0.25	--	--	2.2
MW-43-075	Downgradient	05/03/2022	N	<1	<1	5.7	48	--	3.20 J	0.42	--	<0.25	--	--	<1
MW-43-090	Downgradient	05/03/2022	N	<1	<1	<0.5	54	--	1.20 J	0.78	--	<0.25	--	--	<50
MW-44-070	Downgradient	05/06/2022	N	<0.2	<1	1.6	46 J	--	0.63 J	0.44 J	--	<0.25	--	--	<1
MW-44-115	Downgradient	05/06/2022	N	<1	1.5	<0.1	20 J	--	0.037 J	0.04 J	--	<0.25	--	--	<1
MW-44-115	Downgradient	06/17/2022	N	<1	--	<0.1 J	19	--	<0.02 J	0.014 J	--	<0.25	--	1,000	<50
MW-44-125	Downgradient	05/06/2022	N	<1	<1	<0.1	46 J	--	0.46 J	0.55 J	--	<0.25	--	--	<1
MW-44-125	Downgradient	06/17/2022	N	<1	--	<0.1 J	44	--	0.37 J	0.44 J	--	<0.25	--	1,100	<1
MW-45-095A	Downgradient	05/04/2022	N	<0.2	<1	<0.1	24	--	<0.02	0.12	--	<0.25	--	--	<1
MW-45-095A	Downgradient	06/17/2022	N	<0.2	--	<0.1 J	29	--	<0.02 J	0.37 J	--	<0.25	--	480	<1
MW-46-175	Downgradient	05/05/2022	N	6.9	6.7	<0.1 J	23 J	--	<0.02	0.0095 J	--	1	--	--	<1
MW-46-205	Downgradient	05/05/2022	N	<1	10	<0.1 J	29 J	--	0.071	0.038 J	--	0.88	--	--	<1
MW-47-055	Northern Extraction	06/07/2022	N	16	16	--	--	--	--	--	--	--	--	--	--
MW-47-115	Northern Extraction	06/07/2022	N	22	24	--	--	--	--	--	--	--	--	--	--
MW-49-135	Northern Extraction	06/13/2022	N	5	4.9 J	--	--	--	--	--	--	--	--	--	--
MW-49-275	Northern Extraction	06/13/2022	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-49-365	Northern Extraction	06/13/2022	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-51	Dose Response	04/13/2022	N	1,800	--	<0.1	37	--	0.02 J	0.00082	--	4.7	--	630	<1
MW-51	Dose Response	05/20/2022	N	870	--	<0.1 J	29 J	--	<0.02	<0.0005	--	2.1	--	590	<1
MW-51	Dose Response	06/14/2022	N	450	540	<0.1	27 J	--	<0.02	0.0017	<0.2	1.2	<5	580	<1
MW-52D	Downgradient	05/03/2022	N	<1	<1	<0.1	33	--	0.74 J	0.22	--	<0.25	--	--	<1

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

Monitoring Well ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Ammonia (as Nitrate) (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)
MW-52M	Downgradient	05/03/2022	N	<1	<1	<0.1	58	--	0.62 J	0.23	--	<0.25	--	--	<1
MW-52S	Downgradient	05/03/2022	N	<1	<1	<0.1	400	--	26 J	1.40	--	<0.25	--	--	2.4
MW-53D	Downgradient	05/03/2022	N	<1	<1	<0.1	36	--	0.38 J	1.40	--	<0.25	--	--	<1
MW-53M	Downgradient	05/03/2022	N	<1	<1	<0.1	55	--	0.27 J	0.4	--	<0.25	--	--	<1
MW-53S	Downgradient	05/03/2022	N	<0.2	<1	<0.1	190	--	5 J	1.10	--	<0.25	--	--	1.7
MW-71-035	Dose Response	04/12/2022	N	<1	--	<0.1 J	45	--	0.051	0.25	--	<0.5	--	1,200	<1
MW-71-035	Dose Response	04/12/2022	FD	<1	--	<0.1 J	45	--	0.074	0.3	--	<0.5	--	1,200	<1
MW-71-035	Dose Response	05/18/2022	N	<1	--	<0.1	41	--	0.058 J	0.045	--	<0.5	--	1,100	<1
MW-71-035	Dose Response	06/15/2022	N	<1	<1	<0.1	58	--	0.15 J	1.40	<0.2	<0.5	<5	1,200	<1
MW-71-035	Dose Response	06/15/2022	FD	<1	<1	<0.1	61	--	0.21 J	1.50	<0.2	<0.5	<5	1,300	<1
MW-75-033	Northern Extraction	06/07/2022	N	27	26	--	--	--	--	--	--	--	--	--	--
MW-75-117	Northern Extraction	06/07/2022	N	7.4	6.7	--	--	--	--	--	--	--	--	--	--
MW-75-202	Northern Extraction	06/07/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-267	Northern Extraction	06/07/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-75-337	Northern Extraction	06/07/2022	N	<1	<1	--	--	--	--	--	--	--	--	--	--
MW-76-039	Dose Response	04/11/2022	N	33	--	<0.1 J	61	--	0.034	0.005	--	2.1	--	210	<1
MW-76-039	Dose Response	05/16/2022	N	44	--	<0.1 J	70	--	<0.02	0.0014	--	2.2	--	230	<10
MW-76-039	Dose Response	06/13/2022	N	88	77 J	<0.1 J	66	--	<0.02 J	<0.0005	0.078 J	2.5	<2.5	230	<1
MW-76-039	Dose Response	06/13/2022	FD	86	76 J	<0.1 J	63	--	<0.02 J	0.0007	<0.22	2.5	<2.5	230	<1
MW-76-156	Dose Response	04/11/2022	N	15	--	<0.1 J	55	--	<0.02	0.11	--	1.7	--	860	<1
MW-76-156	Dose Response	05/16/2022	N	5.5	--	<0.1 J	43	--	<0.1	0.071	--	1.5	--	730	<1
MW-76-156	Dose Response	05/16/2022	FD	5.5	--	<0.1 J	44	--	0.023	0.07	--	1.5	--	740	<1
MW-76-156	Dose Response	06/13/2022	N	13	12 J	<0.1 J	43	--	<0.02 J	0.033	<0.2	1.9	<5	740	<1
MW-76-181	Dose Response	04/11/2022	N	2,200	--	<0.1 J	58	--	<0.02	0.068	--	3	--	930	<1
MW-76-181	Dose Response	05/16/2022	N	2,000	--	<0.1 J	56	--	<0.1	0.016	--	2.7	--	910	<1
MW-76-181	Dose Response	06/13/2022	N	2,000	2,200	<0.1 J	58	--	<0.02	0.029	<0.2	3	<5	970	<1
MW-76-218	Dose Response	04/11/2022	N	460	--	<0.1 J	63	--	<0.02	0.15	--	1.5	--	910	<1
MW-76-218	Dose Response	05/16/2022	N	120	--	3.6 J	54	--	<0.1	0.14	--	1.1	--	940	<1
MW-76-218	Dose Response	06/13/2022	N	60	53 J	<0.5 J	46 J	--	<0.02 J	0.098 J	<0.2	1.2	<50	940	<100
MW-77-046	Downgradient	05/02/2022	N	<0.2	<1	0.89	50	--	0.54 J	0.31	--	<0.25	--	--	<1
MW-77-046	Downgradient	06/15/2022	N	0.5	--	<0.1 J	54	--	0.13	0.43	--	<0.5	--	370	<1
MW-77-046	Downgradient	06/15/2022	FD	0.53	--	0.69 J	54	--	0.13	0.45	--	<0.5	--	370	<1
MW-77-102	Downgradient	05/02/2022	N	0.59	<1	<0.1	44	--	<0.02	0.047	--	0.63	--	--	<1
MW-77-102	Downgradient	06/15/2022	N	<1	--	<0.1	50	--	0.067	0.078	--	0.91	--	700	<1
MW-77-158	Downgradient	05/02/2022	N	7.1	8.4	<0.1	47	--	0.024 J	0.018	--	<0.5	--	--	<1
MW-77-158	Downgradient	06/15/2022	N	2.4	--	<0.1	36	--	<0.02	0.01	--	<0.5	--	570	<1
MW-77-187	Downgradient	05/02/2022	N	9.6	9.3	<0.1	41	--	<0.1	0.039	--	1.3	--	--	<1
MW-77-187	Downgradient	06/15/2022	N	33	--	<0.1	33	--	<0.02	0.017	--	1.2	--	940	<50
MW-78-070	Dose Response	04/13/2022	N	1,900	--	<0.1	76	--	0.02 J	0.18	--	4.7	--	320	<1
MW-78-070	Dose Response	05/19/2022	N	660	--	<0.1	120	--	<0.02 J	0.47	--	1.6	--	360	<1
MW-78-070	Dose Response	06/14/2022	N	790	820	<0.1	160 J	--	<0.02	0.5	<0.2	1.6	<5	430	<1
MW-78-070	Dose Response	06/14/2022	FD	810	900	<0.1	140 J	--	<0.02	0.48	<0.2	1.5	<5	430	<1
MW-78-142	Dose Response	04/13/2022	N	4,900	--	<0.1	27	--	0.34 J	0.0062	--	9.8	--	910	<1
MW-78-142	Dose Response	05/19/2022	N	5,200	--	<0.1	26	--	<0.02 J	0.0016	--	9.6	--	910	<1
MW-78-142	Dose Response	06/14/2022	N	5,500	6,100	<0.1	27 J	--	<0.02	0.0012	0.43	9.3	<5	870	<1
MW-79-058	Dose Response	04/13/2022	N	2,800	--	0.27	80	--	0.02 J	<0.0005	--	10	--	400	<5
MW-79-058	Dose Response	05/19/2022	N	2,900	--	<0.1	76	--	<0.02 J	<0.0005	--	11	--	410	<1
MW-79-058	Dose Response	06/14/2022	N	2,800	3,200	<0.1	91 J	--	<0.02	<0.0005	<0.2	11	<5	410	<1
MW-79-058	Dose Response	06/14/2022	FD	2,900	2,900	<0.1	79 J	--	<0.02	<0.0005	<0.2	11	<5	410	<1
MW-79-102	Dose Response	04/13/2022	N	2,400	--	0.9	33	--	0.051 J	0.0014	--	12	--	810	<1
MW-79-102	Dose Response	05/19/2022	N	2,300	--	<0.1	40	--	<0.02 J	<0.0005	--	7.5	--	690	<1
MW-79-102	Dose Response	05/19/2022	FD	2,200	--	<0.1	39	--	<0.02 J	<0.0005	--	7.5	--	700	<1
MW-79-102	Dose Response	06/14/2022	N	2,200	2,400	<0.1	38 J	--	<0.02	<0.0005	<0.2	5	<5	660	<1
MW-80-057	Dose Response	04/12/2022	N	840	--	0.4 J	44	--	<0.02	0.0013	--	15	--	500	<1
MW-80-057	Dose Response	05/18/2022	N	1,000	--	<0.1	61	--	0.05 J	0.0059	--	11	--	520	<10
MW-80-057	Dose Response	06/14/2022	N	950	1,000	<0.1	51 J	--	<0.02	0.002	<0.2	13	<5	490	<1
MW-80-057	Dose Response	06/14/2022	FD	950	1,000	<0.1	51 J	--	<0.02	0.0022	<0.2	13	<5	500	<1
MW-80-082	Dose Response	04/12/2022	N	1,700	--	<0.1 J	39	--	<0.02	0.0018	--	5.9	--	550	<1
MW-80-082	Dose Response	04/12/2022	FD	1,700	--	1.1 J	39	--	<0.02	0.0014	--	6.2	--	550	<1
MW-80-082	Dose Response	05/18/2022	N	470	--	<0.1	42	--	<0.02 J	0.004	--	1.9	--	560	<1
MW-80-082	Dose Response	06/14/2022	N	980	1,100	<0.1	40 J	--	0.1	0.0015	<0.2	4.4	<5	560	<1
MW-81-043	Downgradient	05/06/2022	N	12	14	<0.1	86 J	--	0.12 J	0.088 J	--	0.98	--	--	<1
MW-81-043	Downgradient	06/16/2022	N	4.4	--	<0.1	78 J	--	0.093 J	0.064	--	0.98	--	380	<1
MW-81-098	Downgradient	05/06/2022	N	<1	<1	<0.1	51 J	--	<0.02 J	0.16 J	--	<0.5	--	--	<1
MW-81-098	Downgradient	06/16/2022	N	1.8	--	<0.1	68 J	--	0.059 J	0.24	--	0.94	--	660	<1
MW-82-046	Downgradient	05/02/2022	N	<1	<5	27	66	--	6.40 J	0.32	--	<0.5	--	--	2.8
MW-82-046	Downgradient	05/02/2022	FD	<1	<5	25	56	--	6.20 J	0.27	--	<0.5	--	--	2.7
MW-82-046	Downgradient	06/16/2022	N	<0.2	--	17	56 J	--	5.80 J	0.26	--	<0.5	--	1,200	1.8
MW-82-112	Downgradient	05/02/2022	N	<0.2	<1	<0.1	36	--	<0.02	0.054	--	0.58	--	--	<1
MW-82-112	Downgradient	06/16/2022	N	<1	--	<0.1	52 J	--	0.061 J	0.12	--	1.1	--	710	<1
MW-82-168	Downgradient	05/02/2022	N	<1	2.7	<0.1	47	--	<0.1	0.14	--	1.1	--	--	<1
MW-82-168	Downgradient	06/16/2022	N	1.2	--	<0.1	42 J	--	0.027 J	0.029	--	<0.5	--	570	<1
MW-82-198	Downgradient	05/02/2022	N	1.2	2	<0.5	47	--	<0.1	0.098	--	1.5	--	--	<50
MW-82-198	Downgradient	06/16/2022	N	4.1	--	<0.1	44 J	--	0.048 J	0.11	--	1.5	--	1,100	<1
MW-86-030	Downgradient	05/04/2022	N	<0.2	<1	8.6	83	--	0.57 J	0.32	--	<0.25	--	--	3.7
MW-86-066	Downgradient	05/04/2022	N	<0.2	<1	<0.1	87	--	0.086 J	0.72	--	<0.5	--	--	<1
MW-86-120	Downgradient	05/04/2022	N	1.3	1.5	<0.1	37	--	<0.02 J	0.25	--	0.91	--	--	<1
MW-86-140	Downgradient	05/04/2022	N	<1	<1	<0.1	64	--	1 J	0.89	--	<0.5	--	--	<1
MW-86-140	Downgradient	05/04/2022	FD	<1	<1	<0.1	61	--	1.10 J	0.9	--	<0.5	--	--	<1
MW-90-031	Downgradient	05/05/2022	N	<1	<1	<0.1	87	--	6.20	0.25	--	<0.5	--	--	2
MW-96-045	Northern Extraction	06/09/2022	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--
MW-96-217	Northern Extraction	06/09/2022	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--
MW-97-042	Northern Extraction	06/07/2022	N	20	19	--	--	--	--	--	--	--	--	--	--
MW-97-202	Northern Extraction	06/07/2022	N	<1	3.8	--	--	--	--	--	--	--	--	--	--
PT5D	Downgradient	05/05/2022	N	<0.2	2.1	2.3	22	--	0.027	0.1	--	<0.5	--	--	<20
PT5M	Downgradient	05/05/2022	N	<0.2	<1	0.75	44	--	0.023	2.10	--	<0.5	--	--	<1
PT5S	Downgradient	05/05/2022	N	<0.2	<1	7	96	--	1.20	0.26	--	<0.25	--	--	1.1
TW-02D	Dose Response	04/14/2022	N	710	--	<0.1	43	--	0.024	0.12	--	1.8 J	--	950	<1
TW-02D	Dose Response	05/19/2022	N	8.5	--	<0.1	51	--	0.56 J	0.27	--	0.36	--	400	<1
TW-02D	Dose Response	06/15/2022	N	840	780	<0.1	34	--	<0.02	0.012 J	<0.2	1.5	<5	850	<1
TW-02D	Dose Response	06/15/2022	FD	840	800	<0.1	36	--	<0.02	0.015 J	<0.2	1.4	<5	920	<1
TW-02S	Dose Response	04/14/2022	N	130	--	1.1	48	--	<0.02	<0.0005	--	3.6 J	--	190	<1
TW-02S	Dose Response	05/19/2022	N	97	--	0.57	52	--	<0.02 J	<0.0005	--	3.4	--	190	<1
TW-02S	Dose Response	06/15/2022	N	91	80	0.3	52	--	<0.02	<0.0005	<0.2	3.3	<10	190	<1
TW-03D	Dose Response	04/14/2022	N	780	--	<0.1	45	--	<0.02	0.14	--	1.7 J	--	880	<1
TW-03D	Dose Response	05/19/2022	N	610	--	<0.1	43	--	<0.02 J	0.15	--	1.5	--	850	<1
TW-03D	Dose Response	06/15/2022	N	700	750	<0.1	43	--	<0.02	0.11	<0.2	1.4	R	870	<1
TW-03D	Dose Response	06/15/2022	FD	730	760	<0.1	41	--	<0.02	0.097	<0.2	1.4	R	870	<1
TW-04	Northern Extraction	06/07/2022	N	8.1	8.4	--	--	--	--	--	--	--	--	--	--

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

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

Monitoring Well ID	IRZ Injection Well ID	Sample Date	TOC			Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Evidence of Treated Groundwater at Well[g]	Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[h]
			TOC Baseline[a] (mg/L)	TOC (mg/L)	Is TOC within the Target Range of 15 - 50 mg/L[b]?	Cr6 Baseline[c] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration (%)[d]	Are Cr6 Concentrations Decreasing Compared to the Baseline Concentration?	Is Cr6 < 32 µg/L[e]?	Dissolved Iron Baseline[f] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[e]? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[f] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[e]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[f] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[e]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?			
MW-20-070	IRZ-25	04/14/2022	<1	<5	N	2500	320	-2,180	-87%	Y	N	0.0624	<0.02	N	Y	2.70	1.4	Y	0.0077	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-070	IRZ-25	05/20/2022	<1	<1	N	2500	330	-2,170	-87%	Y	N	0.0624	<0.02	N	Y	2.70	1.1 J	Y	0.0077	0.0016	Y	N	Y	IRZ injection well not operating
MW-20-070	IRZ-25	06/13/2022	<1	<1	N	2500	610 J	-1,890	-76%	Y	N	0.0624	<0.02	N	Y	2.70	0.62 J	Y	0.0077	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-100	IRZ-25	04/14/2022	<1	<1	N	750	1,300	550	73%	N	N	0.390	<0.02	N	Y	2.9	<0.1	Y	0.056	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-100	IRZ-25	05/20/2022	<1	<1	N	750	880	130	17%	N	N	0.390	<0.02	N	Y	2.9	<0.1 J	Y	0.056	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-100	IRZ-25	06/13/2022	<1	<1	N	750	910 J	160	21%	N	N	0.390	<0.02 J	N	Y	2.9	<0.1 J	Y	0.056	<0.0005	Y	N	Y	IRZ injection well not operating
MW-20-130	IRZ-25	04/14/2022	<1	<1	N	5900	3,300	-2,600	-44%	Y	N	0.092	<0.1	N*	Y	7.42	<0.1	Y	0.0036	0.00072	Y	N	Y	IRZ injection well not operating
MW-20-130	IRZ-25	05/20/2022	<1	<1	N	5900	2,000	-3,900	-66%	Y	N	0.092	<0.02	N	Y	7.42	<0.1 J	Y	0.0036	0.0032	Y	N	Y	IRZ injection well not operating
MW-20-130	IRZ-25	06/13/2022	<1	<1	N	5900	1,700	-4,200	-71%	Y	N	0.092	0.04 J	N	Y	7.42	<0.1 J	Y	0.0036	0.0024	Y	N	Y	IRZ injection well not operating
MW-21	IRZ-37; IRZ-39	04/12/2022	<1	<1	N	4.6	0.34	-4	-93%	Y	Y	0.170	0.068	N	Y	4.47	6 J	Y	1.040	0.14	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-21	IRZ-37; IRZ-39	05/18/2022	<1	<1	N	4.6	<0.2	-4	-96%	Y	Y	0.170	0.93 J	Y	Y	4.47	7.6	Y	1.040	0.48	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-21	IRZ-37; IRZ-39	06/14/2022	<1	<1	N	4.6	<0.2	-4	-96%	Y	Y	0.170	1.1	Y	Y	4.47	8.2	Y	1.040	0.68	Y	N	Y	Increased flowrate at IRZ-37 on 6/15/2022
MW-26	IRZ-31	04/13/2022	<1	<1	N	2300	740	-1,560	-68%	Y	N	0.110	0.033 J	N	Y	2.2	<0.1	Y	0.120	0.72	Y	Y	Y	No operational changes made
MW-26	IRZ-31	05/20/2022	<1	<1	N	2300	340	-1,960	-85%	Y	N	0.110	<0.02	N	Y	2.2	<0.1 J	Y	0.120	0.12	Y	Y	Y	No operational changes made
MW-26	IRZ-31	06/14/2022	<1	<1	N	2300	140	-2,160	-94%	Y	N	0.110	0.049	N	Y	2.2	<0.1	Y	0.120	0.88	Y	Y	Y	Increased flowrate on 6/15/2022
MW-31-060	IRZ-18	04/12/2022	<1	<20	N*	410	<0.2	-410	-100%	Y	Y	0.110	0.21	Y	Y	1.96	3.6 J	Y	0.0066	5.4	N	Y	N	Dissolved manganese concentration exceeded action level. Confirmation sample collected in May 2022 did not confirm exceedance.
MW-31-060	IRZ-18	05/20/2022	<1	<1	N	410	48	-362	-88%	Y	N	0.110	0.14	Y	Y	1.96	<0.1 J	Y	0.0066	0.69	Y	Y	Y	No operational changes made
MW-31-060	IRZ-18	06/13/2022	<1	<50	N*	410	340 J	-70	-17%	Y	N	0.110	0.044 J	N	Y	1.96	<0.1 J	Y	0.0066	0.024	Y	Y	Y	No operational changes made
MW-31-135	IRZ-18	04/12/2022	<1	<1	N	15	26	11	73%	N	Y	0.0610	<0.02	N	Y	4.64	<0.1 J	Y	0.130	0.00076	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-31-135	IRZ-18	05/20/2022	<1	<50	N*	15	26	11	73%	N	Y	0.0610	<0.02	N	Y	4.64	<0.1 J	Y	0.130	0.003	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-31-135	IRZ-18	06/13/2022	<1	<1	N	15	23 J	8	53%	N	Y	0.0610	0.048 J	N	Y	4.64	<0.1 J	Y	0.130	0.0036	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-51	IRZ-31	04/13/2022	<1	<1	N	3300	1,800	-1,500	-45%	Y	N	0.081	0.02 J	N	Y	4.9	<0.1	Y	0.0045	0.00082	Y	Y	Y	No operational changes made
MW-51	IRZ-31	05/20/2022	<1	<1	N	3300	870	-2,430	-74%	Y	N	0.081	<0.02	N	Y	4.9	<0.1 J	Y	0.0045	<0.0005	Y	Y	Y	No operational changes made
MW-51	IRZ-31	06/14/2022	<1	<1	N	3300	450	-2,850	-86%	Y	N	0.081	<0.02	N	Y	4.9	<0.1	Y	0.0045	0.0017	Y	Y	Y	Increased flowrate on 6/15/2022
MW-71-035	IRZ-39	04/12/2022	<1	<1	N	<1.0	<1	0	0%	N	Y	13	0.074	N	Y	10	<0.1 J	Y	5.2	0.3	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-71-035	IRZ-39	05/18/2022	<1	<1	N	<1.0	<1	0	0%	N	Y	13	0.058 J	N	Y	10	<0.1	Y	5.2	0.045	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-71-035	IRZ-39	06/15/2022	<1	<1	N	<1.0	<1	0	0%	N	Y	13	0.21 J	N	Y	10	<0.1	Y	5.2	1.5	Y	N	Y	Baseline Cr6 less than 32 µg/L
MW-76-039	IRZ-15	04/11/2022	<1	<1	N	130	33	-97	-75%	Y	N	2.0	0.034	N	Y	1.3	<0.1 J	Y	0.220	0.005	Y	N	Y	IRZ injection well not operating
MW-76-039	IRZ-15	05/16/2022	<1	<10	N	130	44	-86	-66%	Y	N	2.0	<0.02	N	Y	1.3	<0.1 J	Y	0.220	0.0014	Y	N	Y	IRZ injection well not operating
MW-76-039	IRZ-15	06/13/2022	<1	<1	N	130	88 J	-42	-32%	Y	N	2.0	<0.02 J	N	Y	1.3	<0.1 J	Y	0.220	0.0007	Y	N	Y	IRZ injection well not operating
MW-76-156	IRZ-15	04/11/2022	<1	<1	N	4.2	15	11	257%	N	Y	0.170	<0.02	N	Y	2.5	<0.1 J	Y	0.28	0.11	Y	N	Y	IRZ injection well not operating
MW-76-156	IRZ-15	05/16/2022	<1	<1	N	4.2	5.5	1	31%	N	Y	0.170	0.023	N	Y	2.5	<0.1 J	Y	0.28	0.071	Y	N	Y	IRZ injection well not operating
MW-76-156	IRZ-15	06/13/2022	<1	<1	N	4.2	13 J	9	210%	N	Y	0.170	<0.02 J	N	Y	2.5	<0.1 J	Y	0.28	0.033	Y	N	Y	IRZ injection well not operating
MW-76-181	IRZ-15	04/11/2022	<1	<1	N	1500	2,200	700	47%	N	N	0.080	<0.02	N	Y	1.7	<0.1 J	Y	0.93	0.068	Y	N	Y	IRZ injection well not operating
MW-76-181	IRZ-15	05/16/2022	<1	<1	N	1500	2,000	500	33%	N	N	0.080	<0.1	N*	Y	1.7	<0.1 J	Y	0.93	0.016	Y	N	Y	IRZ injection well not operating
MW-76-181	IRZ-15	06/13/2022	<1	<1	N	1500	2,000	500	33%	N	N	0.080	<0.02	N	Y	1.7	<0.1 J	Y	0.93	0.029	Y	N	Y	IRZ injection well not operating
MW-76-218	IRZ-15	04/11/2022	<1	<1	N	320	460	140	44%	N	N	0.180	<0.02	N	Y	5.1	<0.1 J	Y	0.39	0.15	Y	N	Y	IRZ injection well not operating
MW-76-218	IRZ-15	05/16/2022	<1	<1	N	320	120	-200	-63%	Y	N	0.180	<0.1	N	Y	5.1	3.6 J	Y	0.39	0.14	Y	N	Y	IRZ injection well not operating
MW-76-218	IRZ-15	06/13/2022	<1	<100	N	320	60 J	-260	-81%	Y	N	0.180	<0.02 J	N	Y	5.1	<0.5 J	Y	0.39	0.098 J	Y	N	Y	IRZ injection well not operating
MW-78-070	IRZ-25; IRZ-27	04/13/2022	<1	<1	N	4400	1,900	-2,500	-57%	Y	N	0.100	0.02 J	N	Y	1.40	<0.1	Y	0.0054	0.18	Y	Y	Y	No operational changes made
MW-78-070	IRZ-25; IRZ-27	05/19/2022	<1	<1	N	4400	660	-3,740	-85%	Y	N	0.100	<0.02 J	N	Y	1.40	<0.1	Y	0.0054	0.47	Y	Y	Y	No operational changes made
MW-78-070	IRZ-25; IRZ-27	06/14/2022	<1	<1	N	4400	810	-3,590	-82%	Y	N	0.100	<0.02	N	Y	1.40	<0.1	Y	0.0054	0.5	Y	Y	Y	No operational changes made

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

Monitoring Well ID	IRZ Injection Well ID	Sample Date	TOC			Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Evidence of Treated Groundwater at Well[g]	Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[h]
			TOC Baseline[a] (mg/L)	TOC (mg/L)	Is TOC within the Target Range of 15 - 50 mg/L[b]?	Cr6 Baseline[c] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration (%)[d]	Are Cr6 Concentrations Decreasing Compared to the Baseline Concentration?	Is Cr6 < 32 µg/L[e]?	Dissolved Iron Baseline[f] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[e]? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[f] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[e]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[f] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[e]? If Dissolved Manganese > 5 mg/L, Is It < Baseline?			
MW-78-142	IRZ-25; IRZ-27	04/13/2022	<1	<1	N	6800	4,900	-1,900	-28%	Y	N	0.130	0.34 J	Y	Y	4.3	<0.1	Y	0.0250	0.0062	Y	N	Y	Continue to evaluate
MW-78-142	IRZ-25; IRZ-27	05/19/2022	<1	<1	N	6800	5,200	-1,600	-24%	Y	N	0.130	<0.02 J	N	Y	4.3	<0.1	Y	0.0250	0.0016	Y	N	Y	Continue to evaluate
MW-78-142	IRZ-25; IRZ-27	06/14/2022	<1	<1	N	6800	5,500	-1,300	-19%	Y	N	0.130	<0.02	N	Y	4.3	<0.1	Y	0.0250	0.0012	Y	N	Y	Increased flowrate on 6/15/2022
MW-79-058	IRZ-29; IRZ-31	04/13/2022	<1	<5	N	3200	2,800	-400	-13%	Y	N	2.6	0.02 J	N	Y	2.5	0.27	Y	0.470	<0.0005	Y	N	Y	Continue to evaluate
MW-79-058	IRZ-29; IRZ-31	05/19/2022	<1	<1	N	3200	2,900	-300	-9%	Y	N	2.6	<0.02 J	N	Y	2.5	<0.1	Y	0.470	<0.0005	Y	N	Y	Continue to evaluate
MW-79-058	IRZ-29; IRZ-31	06/14/2022	<1	<1	N	3200	2,900	-300	-9%	Y	N	2.6	<0.02	N	Y	2.5	<0.1	Y	0.470	<0.0005	Y	N	Y	Increased flowrate on 6/15/2022
MW-79-102	IRZ-29; IRZ-31	04/13/2022	<1	<1	N	3500 J	2,400	-1,100	-31%	Y	N	0.065	0.051 J	N	Y	4.8	0.9	Y	0.054	0.0014	Y	Y	Y	No operational changes made
MW-79-102	IRZ-29; IRZ-31	05/19/2022	<1	<1	N	3500 J	2,300	-1,200	-34%	Y	N	0.065	<0.02 J	N	Y	4.8	<0.1	Y	0.054	<0.0005	Y	Y	Y	No operational changes made
MW-79-102	IRZ-29; IRZ-31	06/14/2022	<1	<1	N	3500 J	2,200	-1,300	-37%	Y	N	0.065	<0.02	N	Y	4.8	<0.1	Y	0.054	<0.0005	Y	Y	Y	Increased flowrate on 6/15/2022
MW-80-057	IRZ-35	04/12/2022	<1	<1	N	840 J	840	0	0%	N	N	0.110	<0.02	N	Y	3.3	0.4 J	Y	0.080	0.0013	Y	N	Y	Continue to evaluate
MW-80-057	IRZ-35	05/18/2022	<1	<10	N	840 J	1,000	160	19%	N	N	0.110	0.05 J	N	Y	3.3	<0.1	Y	0.080	0.0059	Y	N	Y	Continue to evaluate
MW-80-057	IRZ-35	06/14/2022	<1	<1	N	840 J	950	110	13%	N	N	0.110	<0.02	N	Y	3.3	<0.1	Y	0.080	0.0022	Y	N	Y	Increased flowrate on 6/15/2022
MW-80-082	IRZ-35	04/12/2022	<1	<1	N	2100 J	1,700	-400	-19%	Y	N	0.059	<0.02	N	Y	4.2	1.1 J	Y	0.010	0.0018	Y	Y	Y	No operational changes made
MW-80-082	IRZ-35	05/18/2022	<1	<1	N	2100 J	470	-1,630	-78%	Y	N	0.059	<0.02 J	N	Y	4.2	<0.1	Y	0.010	0.004	Y	Y	Y	No operational changes made
MW-80-082	IRZ-35	06/14/2022	<1	<1	N	2100 J	980	-1,120	-53%	Y	N	0.059	0.1	Y	Y	4.2	<0.1	Y	0.010	0.0015	Y	Y	Y	Increased flowrate on 6/15/2022
TW-02D	IRZ-21	04/14/2022	<1	<1	N	740	710	-30	-4%	Y	N	0.770	0.024	N	Y	4.53	<0.1	Y	0.210	0.12	Y	N	Y	IRZ injection well not operating
TW-02D	IRZ-21	05/19/2022	<1	<1	N	740	8.5	-732	-99%	Y	Y	0.770	0.56 J	N	Y	4.53	<0.1	Y	0.210	0.27	Y	N	Y	IRZ injection well not operating
TW-02D	IRZ-21	06/15/2022	<1	<1	N	740	840	100	14%	N	N	0.770	<0.02	N	Y	4.53	<0.1	Y	0.210	0.015 J	Y	N	Y	IRZ injection well not operating
TW-02S	IRZ-21	04/14/2022	<1	<1	N	81	130	49	60%	N	N	0.180	<0.02	N	Y	<10	1.1	Y	0.090	<0.0005	Y	N	Y	IRZ injection well not operating
TW-02S	IRZ-21	05/19/2022	<1	<1	N	81	97	16	20%	N	N	0.180	<0.02 J	N	Y	<10	0.57	Y	0.090	<0.0005	Y	N	Y	IRZ injection well not operating
TW-02S	IRZ-21	06/15/2022	<1	<1	N	81	91	10	12%	N	N	0.180	<0.02	N	Y	<10	0.3	Y	0.090	<0.0005	Y	N	Y	IRZ injection well not operating
TW-03D	IRZ-21	04/14/2022	<1	<1	N	470	780	310	66%	N	N	0.180	<0.02	N	Y	<5.0	<0.1	Y	0.034	0.14	Y	N	Y	IRZ injection well not operating
TW-03D	IRZ-21	05/19/2022	<1	<1	N	470	610	140	30%	N	N	0.180	<0.02 J	N	Y	<5.0	<0.1	Y	0.034	0.15	Y	N	Y	IRZ injection well not operating
TW-03D	IRZ-21	06/15/2022	<1	<1	N	470	730	260	55%	N	N	0.180	<0.02	N	Y	<5.0	<0.1	Y	0.034	0.11	Y	N	Y	IRZ injection well not operating

Notes:
a. Baseline TOC concentrations are defined by the most recent sampling result prior to IRZ system startup. Note that if a result was non-detect at an elevated reporting limit, previous sampling events were considered to develop a more conservative baseline concentration.
b. Anticipated target ranges were set forth in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).
c. Baseline Cr6 concentrations represent the maximum concentration observed at each monitoring well between January 2020 and December 2021.
d. In comparison to the baseline concentration, a negative value indicates a decrease in concentration and a positive value indicates an increase in concentration.
e. Anticipated comparison values were set forth in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).
f. Baseline dissolved iron, dissolved arsenic, and dissolved manganese concentrations represent the maximum historical concentration observed at each monitoring well. For wells installed after 2019, baseline concentrations represent the maximum concentration observed at each monitoring well between January 2020 and December 2021.
g. Evidence of treated groundwater at the monitoring well is determined by changes in TOC, Cr6, and/or in-situ byproduct (dissolved iron, dissolved arsenic and dissolved manganese) concentrations, as outlined in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015). Additional information, including changes in nitrate and sulfate concentrations, is also used to support evidence of treated groundwater.
h. The need for an operational response is determined based on evidence of treated groundwater at the monitoring well and control of in-situ byproducts, as outlined in the NTH IRZ Injection Decision Rules and Operational Framework (CH2M Hill 2015).

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

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

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

Monitoring Well ID	Sample Date	Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[e]
		Cr6 Baseline[a] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration[b]	Anticipated Change in Cr6 Concentrations	Is Cr6 Concentration Within Expectations?	Dissolved Iron Baseline[a] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[c] ? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[a] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[c]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[a] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[c] ? If Dissolved Manganese > 5 mg/L, Is It < Baseline?		
MW-22	05/05/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	21.0	4.8	N	Y*	28	5.1 J	Y	7.2	2.1	Y	Y	No operational changes made
MW-27-020	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.9	<0.02	N	Y*	4.8	0.55 J	Y	0.360	<0.5 J	Y	Y	No operational changes made
MW-27-060	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.6	0.43	N	Y	13	9.1 J	Y	0.350	0.24 J	Y	Y	No operational changes made
MW-27-085	05/05/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	1.9	0.24	N	Y	14	<0.1 J	Y	0.964	0.13 J	Y	Y	No operational changes made
MW-28-025	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.063	<0.02 J	N	Y*	2.4	0.57	Y	0.410	0.046	Y	Y	No operational changes made
MW-28-090	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.0	0.99 J	N	Y	7.7	<0.1	Y	0.664	0.43	Y	Y	No operational changes made
MW-30-030	05/03/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	5.37	0.17	N	Y	19	0.2	Y	1.3	0.049	Y	Y	No operational changes made
MW-30-050	05/03/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.12	0.02	N	Y	9.7	2.2	Y	0.260	0.38	Y	Y	No operational changes made
MW-30-050	06/17/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.12	0.058 J	N	Y	9.7	2 J	Y	0.260	0.54 J	Y	Y	No operational changes made
MW-32-020	05/04/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	21	2.2	N	Y	65	<0.1 J	Y	2.85	0.094 J	Y	Y	No operational changes made
MW-32-035	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	24.1	2.9 J	N	Y	53	5.7 J	Y	4.3	0.74 J	Y	Y	No operational changes made
MW-34-055	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.505	0.027	N	Y	4.83	2.1 J	Y	0.290	0.058 J	Y	Y	No operational changes made
MW-34-080	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.35	0.35	N	Y	7.3	<0.1 J	Y	0.30	0.066 J	Y	Y	No operational changes made
MW-34-080	06/17/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.35	0.79 J	Y	Y	7.3	<0.1 J	Y	0.30	0.11 J	Y	Y	No operational changes made
MW-34-100	05/05/2022	<1.0	<0.2	0	0%	Steady	Y	0.47	0.15	N	Y	16	<0.1 J	Y	0.23	0.25 J	Y	Y	No operational changes made
MW-36-020	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.75	0.62	N	Y	3.3	0.79 J	Y	0.642	0.29 J	Y	Y	No operational changes made
MW-36-040	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	3.92	0.46	N	Y	7.7	6.7 J	Y	0.699	0.15 J	Y	Y	No operational changes made
MW-36-050	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.57	0.13	N	Y	5.6	4.8 J	Y	0.517	0.3 J	Y	Y	No operational changes made
MW-36-070	05/04/2022	0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.57	0.021	N	Y	10	2.2 J	Y	1.6	0.39 J	Y	Y	No operational changes made
MW-36-090	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.13	0.04	N	Y	25	0.55 J	Y	0.17	0.11 J	Y	Y	No operational changes made
MW-36-090	06/17/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.13	0.042 J	N	Y	25	<0.1 J	Y	0.17	0.13 J	Y	Y	No operational changes made
MW-36-100	05/04/2022	36	<0.2	-36	-99%	Increasing	Y	0.26	0.52	Y	Y	14	1.5 J	Y	0.39	0.51 J	Y	Y	No operational changes made
MW-36-100	06/17/2022	36	0.93	-35	-97%	Increasing	Y	0.26	0.41 J	Y	Y	14	<0.1 J	Y	0.39	0.62 J	Y	Y	No operational changes made
MW-39-040	05/03/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	12.4	0.27	N	Y	21	16	Y	1.59	0.11	Y	Y	No operational changes made
MW-39-040	06/15/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	12.4	0.35	N	Y	21	15	Y	1.59	0.11	Y	Y	No operational changes made
MW-39-050	05/03/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.15	<0.02	N	Y*	16	1.8	Y	0.19	0.17	Y	Y	No operational changes made
MW-39-050	06/15/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.15	<0.02	N	Y*	16	1.6	Y	0.19	0.17	Y	Y	No operational changes made
MW-39-060	06/15/2022	<0.2	<1	0	0%	Remains below 32 µg/L	Y	0.12	<0.02	N	Y*	7.6	2	Y	0.11	0.12	Y	Y	No operational changes made
MW-39-070	05/03/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.22	<0.02	N	Y*	16	1.1	Y	0.12	0.0076	Y	Y	No operational changes made
MW-39-070	06/15/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.22	<0.02	N	Y*	16	0.39	Y	0.12	0.0085	Y	Y	No operational changes made
MW-39-080	05/03/2022	0.47	0.33	-0.1	-30%	Remains below 32 µg/L	Y	0.12	<0.02	N	Y*	16	<0.1	Y	0.12	0.0029	Y	Y	No operational changes made
MW-39-080	06/15/2022	0.47	10	10	2028%	Remains below 32 µg/L	Y	0.12	<0.02	N	Y*	16	<0.1	Y	0.12	0.0036	Y	Y	No operational changes made
MW-39-100	06/15/2022	120	170	50	42%	Increasing	Y	0.056	<0.02	N	Y*	4.1	<0.1	Y	0.031	0.011	Y	Y	No operational changes made; monitoring closely
MW-42-030	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	5.39	0.33	N	Y	6.5	2.5	Y	0.737	0.085	Y	Y	No operational changes made
MW-42-055	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	2.24	0.13	N	Y	29	8.3	Y	1.02	0.19	Y	Y	No operational changes made
MW-42-065	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.36	0.13	N	Y	14	1.4	Y	2.37	2.2	Y	Y	No operational changes made
MW-43-025	05/03/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	5.4	3.5 J	N	Y	32	20	Y	0.36	0.44	Y	Y	No operational changes made
MW-43-075	05/03/2022	<0.2	<1	0	0%	Remains below 32 µg/L	Y	5.5	3.2 J	N	Y	17	5.7	Y	0.93	0.42	Y	Y	No operational changes made
MW-43-090	05/03/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	9.26	1.2 J	N	Y	25	<0.5	Y	1.26	0.78	Y	Y	No operational changes made

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

Monitoring Well ID	Sample Date	Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[e]
		Cr6 Baseline[a] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration[b]	Anticipated Change in Cr6 Concentrations	Is Cr6 Concentration Within Expectations?	Dissolved Iron Baseline[a] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[c] ? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[a] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[c]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[a] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[c] ? If Dissolved Manganese > 5 mg/L, Is It < Baseline?		
MW-44-070	05/06/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.656	0.63 J	N	Y	6.6	1.6	Y	0.316	0.44 J	Y	Y	No operational changes made
MW-44-115	05/06/2022	4.8	<1	-4	-79%	Increasing	Y	0.25	0.037 J	N	Y	6.93	<0.1	Y	0.0917	0.04 J	Y	Y	No operational changes made
MW-44-115	06/17/2022	4.8	<1	-4	-79%	Increasing	Y	0.25	<0.02 J	N	Y*	6.93	<0.1 J	Y	0.0917	0.014 J	Y	Y	No operational changes made
MW-44-125	05/06/2022	<1.0	<1	0	0%	Increasing	Y	0.7	0.46 J	N	Y	5.9	<0.1	Y	0.777	0.55 J	Y	Y	No operational changes made
MW-44-125	06/17/2022	<1.0	<1	0	0%	Increasing	Y	0.7	0.37 J	N	Y	5.9	<0.1 J	Y	0.777	0.44 J	Y	Y	No operational changes made
MW-45-095A	05/04/2022	<0.2	<0.2	0	0%	Increasing	Y	0.0129	<0.02	N	Y*	10	<0.1	Y	0.26	0.12	Y	Y	No operational changes made
MW-45-095A	06/17/2022	<0.2	<0.2	0	0%	Increasing	Y	0.0129	<0.02 J	N	Y*	10	<0.1 J	Y	0.26	0.37 J	Y	Y	No operational changes made
MW-46-175	05/05/2022	6.6	6.9	0.3	5%	Increasing	Y	0.20	<0.02	N	Y*	2.9	<0.1 J	Y	0.025	0.0095 J	Y	Y	No operational changes made
MW-46-205	05/05/2022	1.6	<1	-1	-38%	Remains below 32 µg/L	Y	0.068	0.071	Y	Y	<0.1	<0.1 J	Y	0.053	0.038 J	Y	Y	No operational changes made
MW-52D	05/03/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	5.4	0.74 J	N	Y	27	<0.1	Y	0.319	0.22	Y	Y	No operational changes made
MW-52M	05/03/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	2.0	0.62 J	N	Y	21	<0.1	Y	0.316	0.23	Y	Y	No operational changes made
MW-52S	05/03/2022	<0.2	<1	0	0%	Remains below 32 µg/L	Y	27	26 J	N	Y	12	<0.1	Y	2.1	1.4	Y	Y	No operational changes made
MW-53D	05/03/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	0.54	0.38 J	N	Y	32	<0.1	Y	2.2	1.4	Y	Y	No operational changes made
MW-53M	05/03/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	0.55	0.27 J	N	Y	25	<0.1	Y	0.63	0.4	Y	Y	No operational changes made
MW-53S	05/03/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	5.4	5 J	N	Y	<0.1	<0.1	Y	1.2	1.1	Y	Y	No operational changes made
MW-77-046	05/02/2022	1.1	<0.2	-1	-82%	Remains below 32 µg/L	Y	0.94	0.54 J	N	Y	3.6	0.89	Y	0.46	0.31	Y	Y	No operational changes made
MW-77-046	06/15/2022	1.1	0.53	-1	-52%	Remains below 32 µg/L	Y	0.94	0.13	N	Y	3.6	0.69 J	Y	0.46	0.45	Y	Y	No operational changes made
MW-77-102	05/02/2022	1.6	0.59	-1	-63%	Remains below 32 µg/L	N	0.082	<0.02	N	Y*	1.3	<0.1	Y	0.064	0.047	Y	Y	No operational changes made
MW-77-102	06/15/2022	1.6	<1	-1	-38%	Remains below 32 µg/L	N	0.082	0.067	N	Y	1.3	<0.1	Y	0.064	0.078	Y	Y	No operational changes made
MW-77-158	05/02/2022	10 J	7.1	-3	-29%	Remains below 32 µg/L	Y	0.048	0.024 J	N	Y	3.2	<0.1	Y	0.087	0.018	Y	Y	No operational changes made
MW-77-158	06/15/2022	10 J	2.4	-8	-76%	Remains below 32 µg/L	Y	0.048	<0.02	N	Y*	3.2	<0.1	Y	0.087	0.01	Y	Y	No operational changes made
MW-77-187	05/02/2022	4.1	9.6	6	134%	Remains below 32 µg/L	Y	0.050	<0.1	N	Y*	4.4	<0.1	Y	0.11	0.039	Y	Y	No operational changes made
MW-77-187	06/15/2022	4.1	33	29	705%	Remains below 32 µg/L	N	0.050	<0.02	N	Y*	4.4	<0.1	Y	0.11	0.017	Y	Y	No operational changes made; monitoring closely
MW-81-043	05/06/2022	13	12	-1	-8%	Remains below 32 µg/L	Y	0.38	0.12 J	N	Y	3.4	<0.1	Y	0.36	0.088 J	Y	Y	No operational changes made
MW-81-043	06/16/2022	13	4.4	-9	-66%	Remains below 32 µg/L	Y	0.38	0.093 J	N	Y	3.4	<0.1	Y	0.36	0.064	Y	Y	No operational changes made
MW-81-098	05/06/2022	2.0 J	<1	-1	-50%	Remains below 32 µg/L	Y	0.15	<0.02 J	N	Y*	1.0	<0.1	Y	0.28	0.16 J	Y	Y	No operational changes made
MW-81-098	06/16/2022	2.0 J	1.8	-0.2	-10%	Remains below 32 µg/L	Y	0.15	0.059 J	N	Y	1.0	<0.1	Y	0.28	0.24	Y	Y	No operational changes made
MW-82-046	05/02/2022	<0.2	<1	0	0%	Increasing before decreasing below 32 µg/L	Y	6.6	6.4 J	N	Y	32	27	Y	0.48	0.32	Y	Y	No operational changes made
MW-82-046	06/16/2022	<0.2	<0.2	0	0%	Increasing before decreasing below 32 µg/L	Y	6.6	5.8 J	N	Y	32	17	Y	0.48	0.26	Y	Y	No operational changes made
MW-82-112	05/02/2022	0.88	<0.2	-1	-77%	Increasing before decreasing below 32 µg/L	Y	0.11	<0.02	N	Y*	2.0	<0.1	Y	0.072	0.054	Y	Y	No operational changes made
MW-82-112	06/16/2022	0.88	<1	0	14%	Increasing before decreasing below 32 µg/L	Y	0.11	0.061 J	N	Y	2.0	<0.1	Y	0.072	0.12	Y	Y	No operational changes made
MW-82-168	05/02/2022	7	<1	-6	-86%	Increasing before decreasing below 32 µg/L	Y	0.094	<0.1	N	Y*	1.9	<0.1	Y	0.32	0.14	Y	Y	No operational changes made
MW-82-168	06/16/2022	7	1.2	-6	-83%	Increasing before decreasing below 32 µg/L	Y	0.094	0.027 J	N	Y	1.9	<0.1	Y	0.32	0.029	Y	Y	No operational changes made
MW-82-198	05/02/2022	<1.0	1.2	0	20%	Increasing before decreasing below 32 µg/L	Y	0.27	<0.1	N	Y*	3.9	<0.5	Y	0.23	0.098	Y	Y	No operational changes made
MW-82-198	06/16/2022	<1.0	4.1	3	310%	Increasing before decreasing below 32 µg/L	Y	0.27	0.048 J	N	Y	3.9	<0.1	Y	0.23	0.11	Y	Y	No operational changes made

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

Monitoring Well ID	Sample Date	Cr6						Dissolved Iron				Dissolved Arsenic			Dissolved Manganese			Are In-Situ Byproducts Controlled?	Operational Response and Reasoning[e]
		Cr6 Baseline[a] (µg/L)	Cr6 (µg/L)	Change from Baseline Concentration (µg/L)	Percent Change from Baseline Concentration[b]	Anticipated Change in Cr6 Concentrations	Is Cr6 Concentration Within Expectations?	Dissolved Iron Baseline[d] (mg/L)	Dissolved Iron (mg/L)	Are Dissolved Iron Concentrations above Baseline?	Is Dissolved Iron < 5 mg/L[c] ? If Dissolved Iron > 5 mg/L, Is It < Baseline?	Dissolved Arsenic Baseline[d] (µg/L)	Dissolved Arsenic (µg/L)	Is Dissolved Arsenic < 15 µg/L[c]? If Dissolved Arsenic > 15 µg/L, Is It < Baseline?	Dissolved Manganese Baseline[d] (mg/L)	Dissolved Manganese (mg/L)	Is Dissolved Manganese < 5 mg/L[c] ? If Dissolved Manganese > 5 mg/L, Is It < Baseline?		
MW-86-030	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.4	0.57 J	N	Y	7.8	8.6	Y	0.44	0.32	Y	Y	No operational changes made
MW-86-066	05/04/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	0.42	0.086 J	N	Y	2.0	<0.1	Y	1.1	0.72	Y	Y	No operational changes made
MW-86-120	05/04/2022	1.1 J	1.3	0.2	18%	Remains below 32 µg/L	Y	0.69	<0.02 J	N	Y*	3.1	<0.1	Y	0.98	0.25	Y	Y	No operational changes made
MW-86-140	05/04/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	0.53	1.1 J	Y	Y	1.4	<0.1	Y	1.5	0.9	Y	Y	No operational changes made
MW-90-031	05/05/2022	<1.0	<1	0	0%	Remains below 32 µg/L	Y	9.8	6.2	N	Y	3.7	<0.1	Y	0.35	0.25	Y	Y	No operational changes made
PT5D	05/05/2022	31	<0.2	-31	-99%	May increase before decreasing	Y	2.2	0.027	N	Y	11.5	2.3	Y	1.7	0.1	Y	Y	No operational changes made
PT5M	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.82	0.023	N	Y	11.1	0.75	Y	1.77	2.1	Y	Y	No operational changes made
PT5S	05/05/2022	<0.2	<0.2	0	0%	Remains below 32 µg/L	Y	1.03	1.2	Y	Y	13	7	Y	2.44	0.26	Y	Y	No operational changes made

Notes:

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

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

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

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

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

Abbreviations:

<x = not detected at the reporting limit
Cr6 = hexavalent chromium
ID = identification
IRZ = in-situ reactive zone
J = estimated value
mg/L= milligram(s) per liter
N = no
NTH = National Trails Highway
Y = yes
Y* = Yes, the result is not detected at an elevated reporting limit, and as such is not considered above the comparison criteria.
µg/L = microgram(s) per liter

Reference:

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

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

Month	Layer	Location 1	Location 1 Elevation (ft NGVD88)	Location 2	Location 2 Elevation (ft NGVD88)	Location 3	Location 3 Elevation (ft NGVD88)	Gradient (ft/ft)	Azimuth (0 to 360)
April	Layers 1 and 2	MW-76-039	456.32	MW-86-030	456.52	MW-97-042	456.32	0.0005	242
May	Layers 1 and 2	MW-76-039	456.49	MW-86-030	456.83	MW-97-042	456.63	0.0008	211
April	Layers 1 and 2	MW-75-033	456.49	MW-96-045	456.39	MW-97-042	456.32	0.0006	183
May	Layers 1 and 2	MW-75-033	456.78	MW-96-045	456.63	MW-97-042	456.63	0.0005	151
April	Layers 4 and 5	MW-35-135	456.43	MW-49-135	456.51	MW-76-181	456.49	0.0001	270
May	Layers 4 and 5	MW-35-135	456.77	MW-49-135	456.77	MW-76-181	456.25	0.0011	214
April	Layers 4 and 5	MW-76-181	456.49	MW-86-120	456.68	MW-77-158	457.69	0.0033	335
May	Layers 4 and 5	MW-76-181	456.25	MW-86-120	456.94	MW-77-158	458.07	0.0050	323
April	Layers 4 and 5	MW-76-181	456.49	MW-86-140	456.78	MW-77-187	457.31	0.0022	324
May	Layers 4 and 5	MW-76-181	456.25	MW-86-140	457.04	MW-77-187	457.63	0.0038	312

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

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

Locaton ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-09	Inside Plume	06/08/2022	N	0.9	4	--	--
MW-09	Inside Plume	06/08/2022	FD	1.1	4.1	--	--
MW-10	Inside Plume	06/08/2022	N	98	96	--	--
MW-10	Inside Plume	06/08/2022	FD	99	95	--	--
MW-10D	Inside Plume	06/08/2022	N	160	150	--	--
MW-11	Inside Plume	06/08/2022	N	45	44	--	--
MW-11D	Inside Plume	06/08/2022	N	220	230	--	--
MW-12	Inside Plume	06/08/2022	N	2,300	2,400	--	--
MW-12	Inside Plume	06/08/2022	FD	2,200	2,400	--	--
MW-19	Inside Plume	06/17/2022	N	55	54	--	--
MW-20-070	Inside Plume	04/14/2022	N	320	--	1.4	<0.0005
MW-20-070	Inside Plume	05/20/2022	N	330	--	1.1 J	0.0016
MW-20-070	Inside Plume	05/20/2022	FD	330	--	0.95 J	0.0013
MW-20-070	Inside Plume	06/13/2022	N	610	610 J	0.62 J	<0.0005
MW-20-100	Inside Plume	04/14/2022	N	1,300	--	<0.1	<0.0005
MW-20-100	Inside Plume	04/14/2022	FD	1,300	--	<0.1	<0.0005
MW-20-100	Inside Plume	05/20/2022	N	880	--	<0.1 J	<0.0005
MW-20-100	Inside Plume	06/13/2022	N	910	980 J	<0.1 J	<0.0005
MW-20-130	Inside Plume	04/14/2022	N	3,300	--	<0.1	0.00072
MW-20-130	Inside Plume	05/20/2022	N	2,000	--	<0.1 J	0.0032
MW-20-130	Inside Plume	06/13/2022	N	1,700	1,600 J	<0.1 J	0.0022
MW-20-130	Inside Plume	06/13/2022	FD	1,700	1,700 J	<0.1 J	0.0024
MW-23-060	Inside Plume	06/09/2022	N	43	38 J	--	--
MW-24A	Inside Plume	06/16/2022	N	<0.2	<1	--	--
MW-24A	Inside Plume	06/16/2022	FD	<0.2	<1	--	--
MW-24B	Inside Plume	06/16/2022	N	45	160	--	--
MW-25	Inside Plume	06/14/2022	N	58	53 J	--	--
MW-26	Inside Plume	04/13/2022	N	740	--	<0.1	0.72
MW-26	Inside Plume	05/20/2022	N	340	--	<0.1 J	0.12
MW-26	Inside Plume	06/14/2022	N	140	130	<0.1	0.88
MW-31-060	Inside Plume	04/12/2022	N	<0.2	--	3.6 J	5.40
MW-31-060	Inside Plume	05/20/2022	N	48	--	<0.1 J	0.69
MW-31-060	Inside Plume	06/13/2022	N	340	340 J	<0.1 J	0.024
MW-38D	Inside Plume	06/08/2022	N	<4	<5	--	--
MW-38D	Inside Plume	06/08/2022	FD	<4	<5	--	--
MW-38S	Inside Plume	06/08/2022	N	17	16	--	--
MW-39-100	Inside Plume	05/03/2022	N	R	R	R	R
MW-39-100	Inside Plume	06/15/2022	N	170	--	<0.1	0.011
MW-40D	Inside Plume	06/16/2022	N	1.4	3.8	--	--
MW-50-200	Inside Plume	06/17/2022	N	1,800	2,400	--	--
MW-51	Inside Plume	04/13/2022	N	1,800	--	<0.1	0.00082
MW-51	Inside Plume	05/20/2022	N	870	--	<0.1 J	<0.0005
MW-51	Inside Plume	06/14/2022	N	450	540	<0.1	0.0017
MW-57-070	Inside Plume	06/07/2022	N	570	520	--	--
MW-59-100	Inside Plume	06/09/2022	N	1,700	1,700 J	--	--
MW-60-125	Inside Plume	06/16/2022	N	270	260	--	--
MW-61-110	Inside Plume	06/16/2022	N	310	280	--	--
MW-62-065	Inside Plume	06/09/2022	N	650	660 J	--	--
MW-62-110	Inside Plume	06/22/2022	N	<1	<1 J	--	--
MW-65-160	Inside Plume	06/21/2022	N	270	330 J	--	--
MW-65-225	Inside Plume	06/21/2022	N	390	530 J	--	--
MW-65-225	Inside Plume	06/21/2022	FD	390	460 J	--	--
MW-66-165	Inside Plume	06/06/2022	N	380	410	--	--
MW-66-230	Inside Plume	06/06/2022	N	6,100	5,600	--	--
MW-67-185	Inside Plume	05/20/2022	N	<40	<5 J	--	1.30

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

Locaton ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-67-185	Inside Plume	06/22/2022	N	<40	<25 J	--	1.60 J
MW-67-185	Inside Plume	06/22/2022	FD	<40	<25 J	--	1.70 J
MW-67-225	Inside Plume	06/21/2022	N	3,400	3,100 J	--	--
MW-67-260	Inside Plume	06/21/2022	N	490	450 J	--	--
MW-68-180	Inside Plume	04/14/2022	N	6,700	7,700 J	--	--
MW-68-180	Inside Plume	05/20/2022	N	4,500	4,100 J	--	--
MW-68-180	Inside Plume	06/14/2022	N	3,300	4,000 J	--	--
MW-68-180	Inside Plume	06/14/2022	FD	3,300	3,800 J	--	--
MW-68-240	Inside Plume	06/14/2022	N	2,100	2,400 J	--	--
MW-69-195	Inside Plume	06/20/2022	N	360	370 J	--	--
MW-69-195	Inside Plume	06/20/2022	FD	360	370 J	--	--
MW-70-105	Inside Plume	06/21/2022	N	110	110 J	--	--
MW-70BR-225	Inside Plume	06/21/2022	N	1,400	1,300 J	--	--
MW-70BR-287	Inside Plume	06/21/2022	N	380	430 J	--	--
MW-72-080	Inside Plume	06/17/2022	N	35	32	--	--
MW-73-080	Inside Plume	06/17/2022	N	25	22	--	--
MW-75-033	Inside Plume	06/07/2022	N	27	26	--	--
MW-76-039	Inside Plume	04/11/2022	N	33	--	<0.1 J	0.005
MW-76-039	Inside Plume	05/16/2022	N	44	--	<0.1 J	0.0014
MW-76-039	Inside Plume	06/13/2022	N	88	77 J	<0.1 J	<0.0005
MW-76-039	Inside Plume	06/13/2022	FD	86	76 J	<0.1 J	0.0007
MW-76-156	Inside Plume	04/11/2022	N	15	--	<0.1 J	0.11
MW-76-156	Inside Plume	05/16/2022	N	5.5	--	<0.1 J	0.071
MW-76-156	Inside Plume	05/16/2022	FD	5.5	--	<0.1 J	0.07
MW-76-156	Inside Plume	06/13/2022	N	13	12 J	<0.1 J	0.033
MW-76-181	Inside Plume	04/11/2022	N	2,200	--	<0.1 J	0.068
MW-76-181	Inside Plume	05/16/2022	N	2,000	--	<0.1 J	0.016
MW-76-181	Inside Plume	06/13/2022	N	2,000	2,200	<0.1 J	0.029
MW-76-218	Inside Plume	04/11/2022	N	460	--	<0.1 J	0.15
MW-76-218	Inside Plume	05/16/2022	N	120	--	3.6 J	0.14
MW-76-218	Inside Plume	06/13/2022	N	60	53 J	<0.5 J	0.098 J
MW-78-070	Inside Plume	04/13/2022	N	1,900	--	<0.1	0.18
MW-78-070	Inside Plume	05/19/2022	N	660	--	<0.1	0.47
MW-78-070	Inside Plume	06/14/2022	N	790	820	<0.1	0.5
MW-78-070	Inside Plume	06/14/2022	FD	810	900	<0.1	0.48
MW-78-142	Inside Plume	04/13/2022	N	4,900	--	<0.1	0.0062
MW-78-142	Inside Plume	05/19/2022	N	5,200	--	<0.1	0.0016
MW-78-142	Inside Plume	06/14/2022	N	5,500	6,100	<0.1	0.0012
MW-79-058	Inside Plume	04/13/2022	N	2,800	--	0.27	<0.0005
MW-79-058	Inside Plume	05/19/2022	N	2,900	--	<0.1	<0.0005
MW-79-058	Inside Plume	06/14/2022	N	2,800	3,200	<0.1	<0.0005
MW-79-058	Inside Plume	06/14/2022	FD	2,900	2,900	<0.1	<0.0005
MW-79-102	Inside Plume	04/13/2022	N	2,400	--	0.9	0.0014
MW-79-102	Inside Plume	05/19/2022	N	2,300	--	<0.1	<0.0005
MW-79-102	Inside Plume	05/19/2022	FD	2,200	--	<0.1	<0.0005
MW-79-102	Inside Plume	06/14/2022	N	2,200	2,400	<0.1	<0.0005
MW-80-057	Inside Plume	04/12/2022	N	840	--	0.4 J	0.0013
MW-80-057	Inside Plume	05/18/2022	N	1,000	--	<0.1	0.0059
MW-80-057	Inside Plume	06/14/2022	N	950	1,000	<0.1	0.002
MW-80-057	Inside Plume	06/14/2022	FD	950	1,000	<0.1	0.0022
MW-80-082	Inside Plume	04/12/2022	N	1,700	--	<0.1 J	0.0018
MW-80-082	Inside Plume	04/12/2022	FD	1,700	--	1.1 J	0.0014
MW-80-082	Inside Plume	05/18/2022	N	470	--	<0.1	0.004
MW-80-082	Inside Plume	06/14/2022	N	980	1,100	<0.1	0.0015
MW-83-090	Inside Plume	06/22/2022	N	38	34 J	--	--

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

Locaton ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-83-225	Inside Plume	06/22/2022	N	47	42 J	--	--
MW-83-245	Inside Plume	06/22/2022	N	2,600	2,600 J	--	--
MW-84-057	Inside Plume	06/06/2022	N	24	25	--	--
MW-84-193	Inside Plume	06/06/2022	N	3.9	4.7	--	--
MW-85-129	Inside Plume	06/10/2022	N	110	110 J	--	--
MW-85-217	Inside Plume	06/10/2022	N	520	590 J	--	--
MW-85-237	Inside Plume	06/10/2022	N	1,700	2,200 J	--	--
MW-88-107	Inside Plume	06/08/2022	N	94	92	--	--
MW-98-055	Inside Plume	06/09/2022	N	130	120 J	--	--
MW-98-077	Inside Plume	06/09/2022	N	440	430 J	--	--
PT5D	Inside Plume	05/05/2022	N	<0.2	2.1	2.3	0.1
PT8D	Inside Plume	06/23/2022	N	220	250	--	--
PT9D	Inside Plume	06/23/2022	N	5,000	5,500	--	--
PT9M	Inside Plume	06/23/2022	N	310	340	--	--
PT9S	Inside Plume	06/23/2022	N	41	40	--	--
TW-02D	Inside Plume	04/14/2022	N	710	--	<0.1	0.12
TW-02D	Inside Plume	05/19/2022	N	8.5	--	<0.1	0.27
TW-02D	Inside Plume	06/15/2022	N	840	780	<0.1	0.012 J
TW-02D	Inside Plume	06/15/2022	FD	840	800	<0.1	0.015 J
TW-02S	Inside Plume	04/14/2022	N	130	--	1.1	<0.0005
TW-02S	Inside Plume	05/19/2022	N	97	--	0.57	<0.0005
TW-02S	Inside Plume	06/15/2022	N	91	80	0.3	<0.0005
TW-03D	Inside Plume	04/14/2022	N	780	--	<0.1	0.14
TW-03D	Inside Plume	05/19/2022	N	610	--	<0.1	0.15
TW-03D	Inside Plume	06/15/2022	N	700	750	<0.1	0.11
TW-03D	Inside Plume	06/15/2022	FD	730	760	<0.1	0.097
MW-13	Outside Plume	06/16/2022	N	22	22	--	--
MW-14	Outside Plume	06/16/2022	N	11	11	--	--
MW-15	Outside Plume	06/14/2022	N	12	11 J	--	--
MW-21	Outside Plume	04/12/2022	N	0.34	--	6 J	0.14
MW-21	Outside Plume	05/18/2022	N	<0.2	--	7.6	0.48
MW-21	Outside Plume	06/14/2022	N	<0.2	3.8	8.2	0.68
MW-22	Outside Plume	05/05/2022	N	<1	<1	3.7 J	2.10
MW-22	Outside Plume	05/05/2022	FD	<1	<1	5.1 J	2
MW-23-080	Outside Plume	06/09/2022	N	<1	<1 J	--	--
MW-24BR	Outside Plume	06/17/2022	N	<1	<1	--	--
MW-27-020	Outside Plume	05/05/2022	N	<0.2	<1	0.55 J	<0.0005 J
MW-27-060	Outside Plume	05/05/2022	N	<0.2	<1	9.1 J	0.24 J
MW-27-085	Outside Plume	05/05/2022	N	<1	<1	<0.1 J	0.13 J
MW-28-025	Outside Plume	05/04/2022	N	<0.2	<1	0.57	0.046
MW-28-090	Outside Plume	05/04/2022	N	<0.2	<1	<0.1	0.43
MW-29	Outside Plume	06/13/2022	N	<0.2	<1 J	--	--
MW-30-030	Outside Plume	05/03/2022	N	<1	<1	0.2	0.049
MW-30-050	Outside Plume	05/03/2022	N	<0.2	2.6	2.2	0.38
MW-30-050	Outside Plume	06/17/2022	N	<0.2	--	2 J	0.54 J
MW-31-135	Outside Plume	04/12/2022	N	26	--	<0.1 J	0.00076
MW-31-135	Outside Plume	05/20/2022	N	26	--	<0.1 J	0.003
MW-31-135	Outside Plume	06/13/2022	N	23	21 J	<0.1 J	0.0036
MW-32-020	Outside Plume	05/04/2022	N	<1	<1	<0.1 J	0.094 J
MW-32-035	Outside Plume	05/04/2022	N	<0.2	<1	5.7 J	0.74 J
MW-32-035	Outside Plume	05/04/2022	FD	<0.2	<1	10 J	0.62 J
MW-33-040	Outside Plume	06/09/2022	N	<1	<1 J	--	--
MW-33-090	Outside Plume	06/09/2022	N	2.7	3.2 J	--	--
MW-33-150	Outside Plume	06/09/2022	N	3.3	5.1 J	--	--
MW-33-210	Outside Plume	06/09/2022	N	9.9	10 J	--	--

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

Locaton ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-34-055	Outside Plume	05/05/2022	N	<0.2	<1	2.1 J	0.058 J
MW-34-080	Outside Plume	05/05/2022	N	<0.2	<1	<0.1 J	0.066 J
MW-34-080	Outside Plume	06/17/2022	N	<0.2	--	<0.1 J	0.11 J
MW-34-100	Outside Plume	05/05/2022	N	<0.2	<1	<0.1 J	0.25 J
MW-35-060	Outside Plume	06/07/2022	N	20	21	--	--
MW-35-135	Outside Plume	06/07/2022	N	27	29	--	--
MW-36-020	Outside Plume	05/04/2022	N	<0.2	<1	0.79 J	0.29 J
MW-36-040	Outside Plume	05/04/2022	N	<0.2	<1	6.7 J	0.15 J
MW-36-050	Outside Plume	05/04/2022	N	<0.2	<1	4.8 J	0.3 J
MW-36-070	Outside Plume	05/04/2022	N	<0.2	<1	2.2 J	0.39 J
MW-36-090	Outside Plume	05/04/2022	N	<0.2	<1	0.55 J	0.11 J
MW-36-090	Outside Plume	05/04/2022	FD	<0.2	<1	0.51 J	0.11 J
MW-36-090	Outside Plume	06/17/2022	N	<0.2	--	<0.1 J	0.13 J
MW-36-100	Outside Plume	05/04/2022	N	<0.2	<1	1.5 J	0.51 J
MW-36-100	Outside Plume	06/17/2022	N	0.93	--	<0.1 J	0.62 J
MW-36-100	Outside Plume	06/17/2022	FD	0.81	--	<0.1 J	0.56 J
MW-37D	Outside Plume	06/16/2022	N	5.6	6	--	--
MW-37S	Outside Plume	06/16/2022	N	12	12	--	--
MW-39-040	Outside Plume	05/03/2022	N	<0.2	<1	16	0.11
MW-39-040	Outside Plume	06/15/2022	N	<0.2	--	15	0.11
MW-39-050	Outside Plume	05/03/2022	N	<0.2	<1	1.8	0.17
MW-39-050	Outside Plume	06/15/2022	N	<0.2	--	1.6	0.17
MW-39-060	Outside Plume	05/03/2022	N	R	R	R	R
MW-39-060	Outside Plume	06/15/2022	N	<1	--	2	0.12
MW-39-070	Outside Plume	05/03/2022	N	<0.2	<1	1.1	0.0076
MW-39-070	Outside Plume	06/15/2022	N	<0.2	--	0.39	0.0085
MW-39-080	Outside Plume	05/03/2022	N	0.33	<1	<0.1	0.0029
MW-39-080	Outside Plume	06/15/2022	N	10	--	<0.1	0.0036
MW-40S	Outside Plume	06/16/2022	N	19	19	--	--
MW-41D	Outside Plume	06/16/2022	N	<1	1	--	--
MW-41M	Outside Plume	06/16/2022	N	8.9	9.7	--	--
MW-41S	Outside Plume	06/16/2022	N	4.8	5.1	--	--
MW-42-030	Outside Plume	05/05/2022	N	<0.2	<1	2.5	0.085
MW-42-055	Outside Plume	05/05/2022	N	<0.2	<1	8.3	0.19
MW-42-065	Outside Plume	05/05/2022	N	<0.2	<1	1.4	2.20
MW-43-025	Outside Plume	05/03/2022	N	<0.2	<1	20	0.44
MW-43-075	Outside Plume	05/03/2022	N	<1	<1	5.7	0.42
MW-43-090	Outside Plume	05/03/2022	N	<1	<1	<0.5	0.78
MW-44-070	Outside Plume	05/06/2022	N	<0.2	<1	1.6	0.44 J
MW-44-115	Outside Plume	05/06/2022	N	<1	1.5	<0.1	0.04 J
MW-44-115	Outside Plume	06/17/2022	N	<1	--	<0.1 J	0.014 J
MW-44-125	Outside Plume	05/06/2022	N	<1	<1	<0.1	0.55 J
MW-44-125	Outside Plume	06/17/2022	N	<1	--	<0.1 J	0.44 J
MW-45-095A	Outside Plume	05/04/2022	N	<0.2	<1	<0.1	0.12
MW-45-095A	Outside Plume	06/17/2022	N	<0.2	--	<0.1 J	0.37 J
MW-46-175	Outside Plume	05/05/2022	N	6.9	6.7	<0.1 J	0.0095 J
MW-46-205	Outside Plume	05/05/2022	N	<1	10	<0.1 J	0.038 J
MW-47-055	Outside Plume	06/07/2022	N	16	16	--	--
MW-47-115	Outside Plume	06/07/2022	N	22	24	--	--
MW-48	Outside Plume	06/10/2022	N	<1	<1 J	--	--
MW-48	Outside Plume	06/10/2022	FD	<1	<1 J	--	--
MW-49-135	Outside Plume	06/13/2022	N	5	4.9 J	--	--
MW-49-275	Outside Plume	06/13/2022	N	<1	<1 J	--	--
MW-49-365	Outside Plume	06/13/2022	N	<1	<1 J	--	--
MW-50-095	Outside Plume	06/17/2022	N	14	14	--	--

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

Locaton ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-52D	Outside Plume	05/03/2022	N	<1	<1	<0.1	0.22
MW-52M	Outside Plume	05/03/2022	N	<1	<1	<0.1	0.23
MW-52S	Outside Plume	05/03/2022	N	<1	<1	<0.1	1.40
MW-53D	Outside Plume	05/03/2022	N	<1	<1	<0.1	1.40
MW-53M	Outside Plume	05/03/2022	N	<1	<1	<0.1	0.4
MW-53S	Outside Plume	05/03/2022	N	<0.2	<1	<0.1	1.10
MW-54-085	Outside Plume	06/15/2022	N	<0.2	<10	--	--
MW-54-140	Outside Plume	06/15/2022	N	<1	<10	--	--
MW-54-195	Outside Plume	06/15/2022	N	<0.2	<10	--	--
MW-55-045	Outside Plume	06/14/2022	N	<0.2	<1	--	--
MW-55-120	Outside Plume	06/14/2022	N	7.7	<10	--	--
MW-56D	Outside Plume	06/14/2022	N	<0.2	<10	--	--
MW-56M	Outside Plume	06/14/2022	N	<0.2	<10	--	--
MW-56S	Outside Plume	06/14/2022	N	<0.2	<10	--	--
MW-57-185	Outside Plume	06/07/2022	N	<1	<1	--	--
MW-58BR	Outside Plume	06/21/2022	N	<0.2	<1 J	--	--
MW-60BR-245	Outside Plume	06/16/2022	N	10	10	--	--
MW-62-190	Outside Plume	06/22/2022	N	<1	<1 J	--	--
MW-63-065	Outside Plume	06/09/2022	N	1.1	2.2 J	--	--
MW-64BR	Outside Plume	06/22/2022	N	<1	<1 J	--	--
MW-66BR-270	Outside Plume	06/20/2022	N	<1	<1 J	--	--
MW-68BR-280	Outside Plume	06/14/2022	N	<1	<1 J	--	--
MW-71-035	Outside Plume	04/12/2022	N	<1	--	<0.1 J	0.25
MW-71-035	Outside Plume	04/12/2022	FD	<1	--	<0.1 J	0.3
MW-71-035	Outside Plume	05/18/2022	N	<1	--	<0.1	0.045
MW-71-035	Outside Plume	06/15/2022	N	<1	<1	<0.1	1.40
MW-71-035	Outside Plume	06/15/2022	FD	<1	<1	<0.1	1.50
MW-72BR-200	Outside Plume	06/17/2022	N	<1	<1	--	--
MW-74-240	Outside Plume	06/20/2022	N	<0.2	<1 J	--	--
MW-75-117	Outside Plume	06/07/2022	N	7.4	6.7	--	--
MW-75-202	Outside Plume	06/07/2022	N	<1	<1	--	--
MW-75-267	Outside Plume	06/07/2022	N	<1	<1	--	--
MW-75-337	Outside Plume	06/07/2022	N	<1	<1	--	--
MW-77-046	Outside Plume	05/02/2022	N	<0.2	<1	0.89	0.31
MW-77-046	Outside Plume	06/15/2022	N	0.5	--	<0.1 J	0.43
MW-77-046	Outside Plume	06/15/2022	FD	0.53	--	0.69 J	0.45
MW-77-102	Outside Plume	05/02/2022	N	0.59	<1	<0.1	0.047
MW-77-102	Outside Plume	06/15/2022	N	<1	--	<0.1	0.078
MW-77-158	Outside Plume	05/02/2022	N	7.1	8.4	<0.1	0.018
MW-77-158	Outside Plume	06/15/2022	N	2.4	--	<0.1	0.01
MW-77-187	Outside Plume	05/02/2022	N	9.6	9.3	<0.1	0.039
MW-77-187	Outside Plume	06/15/2022	N	33	--	<0.1	0.017
MW-81-043	Outside Plume	05/06/2022	N	12	14	<0.1	0.088 J
MW-81-043	Outside Plume	06/16/2022	N	4.4	--	<0.1	0.064
MW-81-098	Outside Plume	05/06/2022	N	<1	<1	<0.1	0.16 J
MW-81-098	Outside Plume	06/16/2022	N	1.8	--	<0.1	0.24
MW-82-046	Outside Plume	05/02/2022	N	<1	<5	27	0.32
MW-82-046	Outside Plume	05/02/2022	FD	<1	<5	25	0.27
MW-82-046	Outside Plume	06/16/2022	N	<0.2	--	17	0.26
MW-82-112	Outside Plume	05/02/2022	N	<0.2	<1	<0.1	0.054
MW-82-112	Outside Plume	06/16/2022	N	<1	--	<0.1	0.12
MW-82-168	Outside Plume	05/02/2022	N	<1	2.7	<0.1	0.14
MW-82-168	Outside Plume	06/16/2022	N	1.2	--	<0.1	0.029
MW-82-198	Outside Plume	05/02/2022	N	1.2	2	<0.5	0.098
MW-82-198	Outside Plume	06/16/2022	N	4.1	--	<0.1	0.11

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

Locaton ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
MW-83-180	Outside Plume	06/22/2022	N	3.7	4.3 J	--	--
MW-84-095	Outside Plume	06/06/2022	N	2.1	3	--	--
MW-84-132	Outside Plume	06/06/2022	N	1.8	2	--	--
MW-86-030	Outside Plume	05/04/2022	N	<0.2	<1	8.6	0.32
MW-86-066	Outside Plume	05/04/2022	N	<0.2	<1	<0.1	0.72
MW-86-120	Outside Plume	05/04/2022	N	1.3	1.5	<0.1	0.25
MW-86-140	Outside Plume	05/04/2022	N	<1	<1	<0.1	0.89
MW-86-140	Outside Plume	05/04/2022	FD	<1	<1	<0.1	0.9
MW-87-109	Outside Plume	06/08/2022	N	26	26	--	--
MW-87-139	Outside Plume	06/08/2022	N	8.7	8.5	--	--
MW-87-192	Outside Plume	06/08/2022	N	1.2	1.3	--	--
MW-87-275	Outside Plume	06/08/2022	N	<1	1.2	--	--
MW-89-183	Outside Plume	06/16/2022	N	1	1.1	--	--
MW-89-273	Outside Plume	06/16/2022	N	0.58	1.1	--	--
MW-90-031	Outside Plume	05/05/2022	N	<1	<1	<0.1	0.25
MW-91-045	Outside Plume	06/15/2022	N	<0.2	<1	--	--
MW-91-120	Outside Plume	06/15/2022	N	<0.2	<10	--	--
MW-91-170	Outside Plume	06/15/2022	N	<0.2	<10	--	--
MW-91-320	Outside Plume	06/15/2022	N	<0.2	<10	--	--
MW-92-037	Outside Plume	06/15/2022	N	<0.2	<1	--	--
MW-92-072	Outside Plume	06/15/2022	N	<0.2	<1	--	--
MW-92-102	Outside Plume	06/15/2022	N	3.93	3.87	--	--
MW-92-122	Outside Plume	06/15/2022	N	<0.2	<10	--	--
MW-93-050	Outside Plume	06/23/2022	N	19	18	--	--
MW-93-213	Outside Plume	06/23/2022	N	<1	1.6	--	--
MW-95-113	Outside Plume	06/22/2022	N	3.5	3.7	--	--
MW-95-157	Outside Plume	06/22/2022	N	3.7	7.1 J	--	--
MW-96-045	Outside Plume	06/09/2022	N	<0.2	<1 J	--	--
MW-96-217	Outside Plume	06/09/2022	N	<1	<1 J	--	--
PGE-08	Outside Plume	06/10/2022	N	<1	<1 J	--	--
PT5M	Outside Plume	05/05/2022	N	<0.2	<1	0.75	2.10
PT5S	Outside Plume	05/05/2022	N	<0.2	<1	7	0.26
TW-04	Outside Plume	06/07/2022	N	8.1	8.4	--	--
TW-05	Outside Plume	06/17/2022	N	13	12	--	--
C-BNS	Surface Water	05/18/2022	N	<0.2	<1	2.1 J	<0.0005
C-CON-D	Surface Water	05/19/2022	N	<0.2	<1 J	1.9 J	<0.0005 J
C-CON-D	Surface Water	05/19/2022	FD	<0.2	<1 J	2 J	0.0037 J
C-CON-S	Surface Water	05/19/2022	N	<0.2	<1 J	1.9 J	<0.0005
C-I-3-D	Surface Water	05/18/2022	N	<0.2	<1	2 J	<0.0005
C-I-3-S	Surface Water	05/18/2022	N	<0.2	<1	1.9 J	<0.0005
C-MAR-D	Surface Water	05/19/2022	N	<0.2	<1 J	2.1 J	0.00096
C-MAR-S	Surface Water	05/19/2022	N	<0.2	<1 J	2 J	0.0026
C-NR1-D	Surface Water	05/19/2022	N	<0.2	<1 J	1.8 J	<0.0005
C-NR1-S	Surface Water	05/19/2022	N	<0.2	<1 J	2 J	<0.0005
C-NR3-D	Surface Water	05/19/2022	N	<0.2	<1 J	2 J	<0.0005
C-NR3-D	Surface Water	05/19/2022	FD	<0.2	<1 J	2.1 J	<0.0005
C-NR3-S	Surface Water	05/19/2022	N	<0.2	<1 J	1.9 J	<0.0005
C-NR4-D	Surface Water	05/19/2022	N	<0.2	<1 J	1.9 J	<0.0005
C-NR4-S	Surface Water	05/19/2022	N	<0.2	<1 J	2 J	<0.0005
C-R22A-D	Surface Water	05/18/2022	N	<0.2	<1	2 J	<0.0005
C-R22A-S	Surface Water	05/18/2022	N	<0.2	<1	2 J	<0.0005
C-R27-D	Surface Water	05/18/2022	N	<0.2	<1	2 J	<0.0005
C-R27-S	Surface Water	05/18/2022	N	<0.2	<1	1.9 J	<0.0005
C-TAZ-D	Surface Water	05/18/2022	N	<0.2	<1	2.1 J	<0.0005
C-TAZ-S	Surface Water	05/18/2022	N	<0.2	<1	2 J	<0.0005

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

Locaton ID	Well Group	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Manganese (mg/L)
R-19	Surface Water	05/19/2022	N	<0.2	<1 J	1.9 J	<0.0005
R-28	Surface Water	05/18/2022	N	<0.2	<1	2 J	0.00058
R63	Surface Water	05/18/2022	N	<0.2	<1	2 J	0.0012
R63	Surface Water	05/18/2022	FD	<0.2	<1	2 J	0.0012
RRB	Surface Water	05/19/2022	N	<0.2	<1 J	2 J	0.0076
SW1	Surface Water	05/18/2022	N	<0.2	<1	1.6 J	0.011
SW2	Surface Water	05/18/2022	N	<0.2	<1	1.9 J	0.0018

Abbreviations:

-- = not applicable or not available

< = not detected at reporting limit, as shown

FD = field duplicate

ID = identification

J = estimated concentration

mg/L= milligram(s) per liter

N = primary sample

R = The data are not unusable. The result has been rejected

µg/L = microgram(s) per liter

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

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)
MW-09	--	06/08/22	N	10	2.2	3.1
MW-09	--	06/08/22	FD	11	2.3	2.9
MW-10	--	06/08/22	N	16	5.8	9.6
MW-10	--	06/08/22	FD	16	6.1	9.6
MW-10D	--	06/08/22	N	1.5	5.7	8.9
MW-12	--	06/08/22	N	12	15	14
MW-12	--	06/08/22	FD	13	16	15
MW-20-070	--	04/14/22	N	--	--	14 J
MW-20-070	--	05/20/22	N	--	--	16
MW-20-070	--	05/20/22	FD	--	--	16
MW-20-070	--	06/13/22	N	19	22	24
MW-20-100	--	04/14/22	N	--	--	6.3 J
MW-20-100	--	04/14/22	FD	--	--	6.5 J
MW-20-100	--	05/20/22	N	--	--	4.3
MW-20-100	--	06/13/22	N	2.1	11	5.1
MW-20-130	--	04/14/22	N	--	--	7 J
MW-20-130	--	05/20/22	N	--	--	4
MW-20-130	--	06/13/22	N	8.5	13	4.3
MW-20-130	--	06/13/22	FD	9	14	4.3
MW-21	--	04/12/22	N	--	--	1
MW-21	--	05/18/22	N	--	--	<0.5
MW-21	--	06/14/22	N	64	1.4 J	<0.5
MW-22	X	05/05/22	N	--	--	<0.5
MW-22	X	05/05/22	FD	--	--	<0.5
MW-24A	--	06/16/22	N	46	0.63	0.55
MW-24A	--	06/16/22	FD	42	<0.5	0.5
MW-24B	--	06/16/22	N	36	1.4	1.3
MW-26	--	04/13/22	N	--	--	3.1
MW-26	--	05/20/22	N	--	--	1.2
MW-26	--	06/14/22	N	6.4	1 J	0.73
MW-27-020	--	05/05/22	N	--	--	0.44
MW-27-060	X	05/05/22	N	--	--	<0.25
MW-27-085	X	05/05/22	N	--	--	<0.25
MW-28-025	--	05/04/22	N	--	--	<0.25
MW-28-090	--	05/04/22	N	--	--	<0.5
MW-30-030	--	05/03/22	N	--	--	<0.5
MW-30-050	--	05/03/22	N	--	--	<0.1
MW-30-050	--	06/17/22	N	--	--	<0.25
MW-31-060	--	04/12/22	N	--	--	<0.5
MW-31-060	--	05/20/22	N	--	--	<0.5
MW-31-060	--	06/13/22	N	17	3.8	2.6
MW-31-135	--	04/12/22	N	--	--	1.9
MW-31-135	--	05/20/22	N	--	--	1.5
MW-31-135	--	06/13/22	N	29	0.79	1.4
MW-32-020	--	05/04/22	N	--	--	<0.5
MW-32-035	X	05/04/22	N	--	--	<0.5
MW-32-035	X	05/04/22	FD	--	--	<0.5
MW-34-055	X	05/05/22	N	--	--	<0.25
MW-34-080	--	05/05/22	N	--	--	<0.25
MW-34-080	--	06/17/22	N	--	--	<0.25
MW-34-100	X	05/05/22	N	--	--	<0.25
MW-36-020	--	05/04/22	N	--	--	<0.1
MW-36-040	X	05/04/22	N	--	--	<0.1
MW-36-050	--	05/04/22	N	--	--	<0.1
MW-36-070	--	05/04/22	N	--	--	<0.1
MW-36-090	--	05/04/22	N	--	--	<0.25
MW-36-090	--	05/04/22	FD	--	--	<0.25
MW-36-090	--	06/17/22	N	--	--	<0.25
MW-36-100	X	05/04/22	N	--	--	<0.25
MW-36-100	X	06/17/22	N	--	--	<0.25
MW-36-100	X	06/17/22	FD	--	--	<0.25
MW-38D	--	06/08/22	N	28	<2.5	<1
MW-38D	--	06/08/22	FD	34	<2.5	<1
MW-38S	--	06/08/22	N	7	4.5	5.2

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

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)
MW-39-040	--	05/03/22	N	--	--	<0.1
MW-39-040	--	06/15/22	N	--	--	<0.25
MW-39-050	--	05/03/22	N	--	--	<0.1
MW-39-050	--	06/15/22	N	--	--	<0.25
MW-39-060	--	05/03/22	N	--	--	R
MW-39-060	--	06/15/22	N	--	--	<0.25
MW-39-070	--	05/03/22	N	--	--	<0.1
MW-39-070	--	06/15/22	N	--	--	<0.25
MW-39-080	--	05/03/22	N	--	--	0.3
MW-39-080	--	06/15/22	N	--	--	<0.25
MW-39-100	--	05/03/22	N	--	--	R
MW-39-100	--	06/15/22	N	--	--	<0.25
MW-42-030	X	05/05/22	N	--	--	<0.25
MW-42-055	--	05/05/22	N	--	--	<0.25
MW-42-065	--	05/05/22	N	--	--	<0.25
MW-43-025	--	05/03/22	N	--	--	<0.25
MW-43-075	--	05/03/22	N	--	--	<0.25
MW-43-090	--	05/03/22	N	--	--	<0.25
MW-44-070	X	05/06/22	N	--	--	<0.25
MW-44-115	--	05/06/22	N	--	--	<0.25
MW-44-115	--	06/17/22	N	--	--	<0.25
MW-44-125	X	05/06/22	N	--	--	<0.25
MW-44-125	X	06/17/22	N	--	--	<0.25
MW-45-095A	--	05/04/22	N	--	--	<0.25
MW-45-095A	--	06/17/22	N	--	--	<0.25
MW-46-175	X	05/05/22	N	--	--	1
MW-46-205	--	05/05/22	N	--	--	0.88
MW-48	--	06/10/22	N	9.6	<0.5	<0.5
MW-48	--	06/10/22	FD	9.8	<0.5	<0.5
MW-51	--	04/13/22	N	--	--	4.7
MW-51	--	05/20/22	N	--	--	2.1
MW-51	--	06/14/22	N	76	2.6 J	1.2
MW-52D	--	05/03/22	N	--	--	<0.25
MW-52M	--	05/03/22	N	--	--	<0.25
MW-52S	--	05/03/22	N	--	--	<0.25
MW-53D	--	05/03/22	N	--	--	<0.25
MW-53M	--	05/03/22	N	--	--	<0.25
MW-53S	--	05/03/22	N	--	--	<0.25
MW-65-160	--	06/21/22	N	25 J	9.4 J	13
MW-65-225	--	06/21/22	N	31 J	4.7 J	6.4
MW-65-225	--	06/21/22	FD	30 J	4.6 J	6.4
MW-66-165	--	06/06/22	N	5.8 J	17	21
MW-66-230	--	06/06/22	N	89 J	12	13
MW-67-185	--	05/20/22	N	42 J	51	<10
MW-67-185	--	06/22/22	N	40 J	58	10
MW-67-185	--	06/22/22	FD	42 J	64	<10
MW-67-225	--	06/21/22	N	65 J	50 J	16
MW-67-260	--	06/21/22	N	67 J	1.1 J	0.3
MW-68-180	--	04/14/22	N	36 J	--	--
MW-68-180	--	05/20/22	N	42 J	--	--
MW-68-180	--	06/14/22	N	46 J	5.9	10
MW-68-180	--	06/14/22	FD	46 J	5.5	10
MW-68-240	--	06/14/22	N	22 J	4.1	4.2
MW-69-195	--	06/20/22	N	54 J	9.4 J	14
MW-69-195	--	06/20/22	FD	52 J	8.6 J	15
MW-70-105	--	06/21/22	N	69 J	4 J	3.7
MW-70BR-225	--	06/21/22	N	17 J	2.2 J	3
MW-71-035	X	04/12/22	N	--	--	<0.5
MW-71-035	X	04/12/22	FD	--	--	<0.5
MW-71-035	X	05/18/22	N	--	--	<0.5
MW-71-035	X	06/15/22	N	21	0.51 J	<0.5
MW-71-035	X	06/15/22	FD	22	<0.5 J	<0.5

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

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)
MW-76-039	--	04/11/22	N	--	--	2.1
MW-76-039	--	05/16/22	N	--	--	2.2
MW-76-039	--	06/13/22	N	20	3	2.5
MW-76-039	--	06/13/22	FD	19	2.7	2.5
MW-76-156	--	04/11/22	N	--	--	1.7
MW-76-156	--	05/16/22	N	--	--	1.5
MW-76-156	--	05/16/22	FD	--	--	1.5
MW-76-156	--	06/13/22	N	28	0.8	1.9
MW-76-181	--	04/11/22	N	--	--	3
MW-76-181	--	05/16/22	N	--	--	2.7
MW-76-181	--	06/13/22	N	29	2.4	3
MW-76-218	--	04/11/22	N	--	--	1.5
MW-76-218	--	05/16/22	N	--	--	1.1
MW-76-218	--	06/13/22	N	77 J	0.98	1.2
MW-77-046	--	05/02/22	N	--	--	<0.25
MW-77-046	--	06/15/22	N	--	--	<0.5
MW-77-046	--	06/15/22	FD	--	--	<0.5
MW-77-102	--	05/02/22	N	--	--	0.63
MW-77-102	--	06/15/22	N	--	--	0.91
MW-77-158	--	05/02/22	N	--	--	<0.5
MW-77-158	--	06/15/22	N	--	--	<0.5
MW-77-187	--	05/02/22	N	--	--	1.3
MW-77-187	--	06/15/22	N	--	--	1.2
MW-78-070	--	04/13/22	N	--	--	4.7
MW-78-070	--	05/19/22	N	--	--	1.6
MW-78-070	--	06/14/22	N	8.3	1.7 J	1.6
MW-78-070	--	06/14/22	FD	7.3	1.6 J	1.5
MW-78-142	--	04/13/22	N	--	--	9.8
MW-78-142	--	05/19/22	N	--	--	9.6
MW-78-142	--	06/14/22	N	22	36 J	9.3
MW-79-058	--	04/13/22	N	--	--	10
MW-79-058	--	05/19/22	N	--	--	11
MW-79-058	--	06/14/22	N	8	11 J	11
MW-79-058	--	06/14/22	FD	7.1	9.4 J	11
MW-79-102	--	04/13/22	N	--	--	12
MW-79-102	--	05/19/22	N	--	--	7.5
MW-79-102	--	05/19/22	FD	--	--	7.5
MW-79-102	--	06/14/22	N	26	13 J	5
MW-80-057	--	04/12/22	N	--	--	15
MW-80-057	--	05/18/22	N	--	--	11
MW-80-057	--	06/14/22	N	31	24 J	13
MW-80-057	--	06/14/22	FD	31	25 J	13
MW-80-082	--	04/12/22	N	--	--	5.9
MW-80-082	--	04/12/22	FD	--	--	6.2
MW-80-082	--	05/18/22	N	--	--	1.9
MW-80-082	--	06/14/22	N	29	4.2 J	4.4
MW-81-043	--	05/06/22	N	--	--	0.98
MW-81-043	--	06/16/22	N	--	--	0.98
MW-81-098	--	05/06/22	N	--	--	<0.5
MW-81-098	--	06/16/22	N	--	--	0.94
MW-82-046	--	05/02/22	N	--	--	<0.5
MW-82-046	--	05/02/22	FD	--	--	<0.5
MW-82-046	--	06/16/22	N	--	--	<0.5
MW-82-112	--	05/02/22	N	--	--	0.58
MW-82-112	--	06/16/22	N	--	--	1.1
MW-82-168	--	05/02/22	N	--	--	1.1
MW-82-168	--	06/16/22	N	--	--	<0.5
MW-82-198	--	05/02/22	N	--	--	1.5
MW-82-198	--	06/16/22	N	--	--	1.5
MW-86-030	--	05/04/22	N	--	--	<0.25
MW-86-066	--	05/04/22	N	--	--	<0.5
MW-86-120	--	05/04/22	N	--	--	0.91
MW-86-140	--	05/04/22	N	--	--	<0.5
MW-86-140	--	05/04/22	FD	--	--	<0.5
MW-90-031	X	05/05/22	N	--	--	<0.5

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

Monitoring Well ID	Perimeter Assessment Plan Monitoring Well	Sample Date	Sample Type	Dissolved Molybdenum (µg/L)	Dissolved Selenium (µg/L)	Nitrate as Nitrogen (mg/L)
PT5D	--	05/05/22	N	--	--	<0.5
PT5M	--	05/05/22	N	--	--	<0.5
PT5S	--	05/05/22	N	--	--	<0.25
TW-02D	--	04/14/22	N	--	--	1.8 J
TW-02D	--	05/19/22	N	--	--	0.36
TW-02D	--	06/15/22	N	65	0.98 J	1.5
TW-02D	--	06/15/22	FD	68	1.1 J	1.4
TW-02S	--	04/14/22	N	--	--	3.6 J
TW-02S	--	05/19/22	N	--	--	3.4
TW-02S	--	06/15/22	N	8.9	1.9 J	3.3
TW-03D	--	04/14/22	N	--	--	1.7 J
TW-03D	--	05/19/22	N	--	--	1.5
TW-03D	--	06/15/22	N	72	1.1 J	1.4
TW-03D	--	06/15/22	FD	66	1 J	1.4

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

Figures



LEGEND

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

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

N

0 625 1,250

Feet

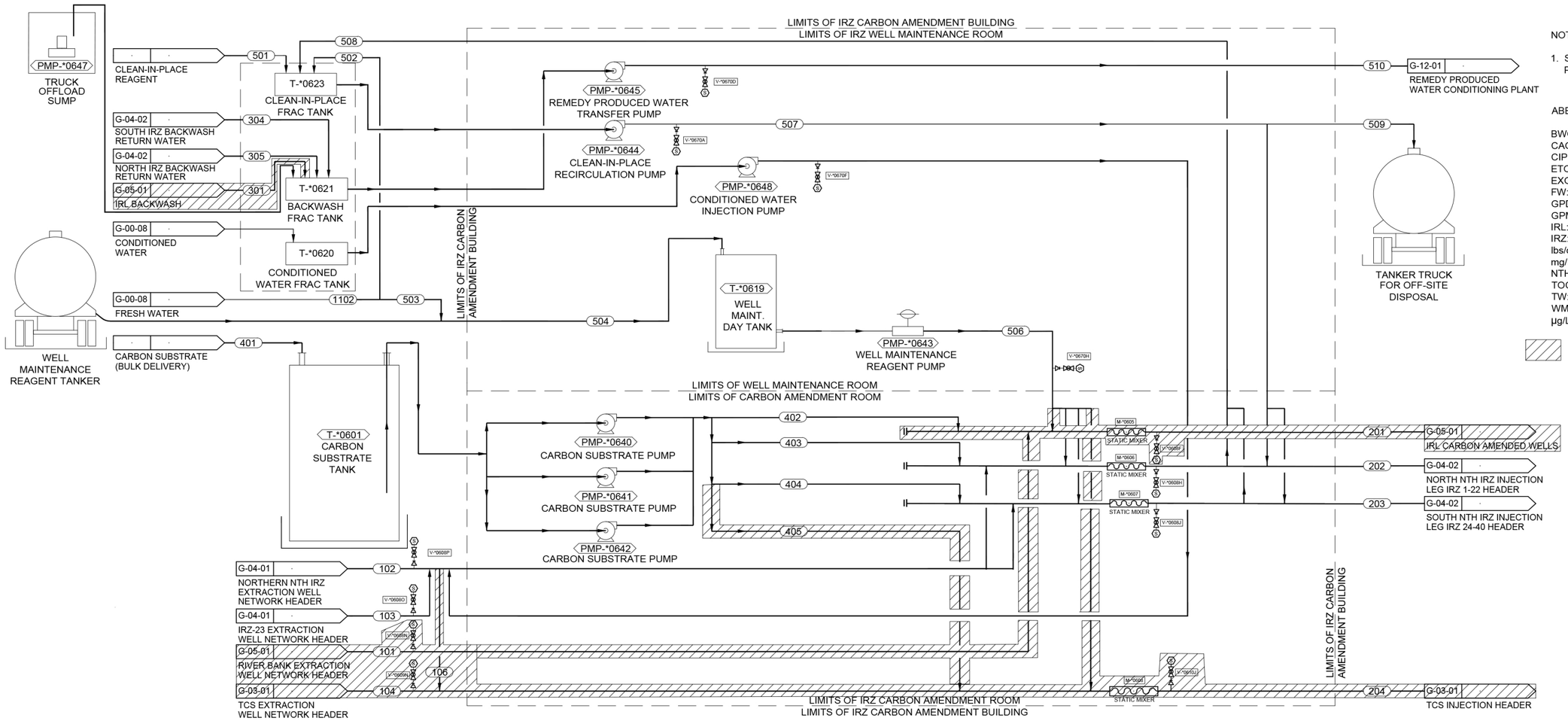
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

PARTIAL REMEDY SYSTEM LAYOUT

ARCADIS

FIGURE
1.1

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\2Q22\FINAL\FIGURE1.1_PARTIAL REMEDY SYSTEM LAYOUT.MXD 6/29/2022 6:30:35 PM



NOTES:

1. SPARE HEADERS AND FUTURE PROVISIONAL WELLS ARE NOT SHOWN.

ABBREVIATIONS:

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

TO BE COMPLETED DURING PHASE 2.

ARCADIS

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

REVISIONS

APPROVED BY	
SO	
SUPV	
DSGN	
DWN	
CHKD	
OK	
DATE	
SCALES	

TOPOCK GROUNDWATER REMEDIATION PROJECT

MW-20 BENCH PROCESS FLOW DIAGRAM

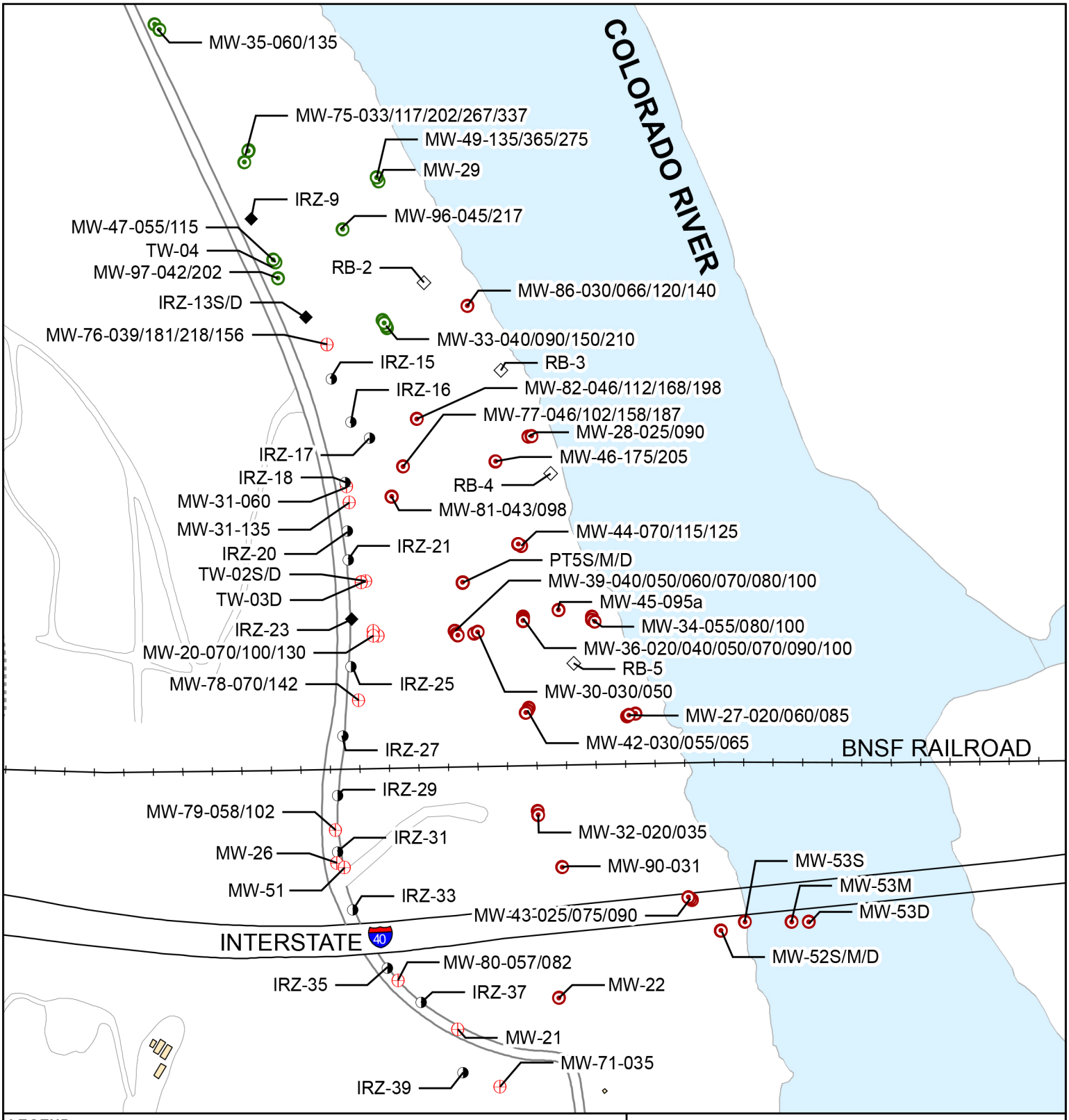
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

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

FIGURE 1.2 REV

N1808

05/24/2022, 21:37, C:\Users\vmorasko\ACCDocs\Arcadis\ANA - 30019125 – RC000753.0050 - Needles CA - Topock Construction & Closeout DOR Svcs\Project Files\0_WIP\G-General\G-06-01-Startup Figure.dwg, Tab: G-06-01 -Startup Figure



LEGEND

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

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

0 365 730
Feet

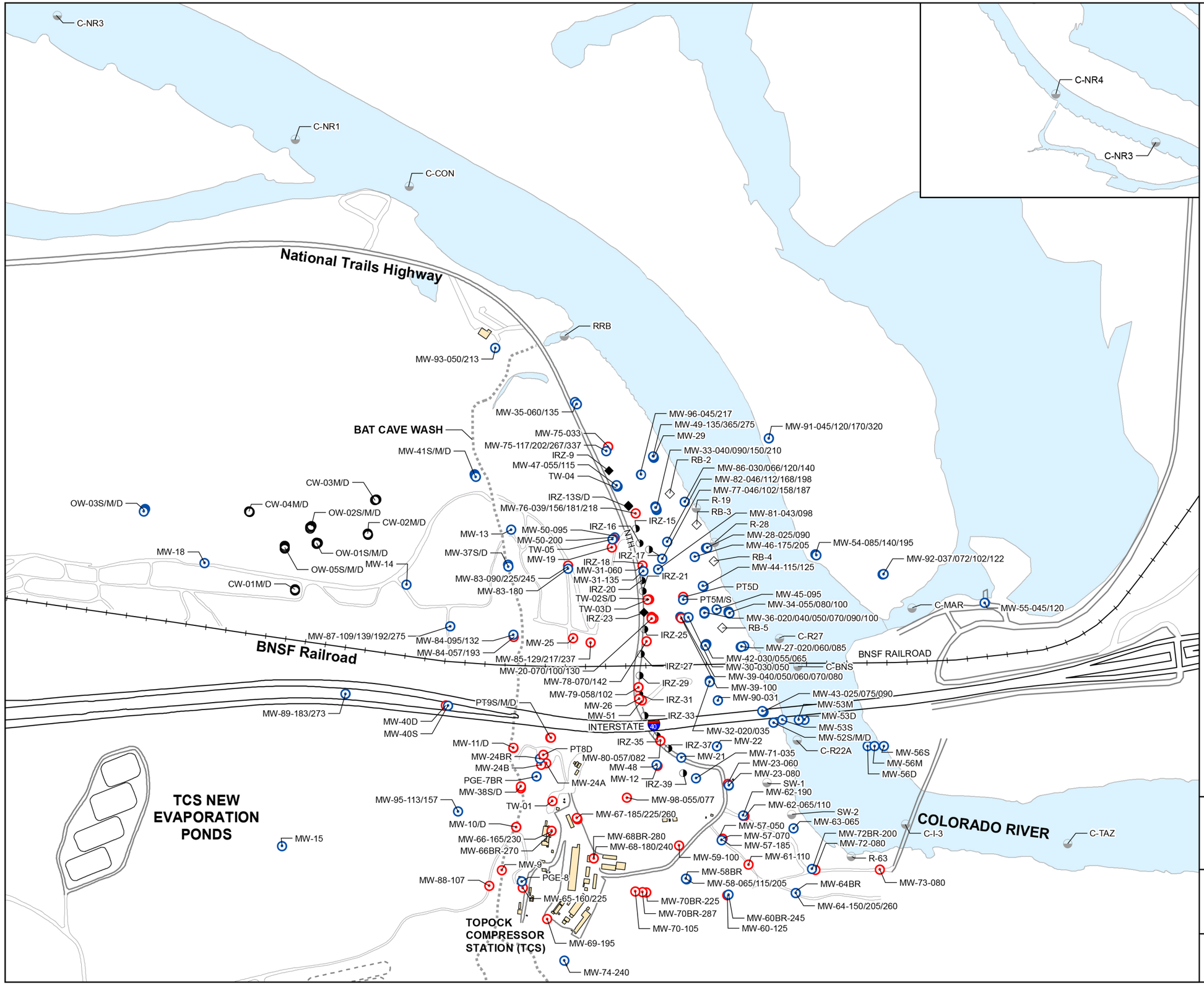
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

PROCESS CONTROL MONITORING NETWORK

ARCADIS

FIGURE
1.3

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\2Q22\FINAL\FIGURE1.3_TOPOCK PROCESS CONTROL MONITORING WELLS.MXD 6/29/2022 6:31:14 PM



LEGEND

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

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

0 700 1,400
Feet

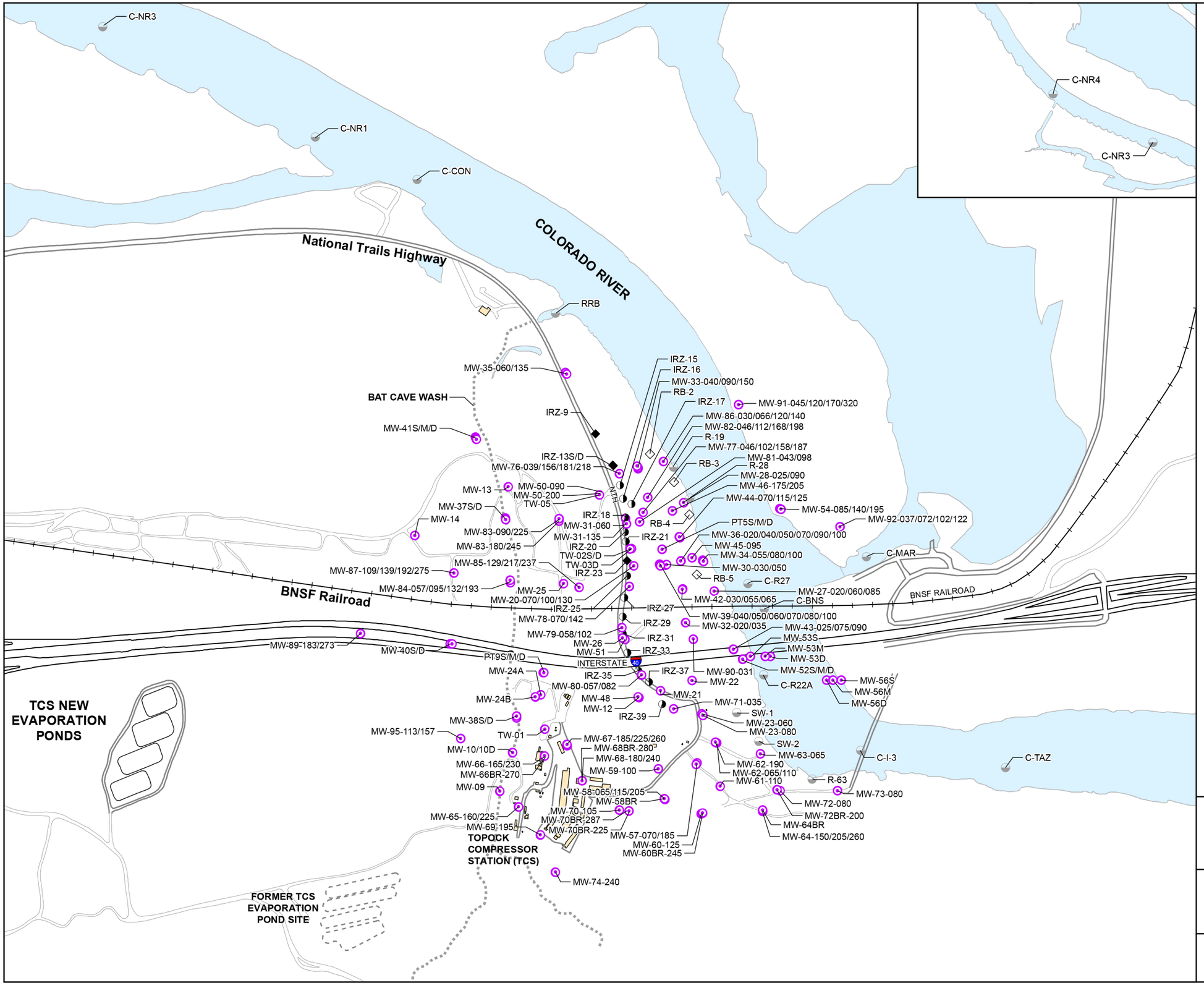
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

REMEDY COMPLIANCE MONITORING NETWORK

ARCADIS

FIGURE
1.4

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\2Q22\FINAL\FIGURE1.4_REMEDY COMPLIANCE MONITORING NETWORK.MXD 6/29/2022 6:31:51 PM



LEGEND

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

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

0 500 1,000
Feet

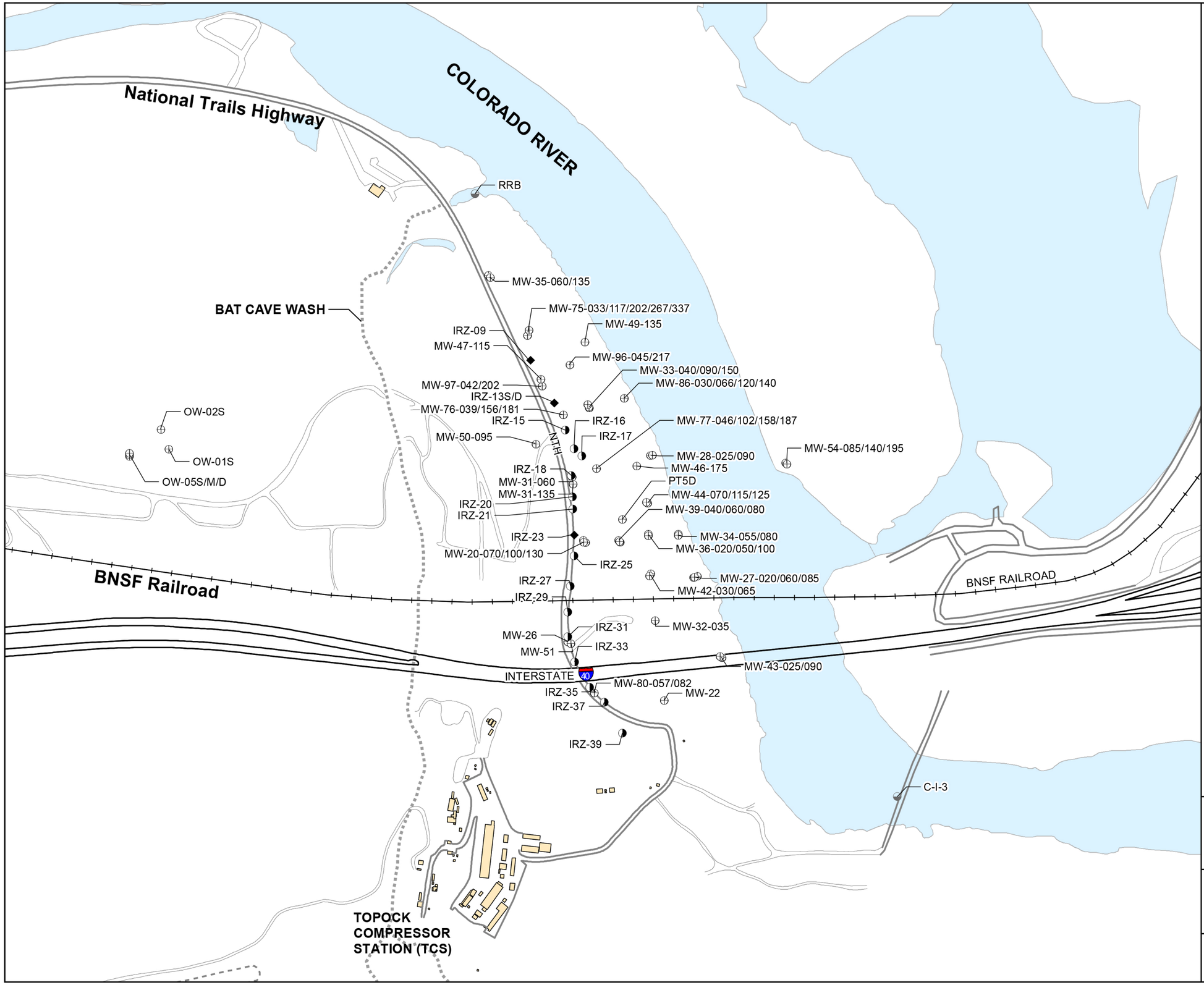
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

COPC MONITORING NETWORK

ARCADIS

FIGURE
1.5

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\2Q22\FINAL\FIGURE1.5_COPC MONITORING NETWORK.MXD 6/29/2022 6:32:24 PM



LEGEND

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

0 500 1,000

Feet

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

PRESSURE TRANSDUCER MONITORING NETWORK

ARCADIS

FIGURE
1.6

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\2Q22\FINAL\FIGURE1.6_PRESSURE TRANSDUCER MONITORING NETWORK.MXD 8/24/2022 10:37:13 AM

APRIL 2022

MW-35-060
456.68

MW-75-033
456.49

MW-96-045
456.39

IRZ-9

MW-33-090
456.53

IRZ-9

MW-33-040 [5]

MW-97-042
456.32

MW-86-030
456.52

IRZ-13S

MW-76-039
456.32

IRZ-15

IRZ-16

IRZ-17

MW-50-095
456.25

MW-28-025
456.66

IRZ-18

MW-77-046
456.47

MW-44-070
456.52

MW-31-060
456.75

MW-39-040
456.46

IRZ-20

MW-39-060
456.44

IRZ-21

MW-36-020 *
456.61

MW-20-100 *
455.10

MW-34-055
456.72

MW-20-070
456.35

MW-36-050
456.52

IRZ-25

MW-42-030
456.41

IRZ-27

MW-27-020
456.74

IRZ-29

MW-42-065 *
456.52

MW-27-060
456.70

IRZ-31

MW-26
456.24

MW-32-035
456.43

IRZ-33

MW-43-025
456.60

IRZ-35

MW-80-057
456.24

IRZ-37

MW-80-082
456.19

IRZ-39

COLORADO RIVER

BNSF RAILROAD

INTERSTATE 40

April 2022 Average
River Elevation: 457.06

MAY 2022

MW-35-060
457.01

MW-75-033
456.78

MW-96-045
456.63

IRZ-9

MW-33-040 [5]

MW-97-042
456.63

MW-33-090
456.74

IRZ-13S

MW-86-030
456.83

MW-76-039
456.49

IRZ-15

IRZ-16

MW-50-095
456.55

IRZ-17

MW-28-025
457.03

IRZ-18

MW-77-046
456.76

MW-44-070
456.89

MW-31-060
457.13

MW-39-040
456.84

IRZ-20

MW-39-060
456.85

IRZ-21

MW-36-020
456.96

MW-20-100 *
455.75

MW-34-055
456.99

MW-20-070
456.48

MW-36-050
456.85

IRZ-25

MW-42-030*
456.76

IRZ-27

MW-27-020
457.07

IRZ-29

MW-27-060
457.03

MW-42-065
456.92

IRZ-31

MW-26
457.06

MW-32-035
456.83

IRZ-33

MW-43-025
456.93

IRZ-35

MW-80-057
456.91

IRZ-37

MW-80-082
457.04

IRZ-39

COLORADO RIVER

BNSF RAILROAD

INTERSTATE 40

May 2022 Average
River Elevation: 457.30

LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 60-80% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 20-55% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 60-75% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 30-35% UPTIME
- GROUNDWATER FLOW DIRECTION
- BAT CAVE WASH
- GROUNDWATER ELEVATION CONTOUR 0.2 FT (DASHED WHERE INFERRED)
- APPROXIMATE BEDROCK CONTACT (PER DEPTH INTERVAL)

Notes:
1. IRZ = In Situ Reactive Zone
2. NTH = National Trails Highway
3. Water elevation is in feet above mean sea level (ft amsl).
4. Asterisk* indicates well was not used for contouring.
5. Pressure transducer did not collect data for MW-33-040 in April and May 2022.

0 275 550
Feet

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

LAYER 1 (425 – 455) & LAYER 2 (400 – 425) AVERAGE POTENTIOMETRIC SURFACE: APRIL & MAY 2022

ARCADIS

FIGURE
2.1a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: kkelley
T:_ENVIPGE_Topock\GEC\MXD\GMP\Plume Assessment Figures\2022\Final\Figure2.1a_Average Potentiometric Surface_Layer1and2_April_May_2022.mxd 9/2/2022 1:43:24 PM

APRIL 2022

MW-35-135
456.43

MW-75-117
456.35

IRZ-9

MW-47-115
456.38

IRZ-13S

MW-49-135
456.51

MW-33-150*
456.69

MW-33-090
456.53

MW-86-120
456.68

COLORADO RIVER

April 2022 Average
River Elevation: 457.06

MW-28-090
456.53

MW-54-085

MW-44-125*
456.88

MW-44-115
456.58

MW-77-102
456.53

MW-31-135
456.38

IRZ-20

IRZ-21

PT5D

IRZ-23

MW-20-130
455.27

IRZ-25

IRZ-27

MW-39-080
456.29

MW-34-080
457.05

MW-36-100
456.66

MW-42-065
456.52

MW-27-085
456.73

BNSF RAILROAD

IRZ-29

MW-51
456.07

IRZ-31

MW-43-090
456.67

IRZ-33

INTERSTATE

MAY 2022

MW-35-135
456.77

MW-75-117
456.62

IRZ-9

MW-47-115
456.60

IRZ-13S

MW-49-135
456.77

MW-33-150*
456.89

MW-33-090
456.74

MW-86-120
456.94

COLORADO RIVER

May 2022 Average
River Elevation: 457.30

MW-28-090
457.11

MW-54-085

MW-44-125
457.25

MW-44-115*
456.90

MW-77-102
456.74

MW-31-135
456.74

IRZ-20

IRZ-21

PT5D

IRZ-23

MW-20-130
456.13

IRZ-25

IRZ-27

MW-39-080
456.74

MW-34-080
457.28

MW-36-100
456.97

MW-27-085
456.97

MW-42-065
456.92

BNSF RAILROAD

IRZ-29

IRZ-31

MW-51
457.02

MW-43-090
456.90

IRZ-33

INTERSTATE

LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)

- REMEDIATION WELL (INJECTION) OPERATING 60-80% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 20-55% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 60-75% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 30-35% UPTIME
- GROUNDWATER FLOW DIRECTION

- BAT CAVE WASH
- GROUNDWATER ELEVATION CONTOUR 0.2 FT (DASHED WHERE INFERRED)
- APPROXIMATE BEDROCK CONTACT (PER DEPTH INTERVAL)

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

0 275 550
Feet

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

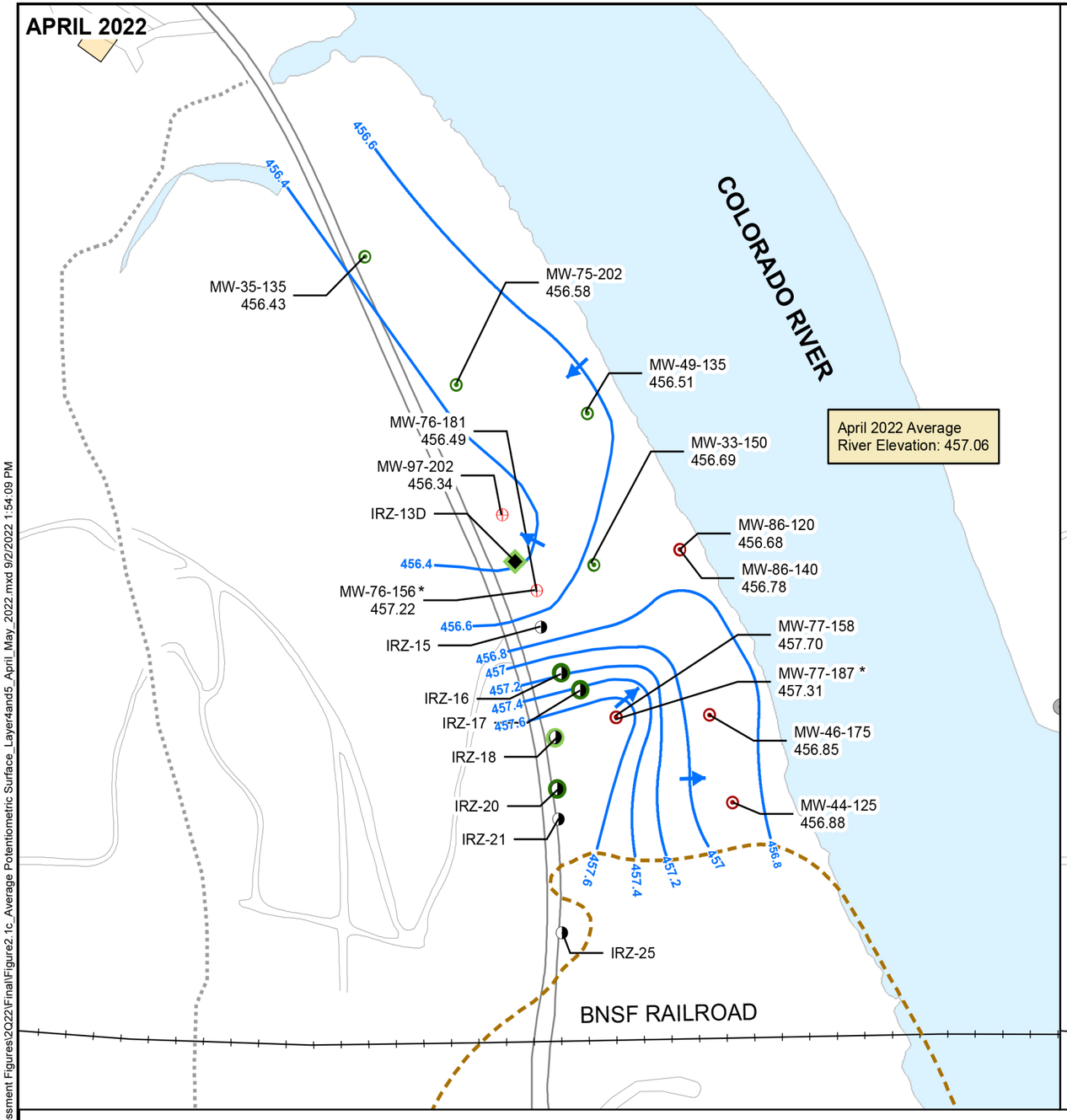
LAYER 3 (350 - 400)
AVERAGE POTENTIOMETRIC SURFACE: APRIL & MAY 2022

ARCADIS

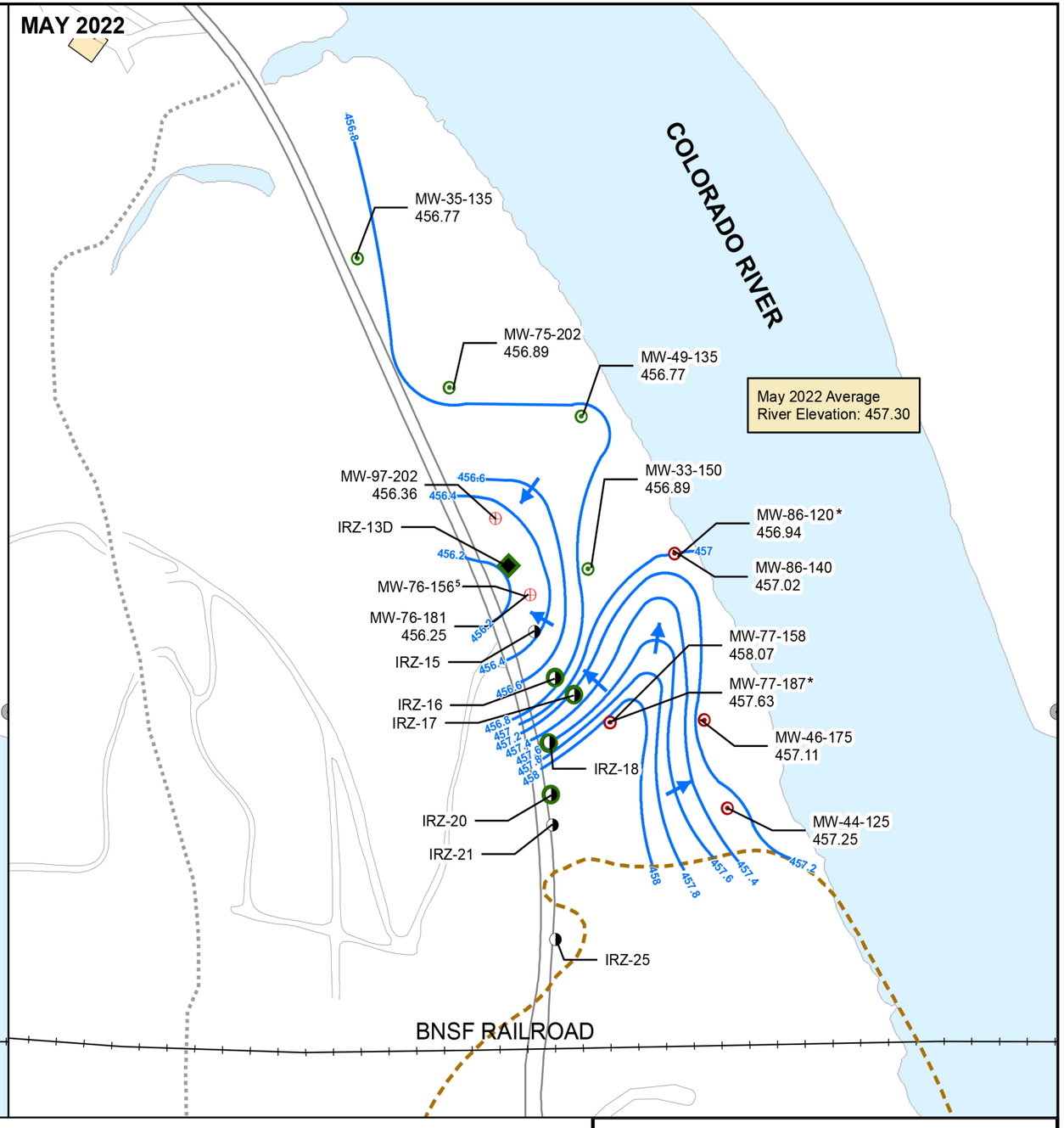
FIGURE
2.1b

City: Citrix_Div/Group: IM Created By: K. SINSABAUGH Last Saved By: kkelley
Topock (RC000753.802D Q4182)
T:_ENVPGE_Topock\GEC\MXD\GMP\Plume Assessment Figures\2022\Final\Figure2.1b_Average Potentiometric Surface_Layer3_April_May_2022.mxd 9/2/2022 1:48:29 PM

APRIL 2022



MAY 2022



LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 60-80% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 20-55% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 60-75% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 30-35% UPTIME
- GROUNDWATER FLOW DIRECTION
- BAT CAVE WASH
- GROUNDWATER ELEVATION CONTOUR 0.2 FT (DASHED WHERE INFERRED)
- APPROXIMATE BEDROCK CONTACT (PER DEPTH INTERVAL)

Notes:
1. IRZ = In Situ Reactive Zone
2. NTH = National Trails Highway
3. Water elevation is in feet above mean sea level (ft amsl).
4. Asterisk* indicates well was not used for contouring.
5. Pressure transducer did not collect data for MW-76-156 in May 2022.

0 240 480
Feet

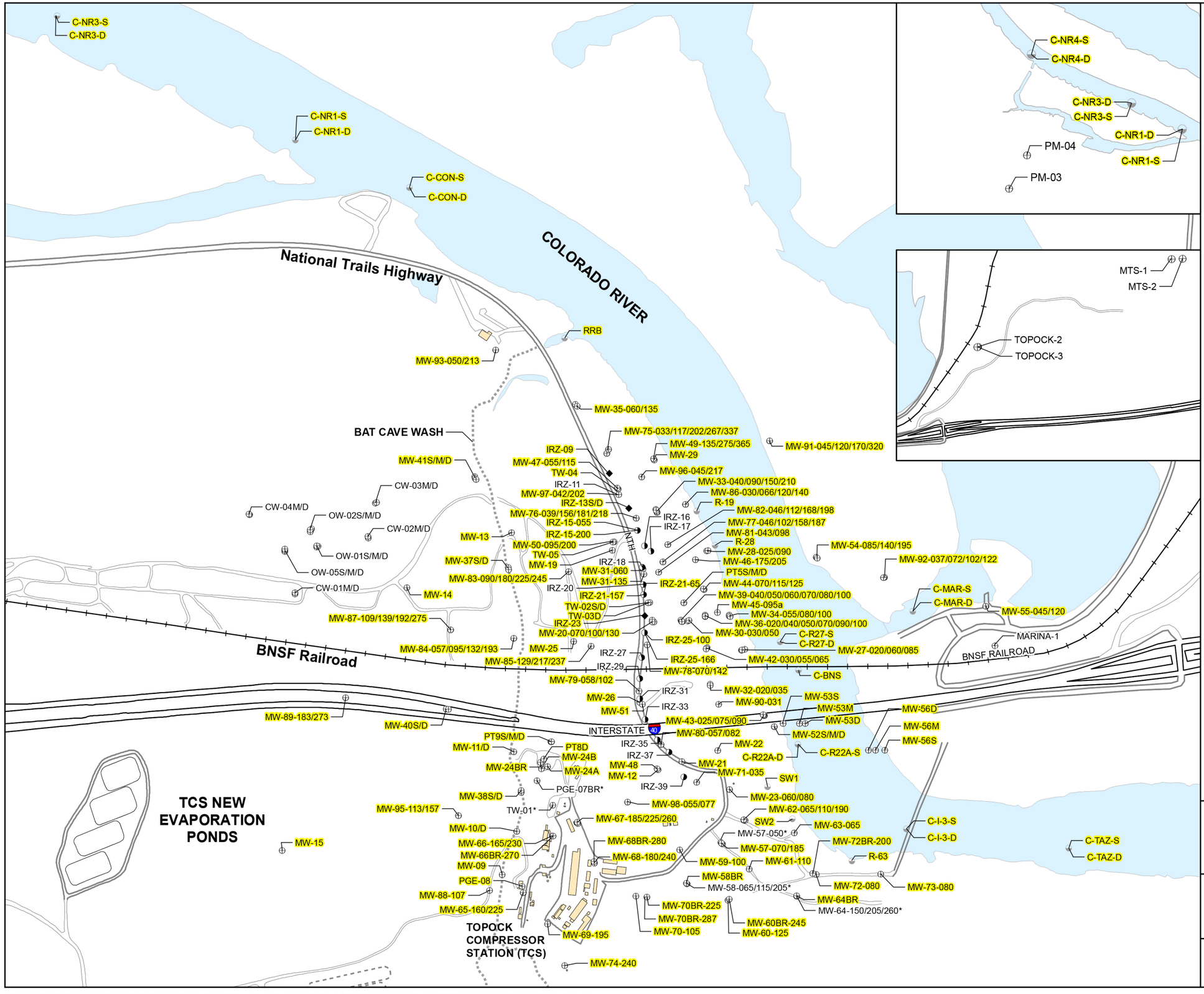
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

LAYER 4 (300 – 350) & LAYER 5 (250 – 300) AVERAGE POTENTIOMETRIC SURFACE: APRIL & MAY 2022

ARCADIS

FIGURE
2.1c

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: kkelley
T:_ENVIPGE_Topock\GEC\MXD\GMP\Plume Assessment Figures\2Q2022\Final\Figure2.1c_Average Potentiometric Surface_Layer4and5_April_May_2022.mxd 9/2/2022 1:54:09 PM
Topock (RC000753.802D.G4182)



LEGEND

- GROUNDWATER MONITORING WELL
- SURFACE MONITORING WELL LOCATION
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- BAT CAVE WASH

MW-69-195 = Location sampled in Second Quarter 2022
MW-74-240 = Location not sampled in Second Quarter 2022
* = Location was supposed to be sampled in Second Quarter 2022, but a sample could not be collected

0 500 1,000
Feet

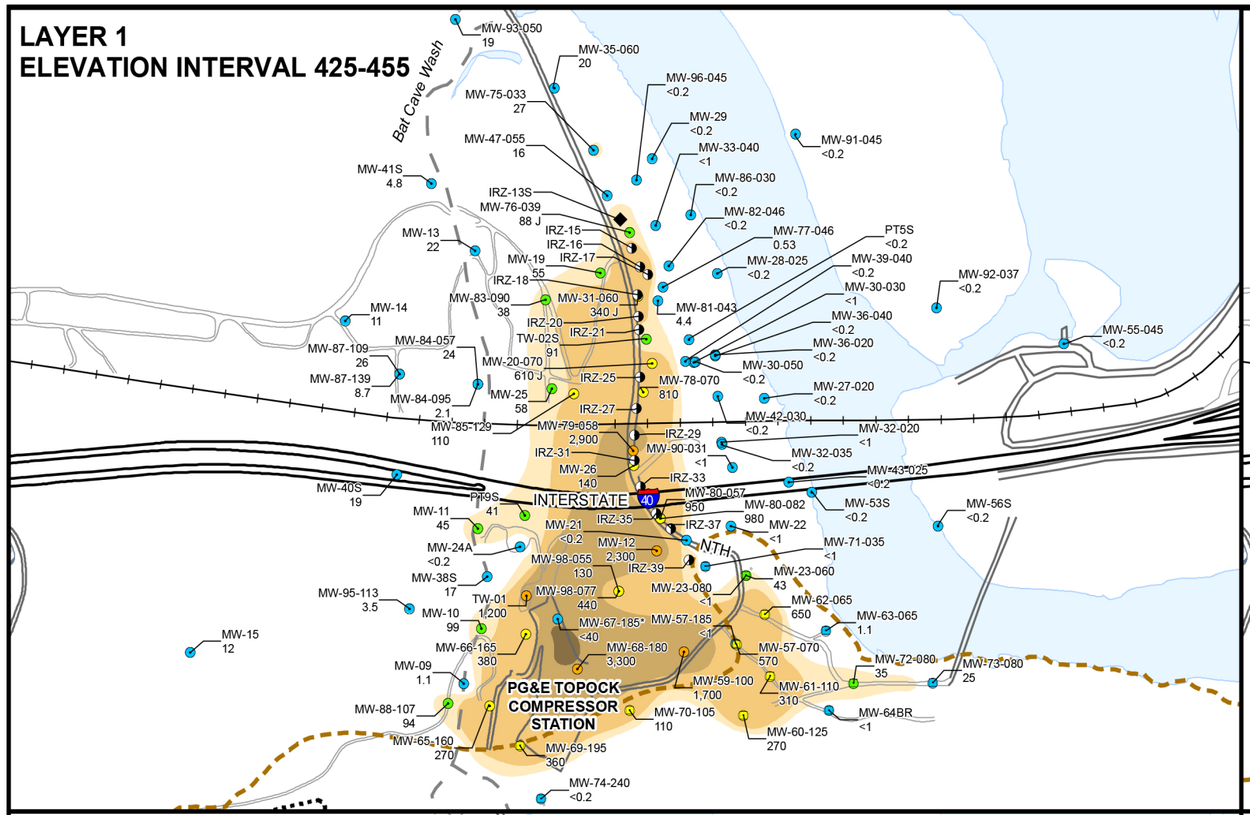
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

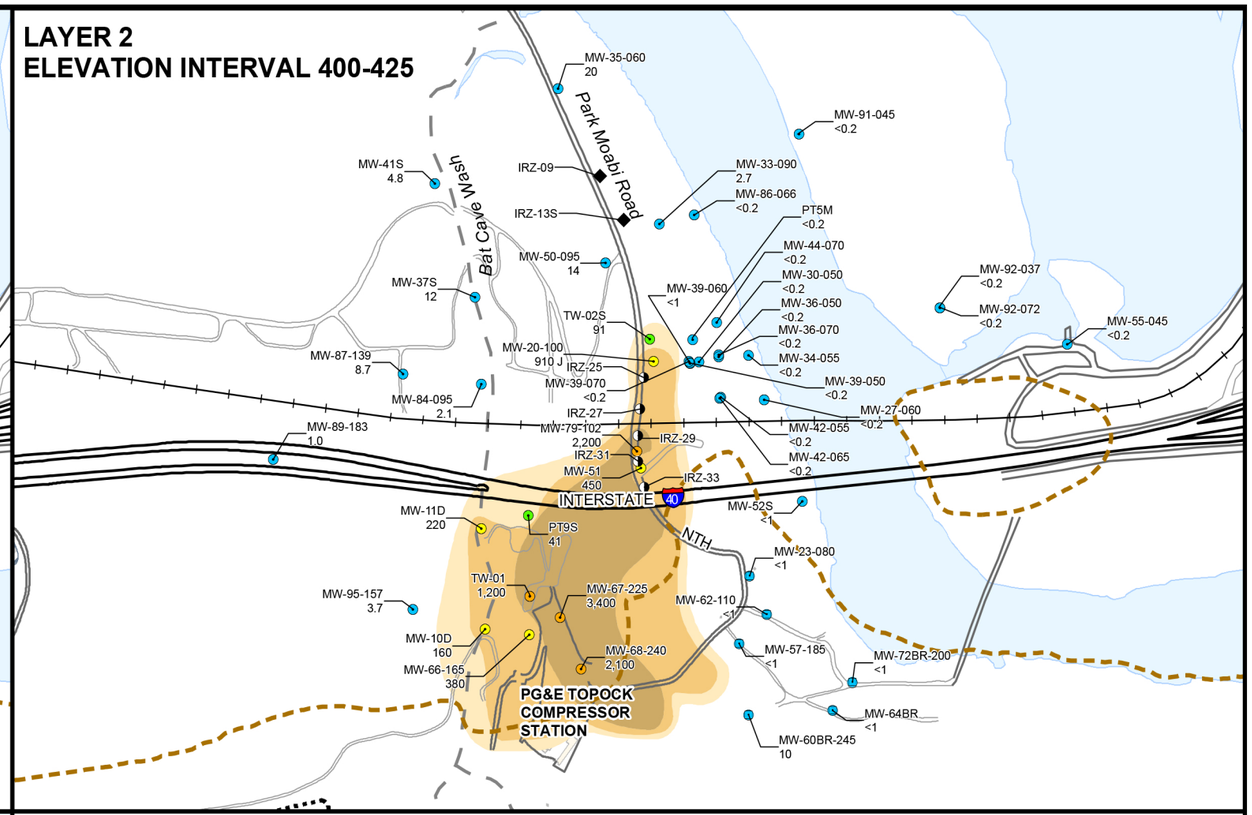
PHASE 1 MONITORING PROGRAM: SECOND QUARTER 2022

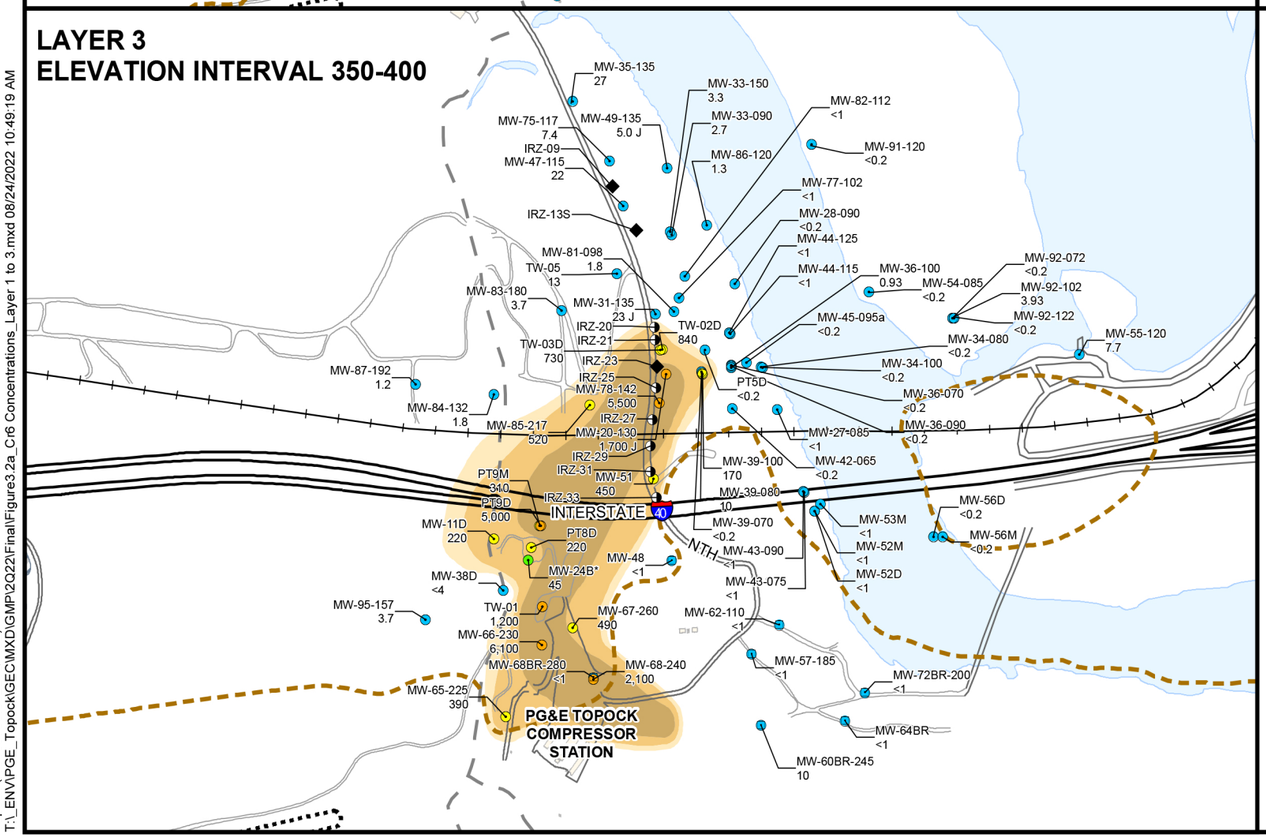
ARCADIS

FIGURE 3.1

T:_ENV\PGE_TOPOCK\GEC\MXD\GMP\2Q22\FINAL\FIGURE3.1_PHASE1 MONITORING PROGRAM SECOND QUARTER 2022.MXD 07/21/2022 10:47:11 AM







LEGEND

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

Cr6 Concentrations

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

Cr6 contours

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

MW-73-080 —— Well ID
25 —— Cr6 concentration in µg/L

N

0 400 800
Feet

Notes:

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

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

Cr6 CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

ARCADIS

FIGURE
3.2a

City: Citrix_Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PJI01206
Topock (RC000753.802D Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\2Q2022\Final\Figure3.2a_Cr6 Concentrations_Layer 1 to 3.mxd 08/24/2022 10:49:19 AM

LAYER 4
ELEVATION INTERVAL 300-350

Bat Cave Wash
Colorado River
IRZ-13D
MW-91-120 <0.2
MW-91-170 <0.2
MW-86-140 <1
MW-86-120 1.3
MW-76-156 13 J
MW-76-181 2,000 J
IRZ-15
IRZ-16
IRZ-17
TW-05 13
MW-82-198 4.1
MW-82-168 1.2
MW-54-140 <1
MW-92-122 <0.2
MW-83-180 3.7
IRZ-18
MW-46-175 6.9
MW-83-225 47
IRZ-20
IRZ-21
MW-77-187 33
MW-55-120 7.7
TW-02D 840
MW-84-193 3.9
IRZ-25
MW-77-158 2.4
TW-03D 730
MW-85-237 1,700
MW-89-273 0.58
MW-40D 1.4
INTERSTATE 40
PT9D 5,000
MW-53D <1
NTH
MW-62-190 <1
MW-66BR-270 <1
MW-68BR-280 <1
MW-57-185 <1
MW-72BR-200 <1
MW-64BR <1
PG&E TOPOCK COMPRESSOR STATION
MW-70BR-225 1,400
MW-60BR-245 10

LAYER 5
ELEVATION INTERVAL 250-300

MW-93-213 <1
Bat Cave Wash
Colorado River
MW-75-202 <1
MW-96-217 <1
MW-91-170 <0.2
MW-41M 8.9
TW-04 8.1
IRZ-13D
MW-33-210 9.9
MW-76-218 60 J
IRZ-15
IRZ-16
MW-50-200 1,800
MW-82-198 4.1
MW-54-195 <0.2
MW-37D 5.6
MW-46-205 <1
MW-83-245 2,600
MW-87-275 <1
INTERSTATE 40
NTH
MW-70BR-287 380
PG&E TOPOCK COMPRESSOR STATION

LEGEND

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

Cr6 Concentrations

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

Cr6 contours

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

MW-60BR-245 — Well ID
10 — Cr6 concentration in µg/L

N

0 400 800 Feet

Notes:

1. Cr6 = Hexavalent Chromium
2. µg/L = Micrograms Per Liter
3. NTH = National Trails Highway
4. IRZ = In-situ Reactive Zone
5. < = non-detect at the reporting limit
6. Second Quarter 2022 results are presented (April - June 2022). If more than one result is available for a monitoring well, then the most recent result is presented. If a primary and field duplicate sample were collected, then the maximum result is presented.
7. If more than one concentration is available for a monitoring well with multiple depth intervals, then the maximum concentration is used for contouring.

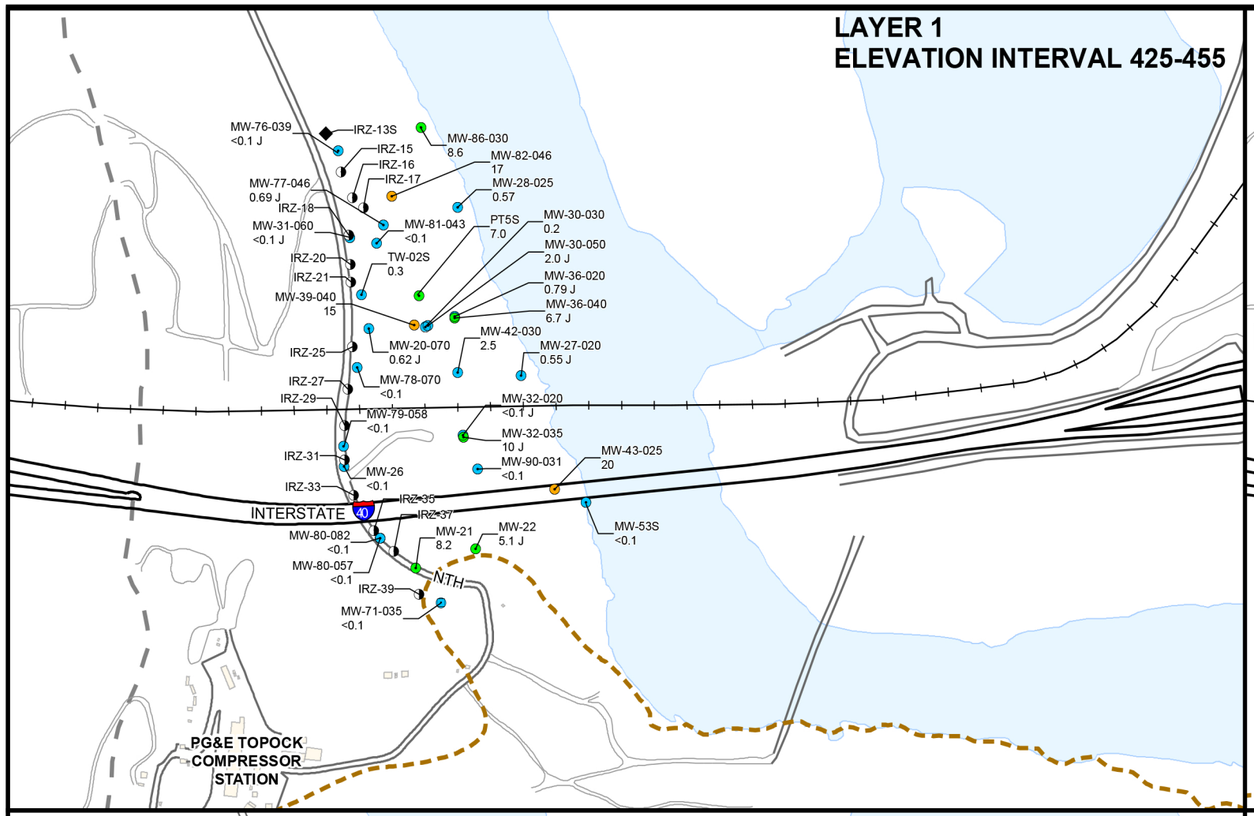
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

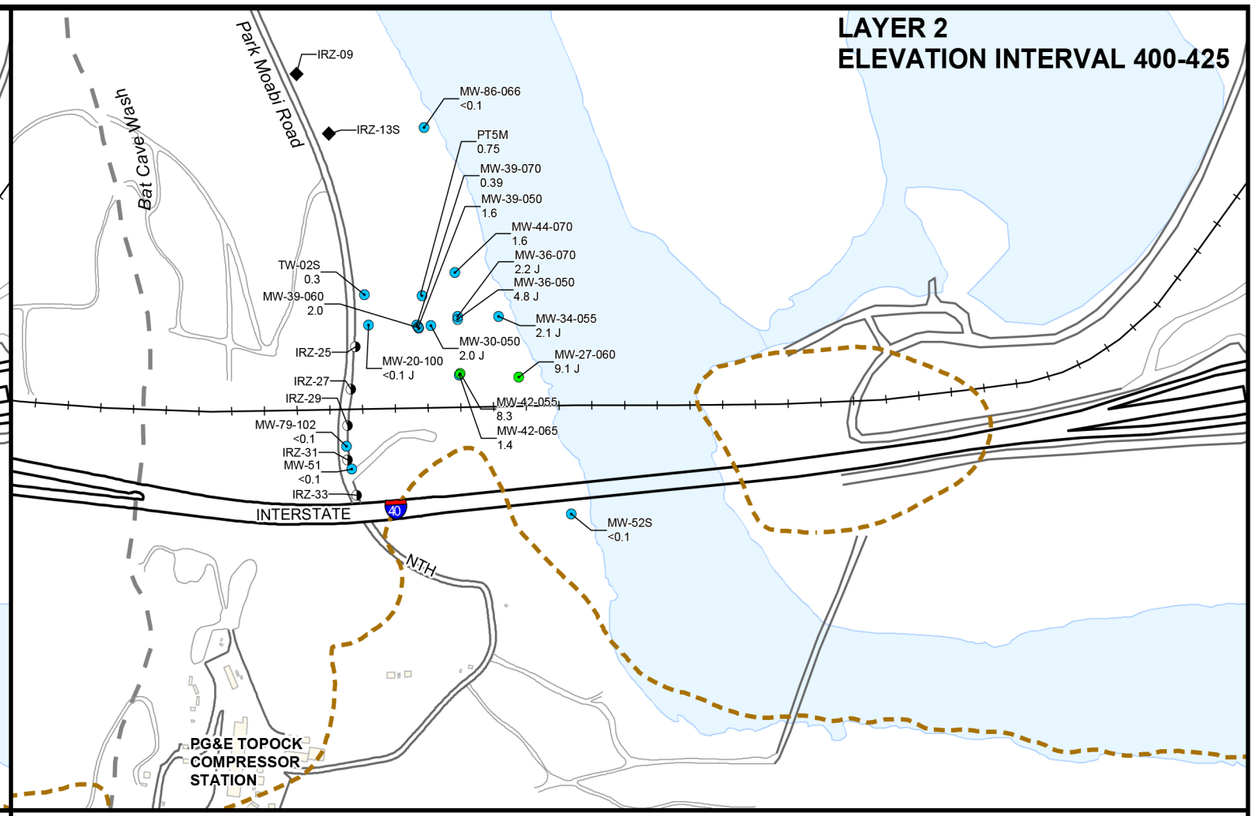
Cr6 CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

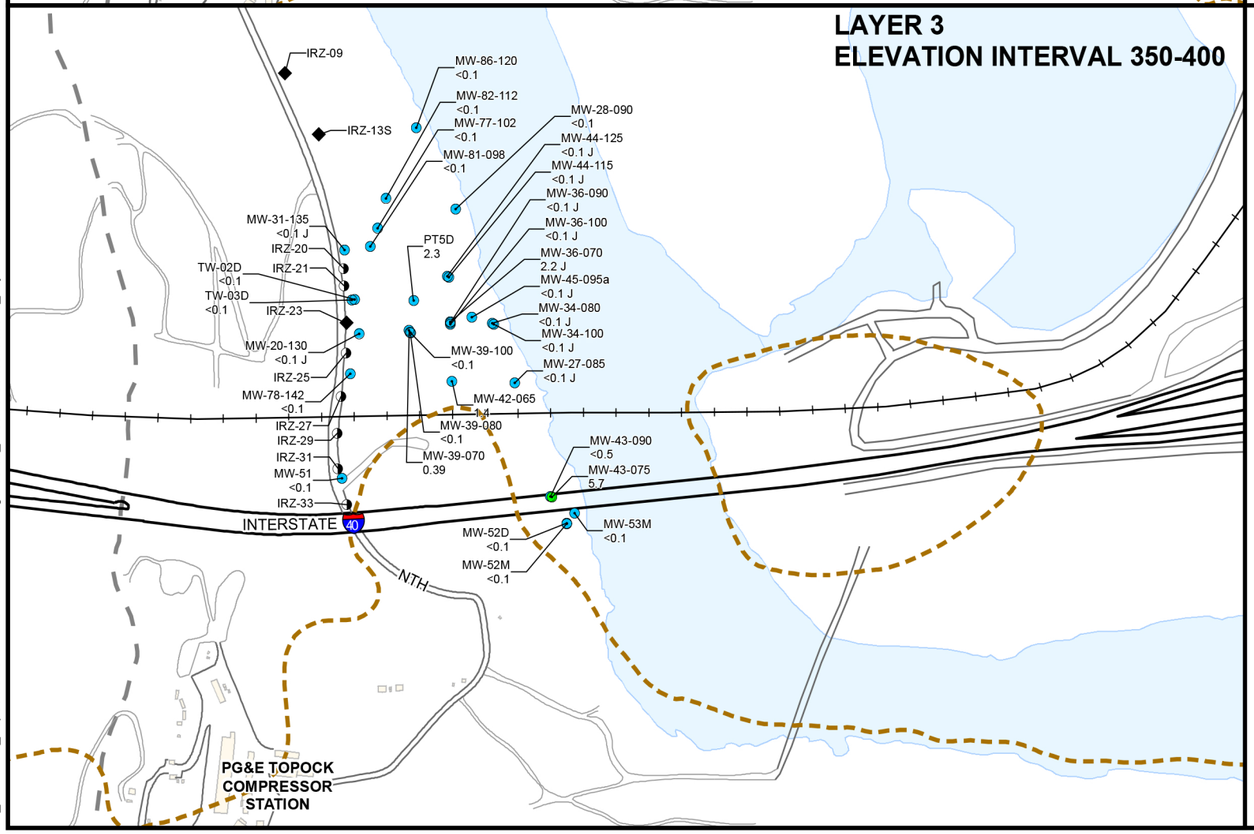
ARCADIS

FIGURE **3.2b**

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
Topock (RC000753.802D.C4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\2Q22Final\Figure3.2b_Cr6 Concentrations_Layer4 and 5.mxd 8/17/2022 6:03:59 PM







LEGEND

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

Dissolved Arsenic Concentrations

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

MW-32-035 — Well ID
10 J — Dissolved arsenic concentration in µg/L

N

0 400 800 Feet

Notes:

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

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

DISSOLVED ARSENIC CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

ARCADIS

FIGURE
3.3a

City: Citrix_Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
Topock (R:C000753.802D.Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\2Q22\Final\Figure3.3a_Arsenic Concentrations_Layer 1 to 3.mxd 8/17/2022 6:08:43 PM

LAYER 4
ELEVATION INTERVAL 300-350

MW-86-140 <0.1
MW-86-120 <0.1
MW-76-181 <0.1 J
IRZ-13D
MW-82-198 <0.1
MW-76-156 <0.1 J
IRZ-15
MW-82-168 <0.1
IRZ-16
IRZ-17
MW-46-175 <0.1 J
IRZ-18
MW-77-158 <0.1
IRZ-20
MW-77-187 <0.1
IRZ-21
MW-44-125 <0.1 J
TW-02D <0.1
TW-03D <0.1
IRZ-25
MW-53D <0.1
INTERSTATE 40
NTH
PG&E TOPOCK COMPRESSOR STATION

LAYER 5
ELEVATION INTERVAL 250-300

IRZ-13D
MW-76-218 <0.5 J
IRZ-15
IRZ-16
MW-82-198 <0.1
MW-46-205 <0.1 J
INTERSTATE 40
NTH
PG&E TOPOCK COMPRESSOR STATION

LEGEND

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

Dissolved Arsenic Concentrations

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

Notes:

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

MW-77-187 — Well ID
<0.1 — Dissolved arsenic concentration in µg/L

N

0 400 800 Feet

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

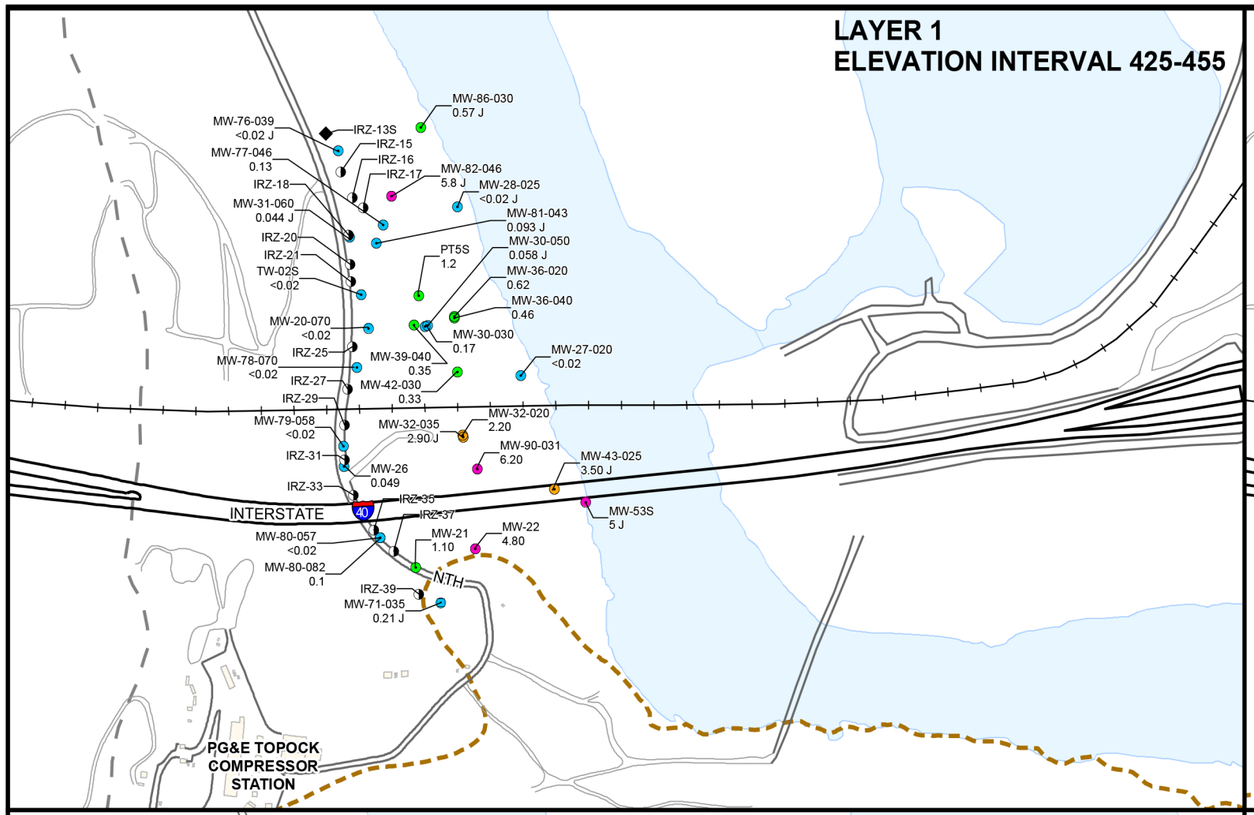
DISSOLVED ARSENIC CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

ARCADIS

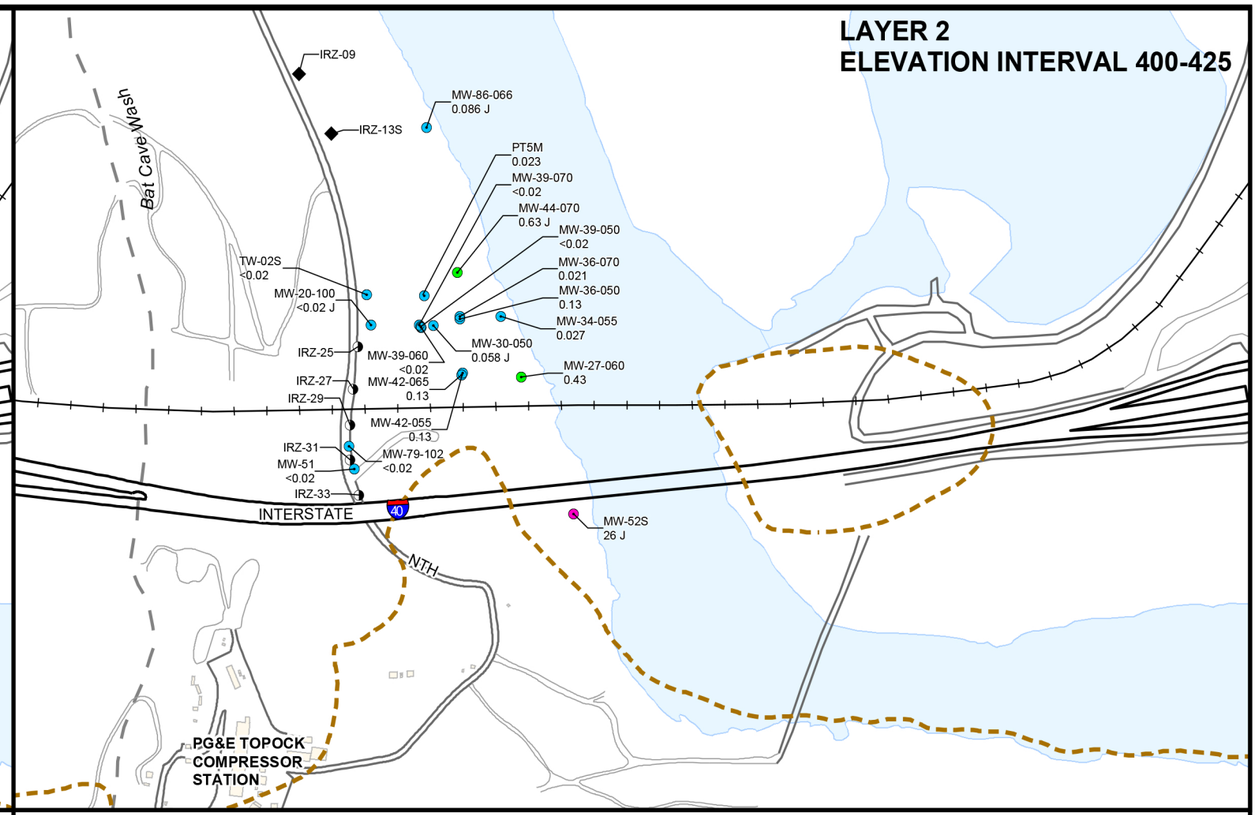
FIGURE 3.3b

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
T:_ENV\PGE_Topock\GECMXD\GMP\2Q2022\Final\Figure3.3b_Arsenic Concentrations_Layer 4 and 5.mxd 8/17/2022 10:07:02 PM

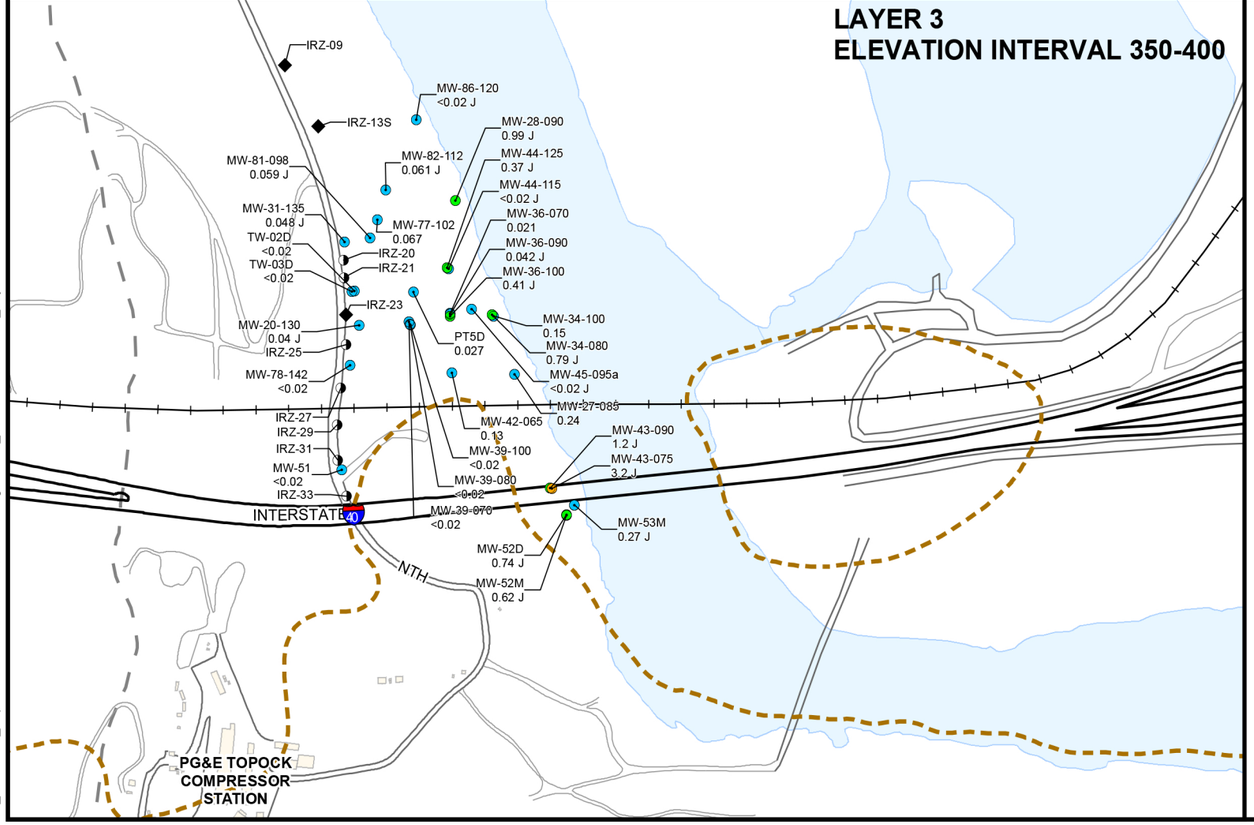
LAYER 1
ELEVATION INTERVAL 425-455



LAYER 2
ELEVATION INTERVAL 400-425



LAYER 3
ELEVATION INTERVAL 350-400



LEGEND

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

Dissolved Iron Concentrations

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

MW-43-075 — Well ID
3.2 J — Dissolved Iron concentration in mg/L

N

0 400 800 Feet

Notes:

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

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

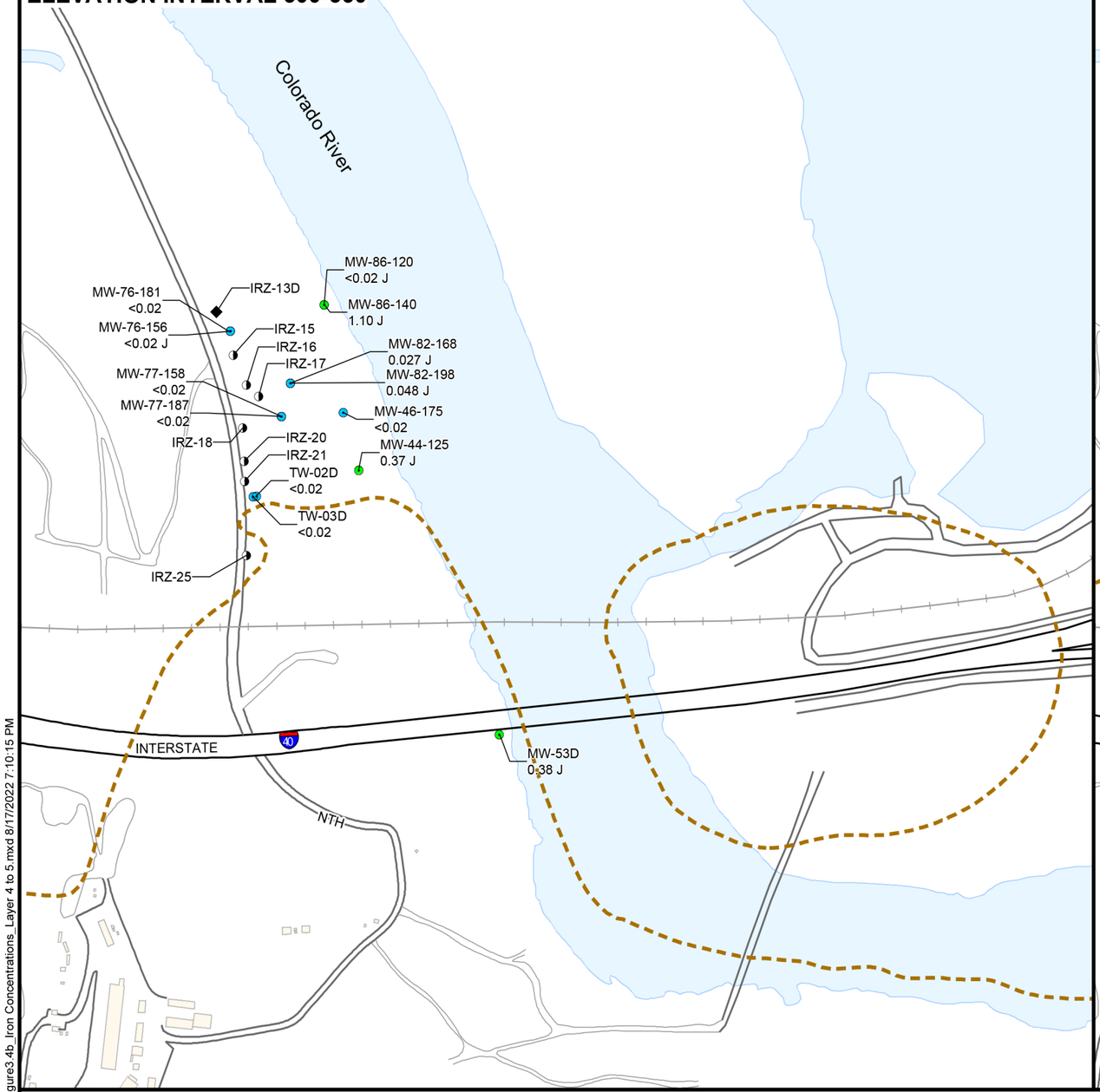
DISSOLVED IRON CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

ARCADIS

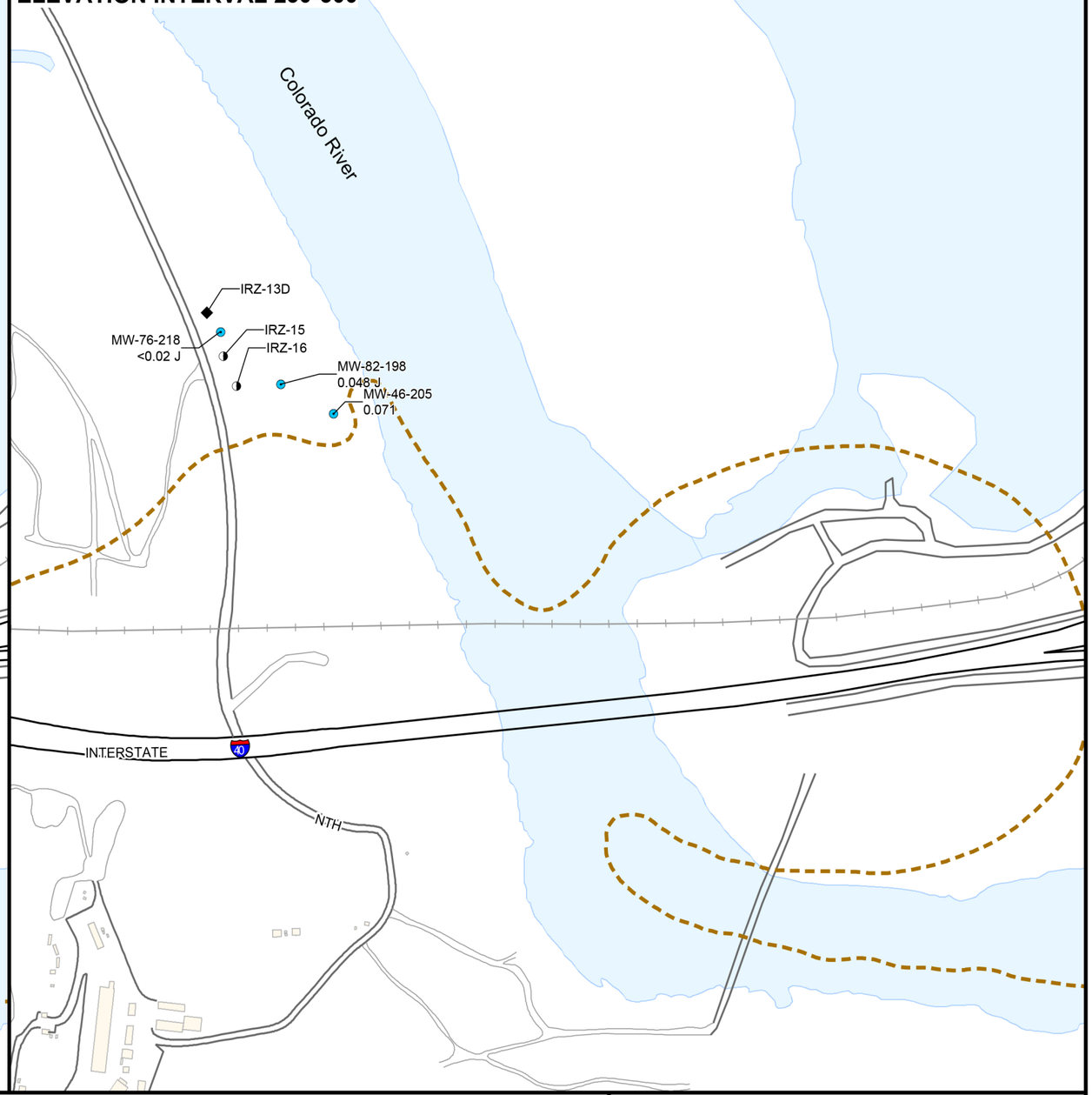
FIGURE 3.4a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
Topock (RC000753.802D.04182)
T:_ENV\PGE_Topock\GEC\MXD\GMP\2Q2022FinalFigure3.4a_Iron Concentrations_Layer 1 to 3.mxd 8/17/2022 6:18:06 PM

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

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

Dissolved Iron Concentrations

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

Notes:

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

MW-53D — Well ID
0.38 J — Dissolved Iron concentration in mg/L

N

0 400 800 Feet

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

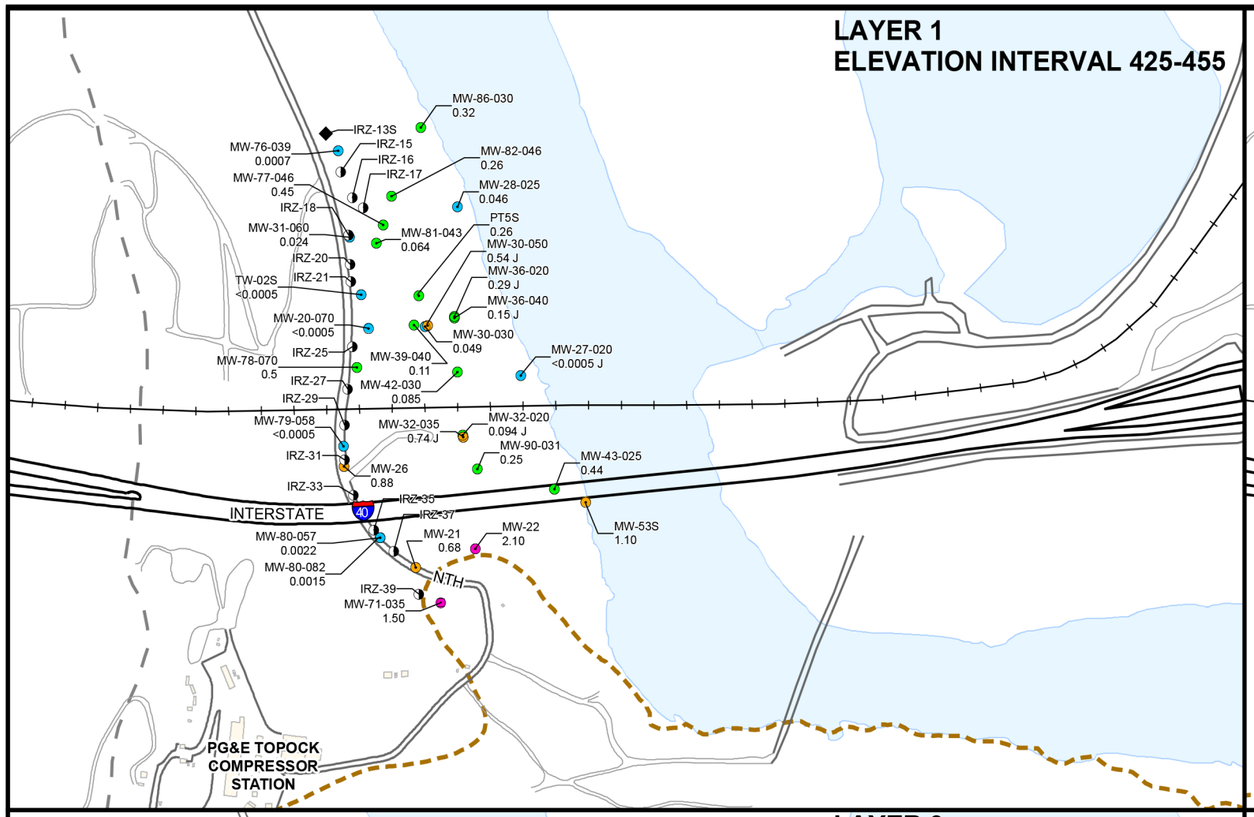
DISSOLVED IRON CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

ARCADIS

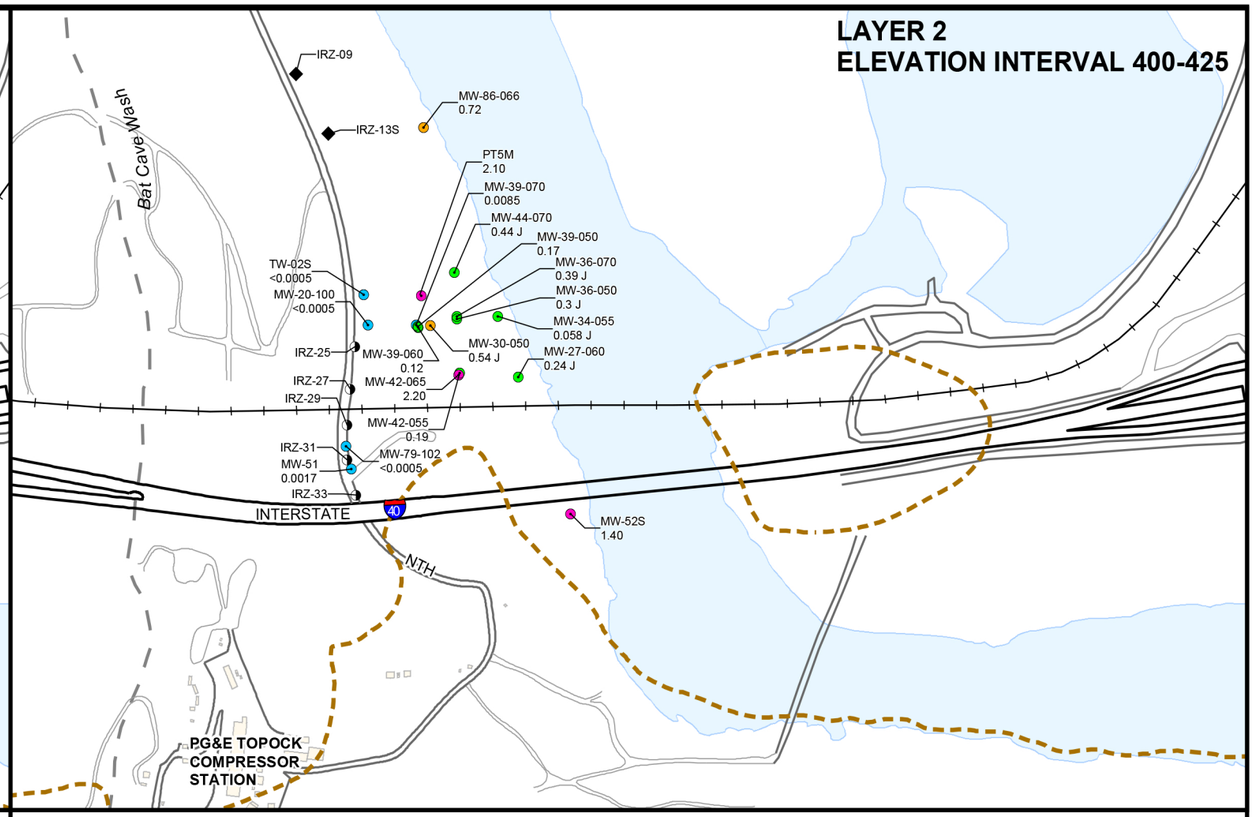
FIGURE
3.4b

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
Topock (RC000753.802D Q4182)
T:_ENVPGE_Topock\GEC\MXD\GMP\2022\Final\Figure3.4b_Iron Concentrations_Layer 4 to 5.mxd 8/17/2022 7:10:15 PM

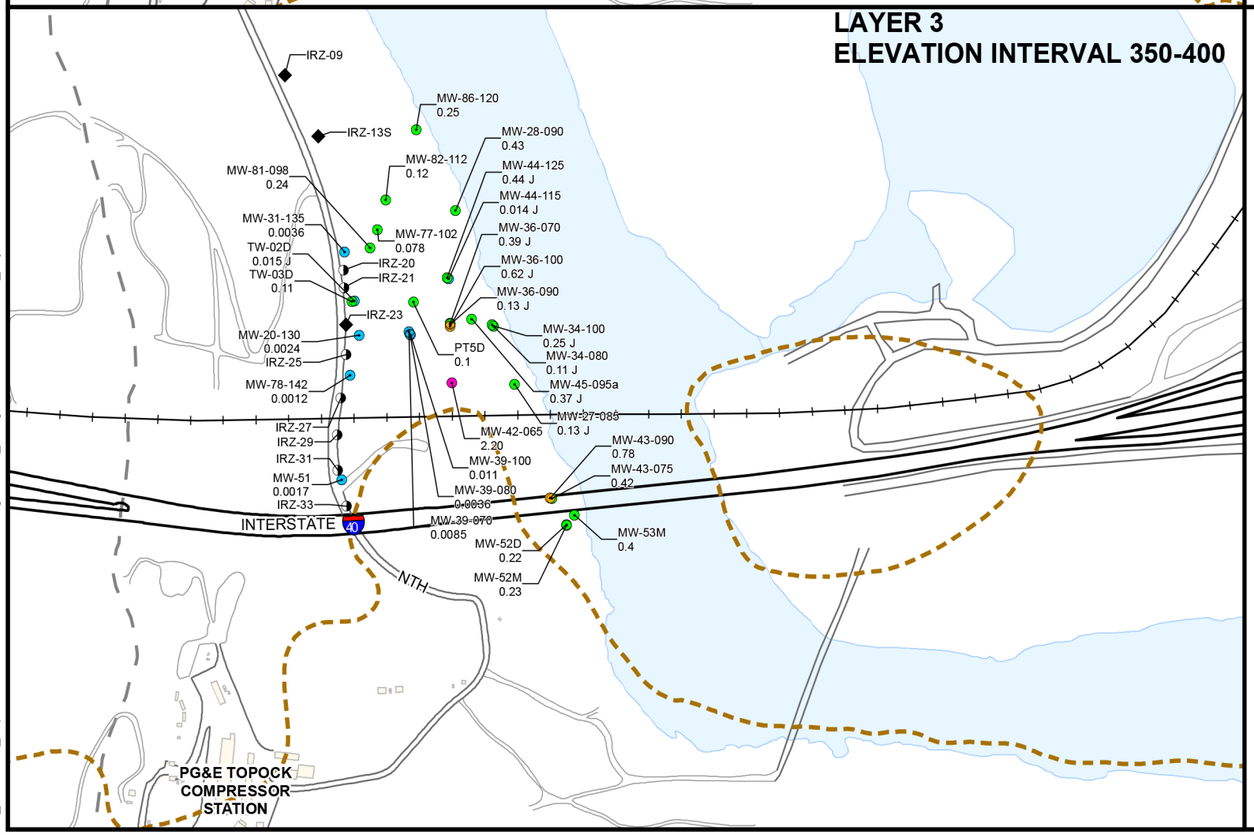
LAYER 1
ELEVATION INTERVAL 425-455



LAYER 2
ELEVATION INTERVAL 400-425



LAYER 3
ELEVATION INTERVAL 350-400



LEGEND

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

Dissolved Manganese Concentrations

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

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

N

0 400 800 Feet

Notes:

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

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

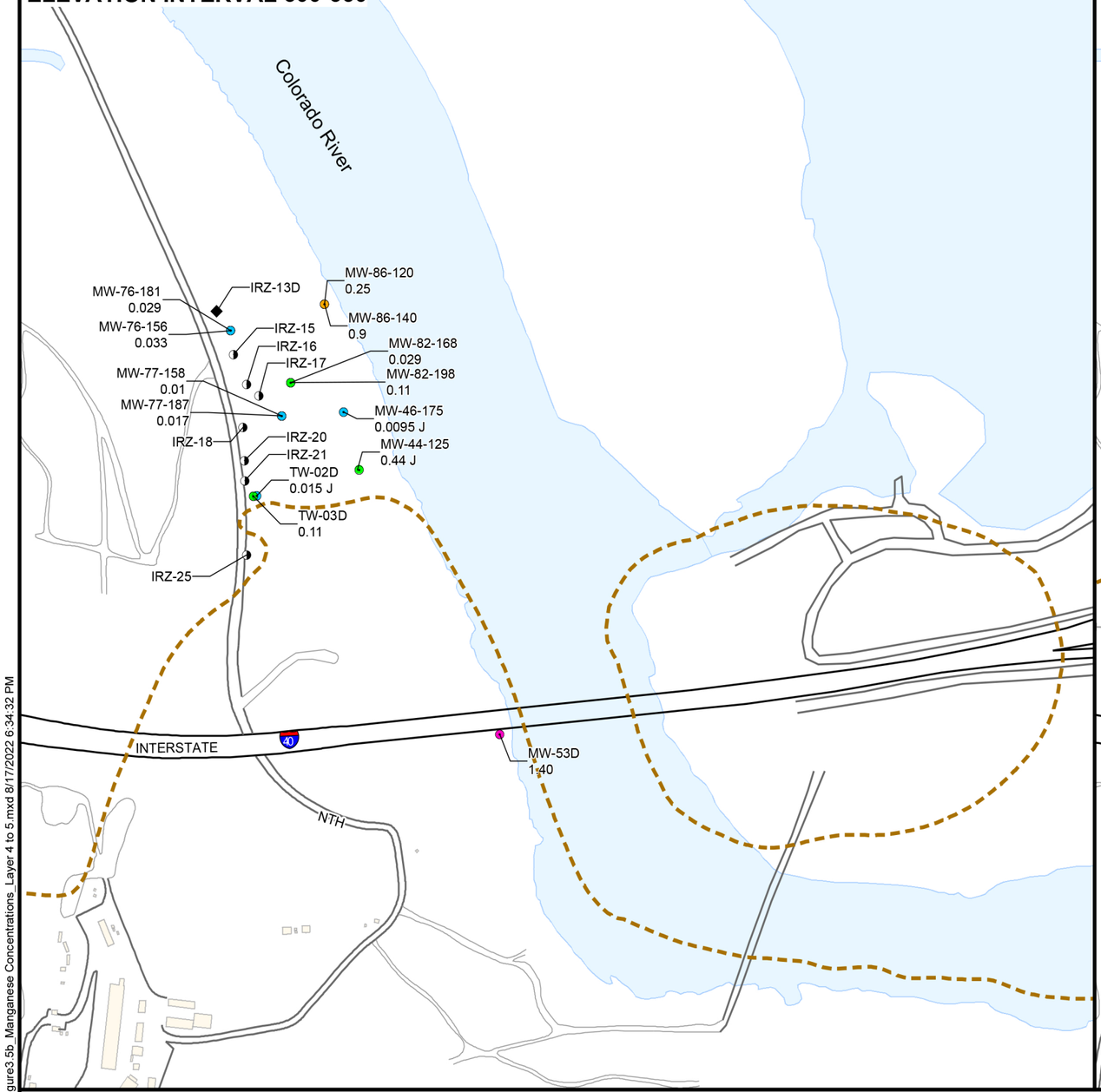
DISSOLVED MANGANESE CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

ARCADIS

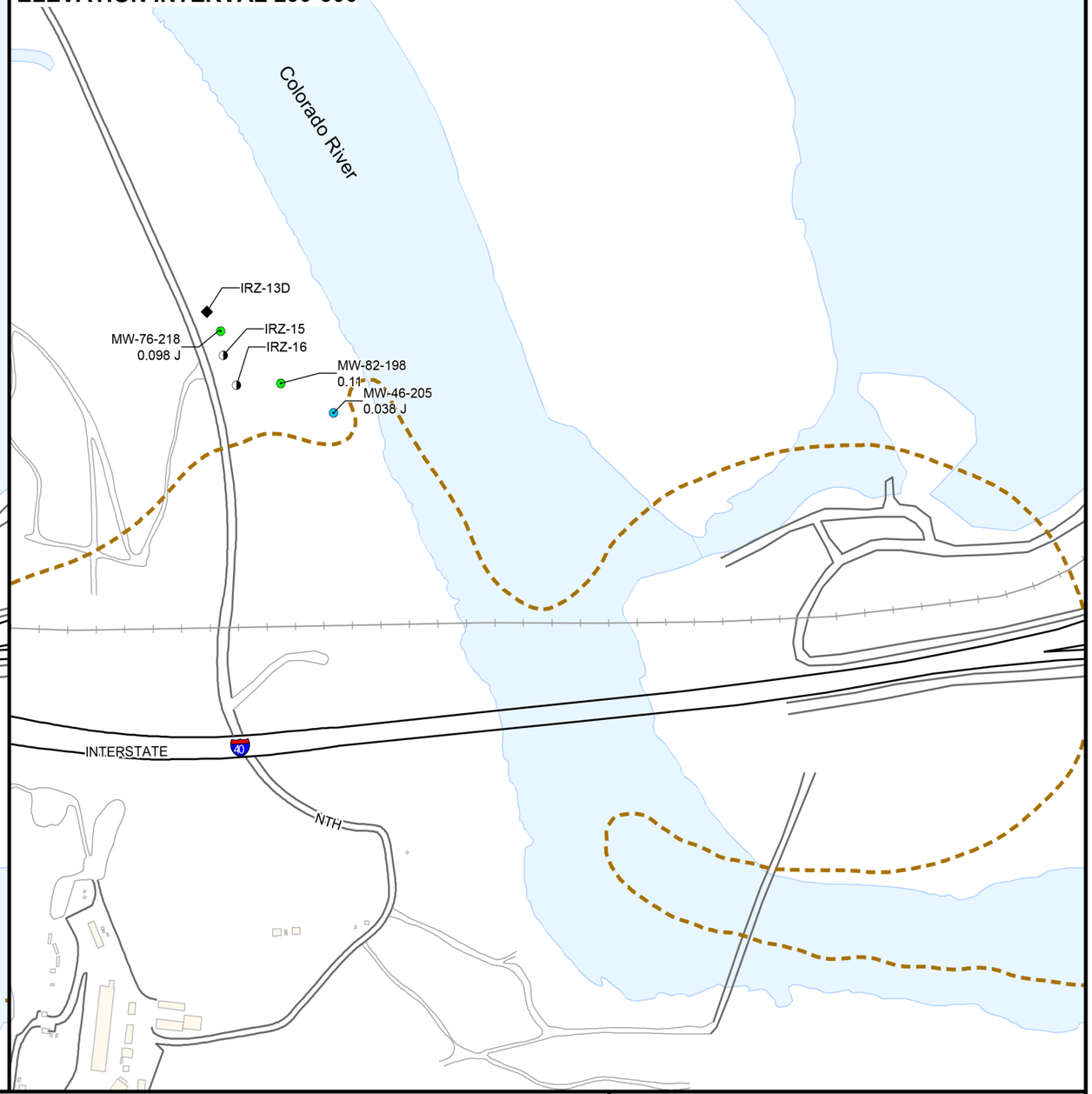
FIGURE 3.5a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
T:_ENV\PGE_Topock\GEC\MXD\GMP\2Q22\Final\Figure3.5a_Manganese Concentrations_Layer 1 to 3.mxd 8/26/2022 1:44:58 PM
Topock (RC000753.802D.Q4182)

LAYER 4
ELEVATION INTERVAL 300-350



LAYER 5
ELEVATION INTERVAL 250-300



LEGEND

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

Dissolved Manganese Concentrations

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

Notes:

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

MW-44-125
0.44
Well ID
Dissolved manganese concentration in mg/L

N

0 400 800
Feet

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

DISSOLVED MANGANESE CONCENTRATIONS IN GROUNDWATER BY ELEVATION INTERVAL

ARCADIS

FIGURE
3.5b

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
Topock (RC000753.802D Q4182)
T:_ENVPGE_Topock\GEC\MXD\GMP\2022\Final\Figure3.5b_Manganese Concentrations_Layer 4 to 5.mxd 8/17/2022 6:34:32 PM

LAYER 1 AND 2
ELEVATION INTERVAL 400 - 455
APRIL 2022

COLORADO RIVER

MW-35-060
MW-75-033
IRZ-9
MW-96-045
MW-97-042
MW-86-066
MW-86-030
IRZ-13S
MW-33-040
MW-33-090
MW-76-039
IRZ-15
IRZ-16
IRZ-17
MW-28-025

LAYER 1 AND 2
ELEVATION INTERVAL 400 - 455
MAY 2022

COLORADO RIVER

MW-35-060
MW-75-033
IRZ-9
MW-96-045
MW-97-042
MW-86-066
MW-86-030
IRZ-13S
MW-33-040
MW-33-090
MW-76-039
IRZ-15
IRZ-16
IRZ-17
MW-28-025

LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 60-75% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 30-35% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 60-75% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 30-35% UPTIME
- CALCULATED FLOW VECTOR IN APRIL 2022
- CALCULATED FLOW VECTOR IN MAY 2022

Notes:
1. NTH = National Trails Highway
2. IRZ = in-situ reactive zone

N

0 200 400 Feet

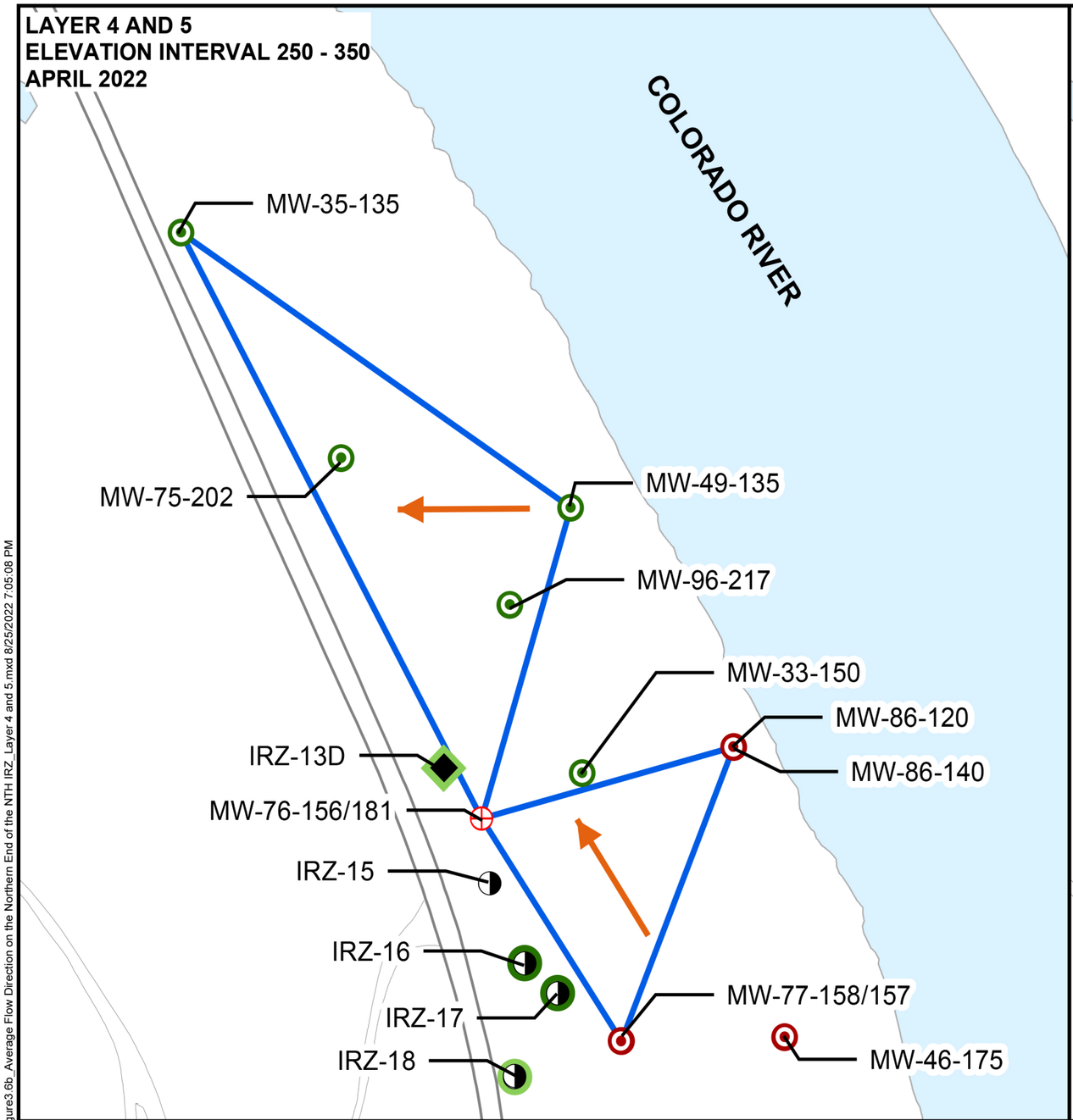
SECOND QUARTER 2022
QUARTERLY PROGRESS REPORT
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

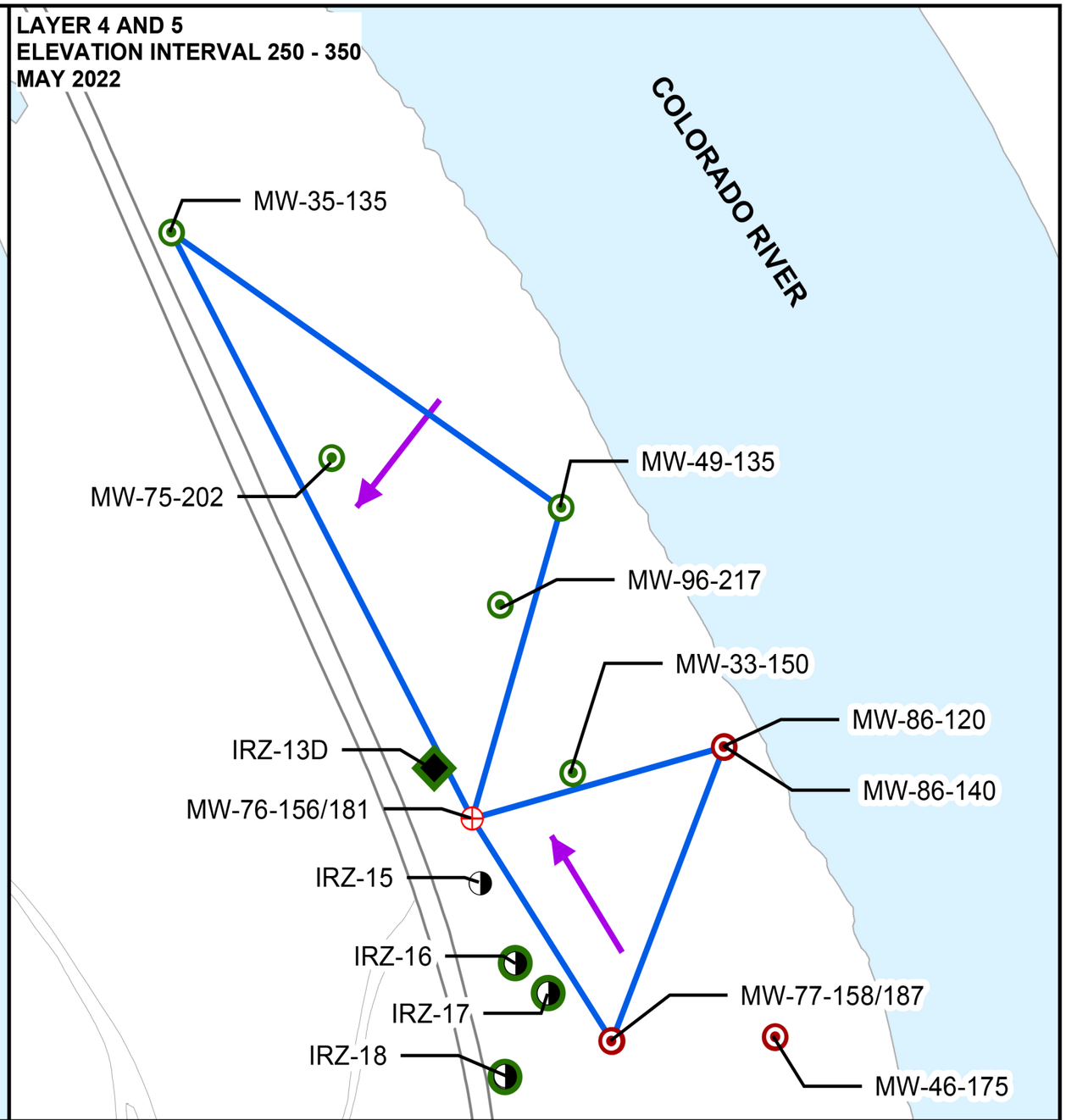
AVERAGE FLOW DIRECTION ON THE NORTHERN END OF THE NTH IRZ

ARCADIS

FIGURE
3.6a

City: Citrix Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI010145
Topock (RC000753.802D Q4182)
T:_ENV\PGE_Topock\GEC\MXD\GMP2Q22\Final\Figure3.6a_Average Flow Direction on the Northern End of the NTH IRZ_Layer 1 and 2.mxd 8/25/2022 7:04:40 PM





LEGEND

- NTH IRZ DOSE RESPONSE MONITORING WELL
- NORTHERN IRZ EXTRACTION MONITORING WELL
- NTH IRZ DOWNGRADIENT MONITORING WELL
- MONITORING WELL
- REMEDIATION WELL (INJECTION)
- REMEDIATION WELL (EXTRACTION)
- REMEDIATION WELL (INJECTION) OPERATING 60-75% UPTIME
- REMEDIATION WELL (INJECTION) OPERATING 30-35% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 60-75% UPTIME
- REMEDIATION WELL (EXTRACTION) OPERATING 30-35% UPTIME
- CALCULATED FLOW VECTOR IN APRIL 2022
- CALCULATED FLOW VECTOR IN MAY 2022

Notes:
1. NTH = National Trails Highway
2. IRZ = in-situ reactive zone

N

0 200 400 Feet

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

AVERAGE FLOW DIRECTION ON THE NORTHERN END OF THE NTH IRZ

ARCADIS

FIGURE 3.6b

City: Citrix_Div/Group: IM Created By: K. SINSABAUGH Last Saved By: PSI01045
T:_ENV\PGE_Topock\GEC\MXD\GMP2022\Final\Figure3.6b_Average Flow Direction on the Northern End of the NTH IRZ_Layer 4 and 5.mxd 8/25/2022 7:05:08 PM
Topock (RC000753.8022D Q4182)

Appendix A

Second Quarter 2022 Field Parameters

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
C-BNS	05/18/2022	8.3	943	6.0	10.91	18.60	0.47	610	12.6
C-CON-D	05/19/2022	8.4	945	4.0	11.05	18.80	0.47	610	107.5
C-CON-S	05/19/2022	8.3	942	5.0	9.96	18.80	0.47	610	115.9
C-I-3-D	05/18/2022	8.1	937	4.0	3.23	18.50	0.47	610	32.6
C-I-3-S	05/18/2022	8.1	945	5.0	1.51	18.40	0.47	620	37.6
C-MAR-D	05/19/2022	8.4	951	6.0	11.01	19.30	0.47	610	113.7
C-MAR-S	05/19/2022	8.3	949	3.0	9.98	19.30	0.47	610	116.6
C-NR1-D	05/19/2022	8.3	944	3.0	10.08	18.70	0.47	610	118.3
C-NR1-S	05/19/2022	8.3	951	4.0	10.11	18.90	0.47	610	119.1
C-NR3-D	05/19/2022	8.3	948	2.0	10.08	18.80	0.47	610	119.4
C-NR3-S	05/19/2022	8.3	945	1.0	9.91	19.10	0.47	610	117.8
C-NR4-D	05/19/2022	8.3	955	5.0	10.82	18.60	0.47	610	116.1
C-NR4-S	05/19/2022	8.3	947	3.0	9.98	18.60	0.47	610	118.5
C-R22A-D	05/18/2022	8.2	943	7.0	3.23	19.30	0.47	610	13.1
C-R22A-S	05/18/2022	8.2	947	2.0	2.09	19.60	0.47	610	23.9
C-R27-D	05/18/2022	8.3	948	8.0	9.54	18.60	0.47	610	19.7
C-R27-S	05/18/2022	8.3	948	7.0	11.61	18.70	0.47	600	19.8
C-TAZ-D	05/18/2022	8.3	970	5.0	3.68	18.70	0.48	520	4.0
C-TAZ-S	05/18/2022	8.3	946	3.0	4.16	18.80	0.47	610	20.0
IRZ-09-100	4/12/2022	7.86	20,051	24.39	1.38	28.2	--	--	27
IRZ-09-100	05/18/2022	8.0	8,739	21.3	1.32	27.90	0.00	nm	1.5
IRZ-09-100	06/13/2022	7.7	11,666	21.2	2.50	31.80	0.00	0	-18.3
IRZ-13D-210	4/12/2022	7.82	20,008	0	3.29	26.8	--	--	83.9
IRZ-13D-210	05/17/2022	7.7	20,378	1.0	2.10	29.70	0.00	nm	-6.1
IRZ-13D-210	06/13/2022	7.7	21,865	0.9	2.00	29.60	0.00	0	9.7
IRZ-13S-095	4/12/2022	7.71	6,721	0	2	27.1	--	--	11.1
IRZ-13S-095	05/17/2022	7.9	10,036	6.8	1.87	29.20	0.00	nm	-7.9
IRZ-13S-095	06/13/2022	7.9	10,179	6.8	2.39	28.90	0.00	0	17.3

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-09	06/08/2022	7.8	3,462	4.0	0.12	32.70	1.92	2,390	43.2
MW-10	06/08/2022	7.8	2,988	8.0	4.55	32.30	1.52	1,920	81.5
MW-10D	06/08/2022	7.8	4,426	6.0	3.90	31.50	2.01	2,500	82.4
MW-11	06/08/2022	8.0	2,091	4.0	6.38	31.80	1.05	1,340	77.1
MW-11D	06/08/2022	7.6	6,526	4.0	2.75	31.70	3.30	4,000	77.2
MW-12	06/08/2022	7.7	7,588	13.0	4.28	30.70	4.10	4,920	-165.3
MW-13	06/16/2022	7.8	3,321	6.0	3.73	30.40	1.74	2,170	77.9
MW-14	06/16/2022	7.8	3,449	27.0	5.73	33.20	1.74	2,160	70.3
MW-15	06/14/2022	7.7	2,144	2.0	4.89	27.90	1.09	1,390	77.3
MW-19	06/17/2022	7.8	2,293	4.0	5.60	29.60	1.18	1,500	104.1
MW-20-070	04/14/2022	7.9	2,440	7.0	8.05	29.90	1.25	1,590	81.8
MW-20-070	05/20/2022	7.6	2,556	15.0	7.91	30.30	1.30	1,650	108.8
MW-20-070	06/13/2022	7.3	3,242	10.0	7.24	30.90	1.50	1,890	49.9
MW-20-100	04/14/2022	7.1	5,925	7.0	1.50	29.90	3.12	3,780	88.9
MW-20-100	05/20/2022	7.8	5,365	5.0	0.24	29.90	2.85	3,450	-105.5
MW-20-100	06/13/2022	7.7	5,737	7.0	0.96	30.60	2.78	3,380	43.6
MW-20-130	04/14/2022	7.4	13,347	7.0	0.34	29.90	7.92	8,980	81.0
MW-20-130	05/20/2022	7.7	14,072	10.0	0.30	29.60	8.00	9,030	-102.6
MW-20-130	06/13/2022	7.4	14,489	4.0	0.43	31.40	7.34	8,350	50.9
MW-21	04/12/2022	7.5	10,369	8.0	0.91	27.50	5.95	7,470	5.3
MW-21	05/18/2022	7.1	10,997	6.0	0.95	35.10	6.15	7,150	109.6
MW-21	06/14/2022	7.9	11,509	5.0	0.77	32.00	5.65	6,590	-73.3
MW-22	05/05/2022	7.1	12,581	31.0	0.05	25.60	7.78	8,780	32.4
MW-23-060	06/09/2022	9.9	18,010	4.0	2.45	30.50	0.11	11,770	85.4
MW-23-080	06/09/2022	10.7	18,630	33.0	0.38	29.90	0.11	12,170	81.9
MW-24A	06/16/2022	8.0	2,146	7.0	1.06	30.70	1.08	1,380	-37.1
MW-24B	06/16/2022	7.6	19,529	3.0	0.67	30.40	0.12	12,680	-192.5
MW-24BR	06/17/2022	8.2	15,379	1.0	0.11	30.60	8.89	9,980	-252.8

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-25	06/14/2022	7.4	2,136	7.0	4.79	30.90	1.08	1,380	68.5
MW-26	04/13/2022	7.1	7,195	6.0	1.17	30.00	4.09	4,810	82.5
MW-26	05/20/2022	6.9	9,739	8.0	4.38	28.50	5.45	6,330	96.5
MW-26	06/14/2022	7.3	9,873	8.0	1.00	31.50	5.40	6,290	82.1
MW-27-020	05/05/2022	7.5	1,201	2.0	4.18	20.10	0.60	780	9.0
MW-27-060	05/05/2022	7.4	1,055	8.0	0.70	20.20	0.52	670	-76.2
MW-27-085	05/05/2022	7.1	10,782	5.0	2.12	20.60	6.12	6,990	-44.2
MW-28-025	05/04/2022	7.3	1,051	8.0	1.59	23.10	0.52	670	-16.1
MW-28-090	05/04/2022	7.1	5,191	6.0	0.70	21.50	2.80	3,370	-72.1
MW-29	06/13/2022	7.3	3,927	7.0	0.62	25.60	2.07	2,550	-118.9
MW-30-030	05/03/2022	8.0	1,990	19.0	0.16	24.90	1.06	1,350	51.3
MW-30-050	05/03/2022	7.8	1,390	8.0	5.90	24.60	0.70	910	83.9
MW-30-050	06/17/2022	7.8	1,168	6.0	0.30	23.80	0.60	780	-40.3
MW-31-060	04/12/2022	7.7	10,070	5.0	0.02	29.10	5.61	6,530	-156.2
MW-31-060	05/20/2022	7.2	9,492	5.0	0.29	30.70	5.26	6,110	-183.2
MW-31-060	06/13/2022	8.0	10,603	13.0	0.67	30.90	5.30	6,190	34.8
MW-31-135	04/12/2022	7.8	17,081	5.0	0.11	29.00	0.10	11,113	87.5
MW-31-135	05/20/2022	7.6	16,469	25.0	0.32	29.80	9.63	10,760	-109.1
MW-31-135	06/13/2022	7.4	16,556	45.0	0.93	30.60	8.64	9,760	46.0
MW-32-020	05/04/2022	7.3	11,509	16.0	0.12	24.40	6.54	7,400	1.0
MW-32-035	05/04/2022	7.0	6,729	25.0	0.14	25.30	3.72	4,420	79.3
MW-33-040	06/09/2022	7.4	12,630	20.0	0.31	26.60	6.97	7,930	-190.0
MW-33-090	06/09/2022	7.9	9,201	29.0	0.34	26.50	4.96	5,810	-184.4
MW-33-150	06/09/2022	8.1	15,177	33.0	0.51	27.90	8.31	9,360	-190.0
MW-33-210	06/09/2022	8.0	19,181	30.0	0.55	27.80	0.11	11,950	-183.7
MW-34-055	05/05/2022	7.5	922	6.0	0.22	20.90	0.45	590	-33.0
MW-34-080	05/05/2022	7.0	8,561	5.0	0.18	20.20	4.76	5,530	-62.5
MW-34-080	06/17/2022	7.6	9,396	2.0	1.15	19.50	5.28	6,090	-96.2

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-34-100	05/05/2022	7.2	10,196	2.0	0.29	20.00	5.79	6,650	-50.1
MW-35-060	06/07/2022	7.6	6,295	8.0	1.36	28.50	3.33	3,390	80.9
MW-35-135	06/07/2022	7.6	11,717	9.0	0.27	28.20	6.68	7,660	82.5
MW-36-020	05/04/2022	7.4	1,295	6.0	0.15	23.40	0.65	840	44.9
MW-36-040	05/04/2022	8.0	1,132	4.0	0.12	22.60	0.54	700	20.3
MW-36-050	05/04/2022	7.6	1,026	6.0	0.19	22.90	0.49	650	89.4
MW-36-070	05/04/2022	6.6	1,076	5.0	0.24	25.00	0.51	660	160.2
MW-36-090	05/04/2022	7.6	5,815	9.0	0.14	25.00	2.02	2,490	68.5
MW-36-090	06/17/2022	7.5	4,913	15.0	0.27	22.00	2.81	3,290	2.6
MW-36-100	05/04/2022	4.4	5,740	4.0	0.16	23.10	3.07	3,680	212.6
MW-36-100	06/17/2022	7.6	5,638	5.0	0.26	21.70	3.30	3,930	-53.3
MW-37D	06/16/2022	7.8	11,120	6.0	2.52	30.50	6.23	7,180	110.3
MW-37S	06/16/2022	8.1	7,694	21.0	1.33	30.20	4.29	5,070	79.3
MW-38D	06/08/2022	8.0	20,421	44.0	0.03	31.50	0.10	11,300	-9.4
MW-38S	06/08/2022	7.4	2,522	11.0	3.76	37.20	1.02	1,330	-163.1
MW-39-040	05/03/2022	8.1	1,101	28.0	0.21	25.60	0.54	710	-6.6
MW-39-040	06/15/2022	7.8	974	6.0	0.25	22.60	0.50	660	-86.8
MW-39-050	05/03/2022	7.8	1,039	5.0	0.23	25.30	0.52	680	90.3
MW-39-050	06/15/2022	7.8	936	9.0	0.34	22.70	0.48	630	53.6
MW-39-060	05/03/2022	6.3	1,096	21.0	0.89	25.00	0.55	720	167.4
MW-39-060	06/15/2022	7.3	1,034	9.0	0.52	24.70	0.51	670	15.8
MW-39-070	05/03/2022	7.8	3,097	9.0	6.31	27.10	1.35	1,720	93.5
MW-39-070	06/15/2022	7.2	3,247	3.0	0.14	22.20	1.81	2,220	10.2
MW-39-080	05/03/2022	6.9	6,116	5.0	1.60	26.50	2.57	3,130	127.1
MW-39-080	06/15/2022	8.0	7,265	6.0	0.14	23.80	4.14	4,890	5.6
MW-39-100	05/03/2022	5.1	12,733	30.0	0.91	25.40	0.11	12,480	209.5
MW-39-100	06/15/2022	7.8	12,453	4.0	0.55	24.60	7.13	8,090	19.0
MW-40D	06/16/2022	7.3	14,839	5.0	0.45	29.90	8.56	9,630	-19.5

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-40S	06/16/2022	7.9	3,046	5.0	3.85	28.50	1.57	1,980	25.7
MW-41D	06/16/2022	8.0	16,472	4.0	0.41	30.60	9.77	10,890	68.4
MW-41M	06/16/2022	8.1	14,261	14.0	0.22	30.60	8.02	9,080	59.9
MW-41S	06/16/2022	8.2	7,390	34.0	5.25	30.50	4.00	4,750	60.1
MW-42-030	05/05/2022	8.6	1,100	8.0	0.06	23.10	0.60	780	10.2
MW-42-055	05/05/2022	8.4	1,163	6.0	0.10	22.80	0.59	770	47.7
MW-42-065	05/05/2022	7.8	7,225	6.0	0.10	23.60	4.59	5,360	60.7
MW-43-025	05/03/2022	7.1	2,160	40.0	0.40	22.50	1.10	1,400	-83.1
MW-43-075	05/03/2022	7.0	11,503	31.0	0.75	23.00	6.57	7,500	-82.6
MW-43-090	05/03/2022	7.1	17,793	22.0	0.75	23.00	0.11	11,610	-58.7
MW-44-070	05/06/2022	7.3	2,461	6.0	0.61	21.10	1.27	1,590	-63.6
MW-44-115	05/06/2022	7.5	10,720	4.0	0.59	21.70	6.01	6,940	-62.1
MW-44-115	06/17/2022	7.7	9,563	5.0	0.25	22.00	5.68	6,550	-12.6
MW-44-125	05/06/2022	7.7	11,440	14.0	0.35	21.70	6.48	7,370	-120.6
MW-44-125	06/17/2022	7.5	10,643	4.0	0.82	21.60	6.49	7,400	10.1
MW-45-095A	05/04/2022	7.0	8,819	5.0	0.27	21.60	4.93	5,720	-26.9
MW-45-095A	06/17/2022	7.6	9,592	3.0	0.43	20.30	5.41	6,230	-22.1
MW-46-175	05/05/2022	8.0	17,714	6.0	0.70	21.40	0.10	11,510	13.0
MW-46-205	05/05/2022	8.0	20,646	7.0	0.41	22.00	0.12	13,420	8.7
MW-47-055	06/07/2022	8.1	4,976	30.0	0.45	29.50	2.63	3,220	-174.7
MW-47-115	06/07/2022	7.9	13,387	9.0	0.50	29.10	7.13	8,130	-184.8
MW-48	06/10/2022	8.1	17,311	13.0	2.28	30.40	0.10	11,240	-171.1
MW-49-135	06/13/2022	7.8	14,520	7.0	0.25	27.30	8.41	9,420	-41.6
MW-49-275	06/13/2022	8.4	25,233	5.0	0.44	25.50	0.15	16,400	-70.2
MW-49-365	06/13/2022	7.7	36,976	2.0	0.67	25.70	0.23	24,050	-15.4
MW-50-095	06/17/2022	8.1	6,571	8.0	1.09	29.80	3.66	4,350	93.5
MW-50-200	06/17/2022	8.0	20,953	4.0	0.44	30.70	0.12	13,400	103.0
MW-51	04/13/2022	7.7	11,137	3.0	1.41	29.80	6.35	7,280	85.1

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-51	05/20/2022	7.5	11,617	7.0	1.75	29.40	6.56	7,540	65.9
MW-51	06/14/2022	7.8	10,686	7.0	0.93	30.80	6.02	6,960	86.5
MW-52D	05/03/2022	7.5	20,516	3.0	0.43	25.60	0.12	13,370	-70.8
MW-52M	05/03/2022	7.6	15,941	9.0	0.17	23.60	9.36	10,400	-120.7
MW-52S	05/03/2022	7.6	11,467	36.0	0.16	23.20	6.50	7,410	-121.9
MW-53D	05/03/2022	7.7	25,146	5.0	0.24	28.70	0.15	16,410	-96.6
MW-53M	05/03/2022	7.8	19,604	11.0	0.28	23.80	0.12	12,740	-111.5
MW-53S	05/03/2022	7.0	1,408	7.0	0.32	23.80	0.70	910	-132.1
MW-54-085	06/15/2022	7.7	9,785	2.0	1.04	27.70	5.48	6,360	-26.5
MW-54-140	06/15/2022	7.9	13,728	2.0	0.21	26.90	7.90	8,900	-69.2
MW-54-195	06/15/2022	8.2	20,374	2.0	0.45	27.50	0.12	13,240	-145.2
MW-55-045	06/14/2022	8.4	1,328	36.0	0.34	28.60	0.61	800	-55.5
MW-55-120	06/14/2022	8.6	7,631	3.0	1.23	29.60	3.77	4,490	9.8
MW-56D	06/14/2022	7.8	21,642	4.0	0.53	26.70	0.13	13,520	-23.0
MW-56M	06/14/2022	7.9	13,951	7.0	0.31	23.40	8.35	9,360	-93.6
MW-56S	06/14/2022	7.8	5,994	3.0	0.38	26.00	3.25	3,880	-107.1
MW-57-070	06/07/2022	7.4	1,610	4.0	4.31	31.80	0.83	1,070	79.1
MW-57-185	06/07/2022	11.0	18,468	8.0	0.10	29.90	0.11	11,830	58.9
MW-58BR	06/21/2022	7.7	7,945	6.0	2.85	29.50	4.37	5,160	41.2
MW-59-100	06/09/2022	7.4	13,794	33.0	4.56	33.20	8.02	9,110	91.1
MW-60-125	06/16/2022	7.6	9,515	9.0	1.15	29.50	5.31	6,180	-7.5
MW-60BR-245	06/16/2022	9.0	19,088	3.0	1.25	29.20	0.11	12,430	-9.2
MW-61-110	06/16/2022	7.7	18,215	8.0	1.02	29.80	0.11	11,840	-25.3
MW-62-065	06/09/2022	8.1	6,902	5.0	2.30	32.80	3.59	4,310	86.0
MW-62-110	06/22/2022	7.5	13,197	2.0	0.38	27.40	7.56	8,570	-211.6
MW-62-190	06/22/2022	7.5	20,188	2.0	0.23	27.53	0.12	13,140	-229.6
MW-63-065	06/09/2022	7.7	6,641	8.0	2.09	28.20	3.48	4,170	99.0
MW-64BR	06/22/2022	7.7	14,727	3.0	0.67	29.70	8.51	9,570	-120.2

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-65-160	06/21/2022	7.3	4,721	19.0	2.93	30.60	2.50	3,060	31.4
MW-65-225	06/21/2022	7.4	11,068	7.0	0.78	30.60	6.45	7,400	-30.2
MW-66-165	06/06/2022	7.7	3,580	50.0	3.73	35.30	1.87	2,330	-116.7
MW-66-230	06/06/2022	7.6	18,992	48.0	1.60	34.20	0.11	12,350	-140.0
MW-66BR-270	06/20/2022	8.2	14,746	14.0	0.38	30.60	8.52	9,600	-189.6
MW-67-185	05/20/2022	7.6	5,763	47.0	1.05	30.90	3.09	3,790	87.1
MW-67-185	06/22/2022	7.3	5,409	43.0	2.23	30.30	2.86	3,510	42.9
MW-67-225	06/21/2022	8.1	5,705	32.0	2.65	30.70	3.04	3,690	36.6
MW-67-260	06/21/2022	9.4	20,539	22.0	1.53	30.40	0.12	13,310	57.1
MW-68-180	4/14/2022	8.1	3,968	8.0	4.81	28.60	2.08	2,570	45.3
MW-68-180	05/20/2022	7.4	3,311	17.0	4.62	30.20	1.72	2,150	84.5
MW-68-180	06/14/2022	7.6	3,152	9.0	2.63	30.60	1.63	2,050	41.9
MW-68-240	06/14/2022	7.6	17,831	8.0	1.25	30.50	0.10	11,570	-13.2
MW-68BR-280	06/14/2022	9.1	23,055	2.0	0.41	31.90	0.14	14,990	-145.1
MW-69-195	06/20/2022	7.4	3,443	14.0	1.54	30.90	1.77	2,220	16.5
MW-70-105	06/21/2022	7.8	3,591	8.0	3.38	27.80	1.88	2,330	52.6
MW-70BR-225	06/21/2022	8.8	12,871	4.0	1.72	29.50	7.36	8,360	45.7
MW-70BR-287	06/21/2022	9.2	17,497	4.0	0.51	28.70	0.10	11,370	-88.3
MW-71-035	04/12/2022	7.2	16,534	9.0	0.73	27.80	0.10	11,290	76.4
MW-71-035	05/18/2022	6.7	15,471	21.0	1.11	31.10	8.94	10,040	118.0
MW-71-035	06/15/2022	7.1	16,145	9.0	1.35	30.60	9.35	10,510	-13.1
MW-72-080	06/17/2022	7.8	17,195	45.0	1.02	27.40	0.10	11,180	-15.9
MW-72BR-200	06/17/2022	8.5	17,057	7.0	0.68	27.30	9.98	11,070	-125.2
MW-73-080	06/17/2022	7.6	11,088	8.0	1.18	26.10	6.27	7,190	-7.3
MW-74-240	06/20/2022	8.1	807	8.0	1.38	28.80	0.40	520	-48.1
MW-75-033	06/07/2022	8.2	5,297	15.0	2.20	28.30	2.66	3,240	-177.7
MW-75-117	06/07/2022	8.3	11,016	14.0	0.90	29.30	5.72	6,640	-194.2
MW-75-202	06/07/2022	8.1	16,020	7.0	0.43	32.20	9.27	10,390	-230.0

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-75-267	06/07/2022	8.2	22,302	12.0	0.56	31.50	0.13	14,490	-297.5
MW-75-337	06/07/2022	8.3	28,410	42.0	0.33	36.80	0.17	18,480	-267.2
MW-76-039	04/11/2022	7.7	4,104	9.0	3.17	29.30	2.07	2,680	73.0
MW-76-039	05/16/2022	8.0	4,281	9.0	3.15	29.30	2.26	2,780	26.3
MW-76-039	06/13/2022	7.7	4,274	4.0	3.99	29.40	2.37	2,390	121.1
MW-76-156	04/11/2022	7.7	17,605	5.0	0.22	28.80	0.10	11,350	71.1
MW-76-156	05/16/2022	8.0	16,393	8.0	0.40	29.80	9.52	10,620	-47.6
MW-76-156	06/13/2022	7.8	16,737	3.0	0.28	29.60	9.34	10,450	74.5
MW-76-181	04/11/2022	7.5	20,251	8.0	0.49	28.60	0.12	13,050	83.6
MW-76-181	05/16/2022	7.6	19,680	27.0	0.33	29.30	0.12	12,800	-7.4
MW-76-181	06/13/2022	7.6	20,699	44.0	0.52	29.30	0.12	13,370	78.3
MW-76-218	04/11/2022	8.1	20,915	8.0	0.20	28.70	0.11	11,700	91.7
MW-76-218	05/16/2022	7.6	21,709	2.0	0.26	30.10	0.13	14,100	-30.1
MW-76-218	06/13/2022	8.1	22,720	8.0	0.22	29.70	0.14	14,700	79.9
MW-77-046	05/02/2022	7.7	6,280	9.0	0.33	27.10	3.39	4,040	39.2
MW-77-046	06/15/2022	5.8	6,689	36.0	0.13	27.30	3.65	4,360	162.9
MW-77-102	05/02/2022	7.7	9,601	5.0	0.37	26.50	5.33	6,180	88.1
MW-77-102	06/15/2022	7.9	10,594	7.0	0.15	27.80	6.02	6,920	76.9
MW-77-158	05/02/2022	7.9	11,336	3.0	0.39	27.50	6.34	7,280	85.5
MW-77-158	06/15/2022	8.2	10,171	17.0	0.24	28.10	5.73	6,630	74.4
MW-77-187	05/02/2022	8.1	20,851	4.0	0.43	27.40	0.12	13,190	92.2
MW-77-187	06/15/2022	8.5	19,109	5.0	0.14	27.90	0.10	11,200	72.8
MW-78-070	04/13/2022	7.5	4,294	5.0	3.36	30.10	2.19	2,700	80.4
MW-78-070	05/19/2022	7.0	6,610	43.0	2.93	31.20	3.57	4,270	109.2
MW-78-070	06/14/2022	7.7	8,764	16.0	1.16	30.90	4.14	4,770	22.5
MW-78-142	04/13/2022	7.6	11,321	5.0	3.49	29.80	6.17	7,160	84.7
MW-78-142	05/19/2022	7.2	11,757	18.0	0.45	30.70	6.60	7,590	-61.0
MW-78-142	06/14/2022	7.7	12,320	27.0	0.49	31.00	6.35	7,350	85.8

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-79-058	04/13/2022	7.7	3,163	8.0	3.95	30.10	1.65	2,060	78.9
MW-79-058	05/19/2022	7.3	3,133	18.0	4.99	30.90	1.62	2,030	98.5
MW-79-058	06/14/2022	7.8	3,501	5.0	5.61	31.00	1.84	2,310	85.5
MW-79-102	04/13/2022	7.7	8,413	8.0	0.92	30.20	4.56	5,370	80.3
MW-79-102	05/19/2022	7.2	9,809	7.0	1.33	31.10	5.48	6,380	111.6
MW-79-102	06/14/2022	7.7	10,501	5.0	1.15	31.30	3.90	4,650	85.6
MW-80-057	04/12/2022	7.7	5,739	7.0	3.30	30.30	3.06	3,700	82.1
MW-80-057	05/18/2022	7.3	6,934	10.0	3.08	32.20	3.74	4,480	121.0
MW-80-057	06/14/2022	7.8	6,360	6.0	3.19	32.10	3.47	4,170	89.0
MW-80-082	04/12/2022	7.4	9,252	8.0	0.60	30.90	5.18	6,070	85.2
MW-80-082	05/18/2022	7.3	10,075	16.0	2.15	30.80	5.64	6,640	136.8
MW-80-082	06/14/2022	7.7	10,227	8.0	0.45	31.20	5.68	6,610	90.9
MW-81-043	05/06/2022	7.7	7,438	15.0	0.14	27.60	4.07	4,820	85.2
MW-81-043	06/16/2022	8.0	7,555	47.0	0.25	30.50	3.70	4,420	-22.0
MW-81-098	05/06/2022	7.7	10,585	18.0	0.08	27.30	5.84	6,750	91.9
MW-81-098	06/16/2022	8.2	16,759	26.0	1.20	30.50	8.70	9,810	34.3
MW-82-046	05/02/2022	7.5	12,514	42.0	0.94	26.00	7.01	7,980	-128.6
MW-82-046	06/16/2022	7.8	10,831	17.0	1.21	26.70	5.91	6,810	-98.6
MW-82-112	05/02/2022	7.1	8,837	22.0	0.42	26.40	4.91	5,730	-50.0
MW-82-112	06/16/2022	8.3	10,485	24.0	0.29	28.60	5.52	6,400	-7.8
MW-82-168	05/02/2022	7.1	17,016	14.0	0.40	26.40	0.10	11,190	-35.8
MW-82-168	06/16/2022	7.3	9,298	4.0	0.64	28.10	4.91	5,730	1.5
MW-82-198	05/02/2022	7.5	19,112	39.0	0.38	27.10	0.11	12,420	-58.6
MW-82-198	06/16/2022	7.5	18,560	26.0	0.27	27.60	0.10	11,530	-3.3
MW-83-090	06/22/2022	7.6	2,617	22.0	4.22	29.80	1.33	1,690	52.9
MW-83-180	06/22/2022	7.7	10,579	8.0	1.03	29.30	5.96	6,880	17.9
MW-83-225	06/22/2022	8.3	16,358	20.0	0.81	29.30	9.52	10,600	14.2
MW-83-245	06/22/2022	8.9	20,047	7.0	0.31	29.30	0.12	13,010	-59.6

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-84-057	06/06/2022	7.8	2,246	5.0	5.48	30.10	1.16	1,480	54.8
MW-84-095	06/06/2022	7.5	6,667	8.0	0.60	30.90	3.25	4,250	61.9
MW-84-132	06/06/2022	7.5	8,175	5.0	1.39	30.90	4.26	5,050	67.8
MW-84-193	06/06/2022	7.5	10,956	7.0	1.63	31.20	6.03	6,980	69.9
MW-85-129	06/10/2022	7.6	2,221	5.0	6.01	32.20	1.11	1,420	98.5
MW-85-217	06/10/2022	8.0	11,545	47.0	0.17	31.40	6.32	7,290	103.0
MW-85-237	06/10/2022	8.0	17,229	5.0	0.33	31.30	8.56	9,620	64.1
MW-86-030	05/04/2022	7.4	1,135	35.0	0.25	22.00	0.56	740	-95.8
MW-86-066	05/04/2022	7.8	4,776	4.0	0.85	22.70	2.60	3,150	-24.7
MW-86-120	05/04/2022	7.4	11,529	8.0	1.14	21.90	6.55	7,480	6.1
MW-86-140	05/04/2022	7.2	12,562	7.0	0.40	22.00	7.32	8,270	-104.9
MW-87-109	06/08/2022	7.3	2,802	6.0	0.23	31.50	1.27	1,620	-149.0
MW-87-139	06/08/2022	7.1	8,426	5.0	0.18	33.90	3.91	4,680	-159.4
MW-87-192	06/08/2022	7.4	9,280	8.0	0.40	30.80	4.62	5,440	-126.6
MW-87-275	06/08/2022	7.3	11,293	19.0	0.28	30.40	5.75	6,640	-162.2
MW-88-107	06/08/2022	7.9	2,200	8.0	5.21	31.90	1.10	1,410	87.6
MW-89-183	06/16/2022	7.3	7,920	39.0	5.64	32.10	3.79	4,540	180.8
MW-89-273	06/16/2022	8.1	7,981	13.0	6.37	31.20	3.91	4,630	45.4
MW-90-031	05/05/2022	7.4	10,956	8.0	0.06	24.60	5.28	6,120	22.1
MW-91-045	06/15/2022	8.3	2,110	2.0	0.25	26.40	1.05	1,330	-1.6
MW-91-120	06/15/2022	8.0	9,353	5.0	0.37	26.60	5.06	5,920	-1.0
MW-91-170	06/15/2022	8.5	11,303	4.0	0.25	26.50	6.23	7,150	-34.7
MW-91-320	06/15/2022	8.0	29,851	8.0	0.18	27.00	0.18	18,620	-88.4
MW-92-037	06/15/2022	8.4	1,698	2.0	0.47	26.90	0.85	1,100	-145.9
MW-92-072	06/15/2022	8.3	2,443	2.0	0.51	26.90	1.25	1,590	-87.3
MW-92-102	06/15/2022	8.4	3,572	2.0	0.40	26.90	1.87	2,320	-127.1
MW-92-122	06/15/2022	8.1	15,665	2.0	0.29	26.90	9.11	10,160	-215.4
MW-93-050	06/23/2022	7.6	4,871	8.0	2.26	27.20	2.60	3,160	42.9

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
MW-93-213	06/23/2022	7.7	12,817	7.0	0.46	26.30	7.34	8,330	-25.7
MW-95-113	06/22/2022	7.6	1,516	20.0	3.64	29.30	0.76	980	61.9
MW-95-157	06/22/2022	7.3	5,341	16.0	2.23	29.60	2.87	3,480	16.8
MW-96-045	06/09/2022	7.7	8,563	29.0	0.38	26.80	4.54	5,310	-217.7
MW-96-217	06/09/2022	7.9	18,914	14.0	0.40	27.40	0.11	11,800	-212.0
MW-97-042	06/07/2022	7.8	3,794	7.0	0.66	30.10	2.01	2,490	74.0
MW-97-202	06/07/2022	7.5	19,951	3.0	0.20	29.30	0.12	12,900	-1.1
MW-98-055	06/09/2022	8.1	3,910	4.0	0.81	29.80	2.00	2,480	86.1
MW-98-077	06/09/2022	8.1	7,120	4.0	3.06	30.60	3.48	4,200	97.9
PGE-08	06/10/2022	7.7	21,985	3.0	0.30	33.80	0.11	12,220	-280.8
PT5D	05/05/2022	8.3	10,240	8.0	0.17	26.20	5.96	6,850	83.4
PT5M	05/05/2022	7.3	3,520	20.0	0.14	23.50	1.55	1,880	99.6
PT5S	05/05/2022	5.1	1,379	34.0	0.13	23.70	0.70	910	146.5
PT8D	06/23/2022	7.2	19,047	8.0	1.22	29.40	0.11	12,390	10.5
PT9D	06/23/2022	7.7	18,369	6.0	0.27	29.90	0.11	11,910	25.9
PT9M	06/23/2022	6.9	9,679	7.0	0.68	30.10	5.40	6,290	6.5
PT9S	06/23/2022	7.5	4,065	9.0	1.47	29.80	2.14	2,640	18.6
R-19	05/19/2022	8.3	944	8.0	10.05	19.20	0.46	600	115.5
R-28	05/18/2022	8.3	936	6.0	10.63	19.40	0.47	610	20.7
R63	05/18/2022	8.3	950	8.0	1.26	19.70	0.47	610	11.3
RRB	05/19/2022	8.1	957	9.0	10.08	19.80	0.48	620	118.9
SW1	05/18/2022	8.4	1,111	6.0	6.15	19.80	0.54	710	94.2
SW2	05/18/2022	7.8	988	9.0	6.15	19.40	0.48	640	113.4
TW-02D	04/14/2022	7.8	20,941	8.0	0.23	27.50	0.13	14,090	80.6
TW-02D	05/19/2022	7.2	8,179	6.0	0.37	29.10	4.49	5,270	162.0
TW-02D	06/15/2022	8.0	19,755	9.0	0.20	28.50	0.14	14,870	91.4
TW-02S	04/14/2022	7.8	2,985	4.0	5.10	28.50	1.53	1,930	87.2
TW-02S	05/19/2022	7.8	3,422	5.0	3.87	29.90	1.78	2,220	55.1

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

Well ID	Sample Date	pH	Specific Conductance (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (deg C)	Salinity (ppt)	Total Dissolved Solids (mg/L)	ORP (mV)
TW-02S	06/15/2022	7.9	3,410	4.0	4.57	29.20	1.79	2,220	77.9
TW-03D	04/14/2022	7.5	20,759	7.0	0.22	28.00	0.13	14,520	88.2
TW-03D	05/19/2022	7.4	20,945	9.0	0.26	27.80	0.12	13,560	40.6
TW-03D	06/15/2022	7.7	21,281	9.0	0.11	29.20	0.14	15,320	47.3
TW-04	06/07/2022	8.3	22,622	8.0	0.32	28.50	0.13	13,760	-186.8
TW-05	06/17/2022	8.0	13,941	7.0	0.30	29.60	8.01	9,060	106.0
IRZ-21-157	4/12/2022	8.17	12,160	0	2.03	25.4	--	--	29.7
IRZ-15-055	4/12/2022	8.04	15,685	0	1.53	25.5	--	--	13.5
IRZ-15-200	4/12/2022	7.88	8,602	0	1.38	24.3	--	--	27
IRZ-25-166	4/12/2022	7.73	7,982	0	0.85	27.7	--	--	4.6
IRZ-25-100	4/12/2022	7.89	2,901	0	4.09	27.3	--	--	-4.4
IRZ-21-065	4/12/2022	8.17	10,791	0	1.66	25.4	--	--	12.9
IRZ-23-143	4/12/2022	7.45	6,699	0	2.37	27.4	--	--	14.1
IRZ-23-143	05/17/2022	7.4	20,372	14.8	2.42	29.70	nm	nm	-6.0
IRZ-23-143	06/13/2022	7.6	7,616	18.4	4.28	26.40	nm	nm	64.2

Abbreviations:

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

Appendix B

January 2020 to June 2022 Analytical Results

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
C-BNS	01/29/20	N	<0.2	<1	2.2	120	--	--	0.093	<0.02	--	0.0016	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-BNS	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.13 J	0.08 J	--	0.0013	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.32	--	--	--
C-BNS	04/29/20	N	<0.2	<1	2.2	120	--	--	0.058 J	0.039 J	--	0.00071	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-BNS	08/19/20	N	<0.2	<1	2.6	120 J	--	--	0.051 J	0.023 J	--	0.00054	4.7	--	1.5	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-BNS	11/18/20	N	<0.2	<1	2.4	110	--	--	0.05	<0.02	--	0.00079	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-BNS	11/18/20	FD	<0.2	<1	2.4	110	--	--	0.036	<0.02	--	0.001	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-BNS	01/27/21	N	<0.2	<1	2.3	120	--	--	0.033	<0.02	--	0.0012	4.7	--	1.7	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-BNS	02/17/21	N	<0.2	<1	2.5	110	--	--	0.046 J	<0.02 J	--	0.0014	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-BNS	05/19/21	N	<0.2	<1	2.2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--	1.4	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-BNS	08/18/21	N	<0.2	<1	2.3	100	--	--	0.026 J	<0.02	--	<0.0005	4.1	--	1.4	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-BNS	11/17/21	N	<0.2	<1	3	--	--	--	--	--	--	<0.0005	4.4 J	--	1.9	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-BNS	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-BNS	05/18/22	N	<0.2	<1	2.1 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	01/30/20	N	<0.2	<1	2.2	120	--	--	0.084	0.027 J	--	0.002 J	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-CON-D	02/20/20	N	<0.2	<1	2.1	110	--	--	0.078	0.029	--	0.0014	4.5 J	--	1.4	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-CON-D	04/30/20	N	<0.2	<1	2.2	110	--	--	0.079	0.031 J	--	0.00082	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.34	--	--	--
C-CON-D	04/30/20	FD	<0.2	<1	2.1	100	--	--	0.099	0.029 J	--	0.00083	4.4	--	1.7	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-CON-D	08/20/20	N	<0.2	<1	2.6	110 J	--	--	0.032 J	<0.02 J	--	0.0021	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-CON-D	11/19/20	N	<0.2	<1	2.3	110	--	--	0.026	<0.02	--	0.00096	4.7	--	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	01/28/21	N	<0.2	<1	2.3	120	--	--	0.035	0.024	--	0.00069	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.44	--	--	--
C-CON-D	02/18/21	N	<0.2	<1	2.2	110	--	--	0.15 J	<0.02 J	--	0.0012	4.6	--	1.4	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-CON-D	05/20/21	N	<0.2	<1	1.9	110	--	--	<0.02	<0.02	--	<0.0005	4.3	--	1.3	--	--	--	--	--	--	--	--	--	0.46	--	--	--
C-CON-D	08/19/21	N	<0.2	<1	2	98	--	--	0.025	<0.02 J	--	<0.0005	4.1	--	1.4	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-CON-D	11/18/21	N	<0.2	<1	2.5 J	--	--	--	--	--	--	<0.0005	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-CON-D	02/17/22	N	<0.2	--	2.2	--	--	--	--	--	--	0.00071	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-D	05/19/22	FD	<0.2	<1 J	2 J	--	--	--	--	--	--	0.0037 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-S	01/30/20	N	<0.2	<1	2.2	110	--	--	0.053	0.032 J	--	0.0022 J	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-CON-S	02/20/20	N	<0.2	<1	2.1	110	--	--	0.067 J	0.028	--	0.0012	4.6 J	--	1.4	--	--	--	--	--	--	--	--	--	0.33	--	--	--
C-CON-S	02/20/20	FD	<0.2	<1	2.3	120 J	--	--	0.088	0.038	--	0.00099	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-CON-S	04/30/20	N	<0.2	<1	2.2	110	--	--	0.073	<0.02	--	0.00052	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-CON-S	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.025 J	<0.02 J	--	0.00062	4.5	--	1.4	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-CON-S	11/19/20	N	<0.2	<1	2.2	110	--	--	0.034	<0.02	--	0.0011	4.5	--	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-S	01/28/21	N	<0.2	<1	2.2	120	--	--	0.029	<0.02	--	0.00074	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-CON-S	02/18/21	N	<0.2	<1	2.3	120	--	--	0.1 J	<0.02 J	--	0.0011	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-CON-S	02/18/21	FD	<0.2	<1	2.5	120	--	--	0.035 J	<0.02 J	--	0.0011	4.8	--	1.7	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-CON-S	05/20/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02	--	<0.0005	4.4	--	1.3	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-CON-S	08/19/21	N	<0.2	<1	2.2	100	--	--	0.021	<0.02 J	--	<0.0005	4.4	--	1.4	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-CON-S	11/18/21	N	<0.2	<1	3 J	--	--	--	--	--	--	<0.0005	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-CON-S	11/18/21	FD	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.5	--	2	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-CON-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-CON-S	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-D	01/29/20	N	<0.2	<1	2.1	110	--	--	0.075	<0.02	--	0.0012	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-I-3-D	02/19/20	N	<0.2	<1	2.1	120 J	--	--	0.091 J	0.086 J	--	0.00084	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-I-3-D	04/29/20	N	<0.2	<1	2.2	120	--	--	0.53 J	0.049 J	--	0.00068	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-I-3-D	08/19/20	N	<0.2	<1	2.6	120 J	--	--	0.056 J	0.051 J	--	0.00062	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-I-3-D	11/18/20	N	<0.2	<1	2.4	110	--	--	0.09	<0.02	--	0.0013	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.33	--	--	--
C-I-3-D	01/27/21	N	<0.2	<1	2.3	120	--	--	0.023	<0.02	--	<0.0005	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-I-3-D	02/17/21	N	<0.2	<1	2.5	120	--	--	0.07 J	<0.02 J	--	0.0014	4.8	--	1.9	--	--	--	--	--	--	--	--	--	0.45	--	--	--
C-I-3-D	05/19/21	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02 J	--	<0.0005	4.5	--	1.4	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-I-3-D	08/18/21	N	<0.2	<1	2.1	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--	1.6	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-I-3-D	11/17/21	N	<0.2	<1	2.5	--	--	--	--	--	--	<0.0005	4.5 J	--	1.5	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-I-3-D	02/16/22	N	<0.2	--	2.1	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-D	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
C-I-3-S	01/29/20	N	<0.2	<1	2.2	110	--	--	0.12	<0.02	--	0.0011	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-I-3-S	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.075	0.044 J	--	0.0011	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-I-3-S	04/29/20	N	<0.2	<1	2.2	120	--	--	0.075 J	0.029 J	--	<0.0005	4.5	--	1.7	--	--	--	--	--	--	--	--	--	0.44	--	--	--
C-I-3-S	08/19/20	N	<0.2 J	<1	2.5	120 J	--	--	0.04 J	0.038 J	--	<0.0005	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.46	--	--	--
C-I-3-S	11/18/20	N	<0.2	<1	2.5	110	--	--	0.044	<0.02	--	0.001	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.44	--	--	--
C-I-3-S	01/27/21	N	<0.2	<1	2.3	120	--	--	0.029	0.026 J	--	0.00051	4.9	--	1.7	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-I-3-S	02/17/21	N	<0.2	<1	2.3	110	--	--	0.069 J	<0.02 J	--	0.0017	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.45	--	--	--
C-I-3-S	05/19/21	N	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.41	--	--	--
C-I-3-S	08/18/21	N	<0.2	<1	2.1	100	--	--	0.025 J	<0.02	--	<0.0005	4.2	--	1.4	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-I-3-S	11/17/21	N	<0.2	<1	2.8	--	--	--	--	--	--	<0.0005	4.5 J	--	1.6	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-I-3-S	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-I-3-S	05/18/22	N	<0.2	<1	1.9 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-D	01/30/20	N	<0.2	<1	2.6	130	--	--	1.10	0.38 J	--	0.092 J	5.1	--	1.6	--	--	--	--	--	--	--	--	--	0.31	--	--	--
C-MAR-D	02/20/20	N	<0.2	<1	2.1	110	--	--	0.4 J	0.069	--	0.014	4.7 J	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-MAR-D	04/30/20	N	<0.2	<1	2.3	110	--	--	0.26	0.048 J	--	0.0021	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.41	--	--	--
C-MAR-D	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.15 J	<0.02 J	--	0.0038	4.7	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-MAR-D	08/20/20	FD	<0.2	<1	2.4	110 J	--	--	0.2 J	<0.02 J	--	0.0025	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-MAR-D	11/19/20	N	<0.2	<1	2.3	110	--	--	0.35	<0.02	--	0.0099	4.8	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-D	01/28/21	N	<0.2	<1	2.4	130	--	--	0.38	0.028	--	0.021	4.8	--	1.4	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-MAR-D	02/18/21	N	<0.2	<1	2.4	110	--	--	0.24 J	<0.02 J	--	0.0036	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-MAR-D	05/20/21	N	<0.2	<1	1.9	100	--	--	0.042 J	<0.02	--	0.0014	4.4	--	1.3	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-MAR-D	08/19/21	N	<0.2	<1	2.1	100	--	--	0.19	<0.02 J	--	0.0032	4.3	--	1.5	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-MAR-D	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	0.0047	4.5	--	1.8	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-MAR-D	02/17/22	N	<0.2	--	1.8	--	--	--	--	--	--	0.0054	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-D	05/19/22	N	<0.2	<1 J	2.1 J	--	--	--	--	--	--	0.00096	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-S	01/30/20	N	<0.2	<1	2.7	130	--	--	1.40	0.88 J	--	0.11 J	5	--	1.4	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-MAR-S	02/20/20	N	<0.2	<1	2.3	120	--	--	0.43 J	0.25	--	0.021	4.7 J	--	1.5	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-MAR-S	04/30/20	N	<0.2	<1	2.2	110	--	--	0.072	0.022 J	--	0.0019	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-MAR-S	08/20/20	N	<0.2	<1	2.6	110 J	--	--	0.2 J	<0.02 J	--	0.0055	4.9	--	1.5	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-MAR-S	11/19/20	N	<0.2	<1	2.3	110	--	--	0.11	0.021 J	--	0.0034	4.5	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-S	01/28/21	N	<0.2	<1	2.4	130	--	--	0.56	0.028	--	0.024	5.1	--	1.5	--	--	--	--	--	--	--	--	--	0.41	--	--	--
C-MAR-S	02/18/21	N	<0.2	<1	2.3	120	--	--	0.14 J	<0.02 J	--	0.003	4.8	--	1.9	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-MAR-S	02/18/21	FD	<0.2	<1	2.3	120	--	--	0.16 J	<0.02 J	--	0.003	4.8	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-MAR-S	05/20/21	N	<0.2	<1	1.9	100	--	--	0.029 J	<0.02	--	0.0034	4.4	--	1.4	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-MAR-S	08/19/21	N	<0.2	<1	2.6	100	--	--	0.15	<0.02 J	--	0.0048	4.3	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-MAR-S	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	0.005	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-MAR-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	0.007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-MAR-S	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	0.0026	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	01/30/20	N	<0.2	<1	2.2	110	--	--	0.057	<0.02 J	--	0.002 J	4.5	--	1.7	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-NR1-D	02/20/20	N	<0.2	<1	2.1	120	--	--	0.08 J	0.038 J	--	0.00084	4.6 J	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-NR1-D	04/30/20	N	<0.2	<1	2.2	110	--	--	0.065	0.051 J	--	0.00082	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-NR1-D	08/20/20	N	<0.2	<1	2.4	110	--	--	0.15 J	0.2 J	--	0.00051	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-NR1-D	11/19/20	N	<0.2	<1	2.4	110	--	--	0.034	<0.02	--	0.00096	4.6	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	01/28/21	N	<0.2	<1	2.2	120	--	--	0.02	<0.02	--	0.00064	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-NR1-D	02/18/21	N	<0.2	<1	2.4	120	--	--	0.071 J	<0.02 J	--	0.0012	4.8	--	1.3	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-NR1-D	05/20/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--	1.1	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-NR1-D	08/19/21	N	<0.2	<1	1.8	100	--	--	<0.02	<0.02 J	--	<0.0005	4.1	--	1.5	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-NR1-D	11/18/21	N	<0.2	<1	3.3 J	--	--	--	--	--	--	<0.0005	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-NR1-D	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	02/17/22	FD	<0.2	--	1.9	--	--	--	--	--	--	0.0017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-D	05/19/22	N	<0.2	<1 J	1.8 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-S	01/30/20	N	<0.2	<1	2.1	110	--	--	0.026	0.028 J	--	0.0026 J	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-NR1-S	02/20/20	N	<0.2	<1	2.2	120	--	--	0.083 J	<0.02 J	--	0.0011	4.6 J	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-NR1-S	04/30/20	N	<0.2	<1	2.1	110	--	--	0.061 J	<0.02	--	<0.0005	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.43	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
C-NR1-S	04/30/20	FD	<0.2	<1	2.1	100	--	--	0.18 J	<0.02	--	<0.0005	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-NR1-S	08/20/20	N	<0.2	<1	2.4	110 J	--	--	0.022 J	<0.02 J	--	0.00059	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-NR1-S	11/19/20	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02	--	0.00098	4.5	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-S	01/28/21	N	<0.2	<1	2.2	120	--	--	0.023	<0.02	--	0.00062	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-NR1-S	02/18/21	N	<0.2	<1	2.4	120	--	--	0.024 J	<0.02 J	--	0.0013	4.8	--	1.7	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-NR1-S	05/20/21	N	<0.2	<1	1.9	110	--	--	0.02 J	<0.02	--	<0.0005	4.4	--	1.4	--	--	--	--	--	--	--	--	--	0.41	--	--	--
C-NR1-S	08/19/21	N	<0.2	<1	1.7	99	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--	1.4	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-NR1-S	11/18/21	N	<0.2	<1	3.1 J	--	--	--	--	--	--	<0.0005	4.4	--	2	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-NR1-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR1-S	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	01/30/20	N	<0.2	<1	2.1	110	--	--	0.054	0.044 J	--	0.0023 J	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.33	--	--	--
C-NR3-D	01/30/20	FD	<0.2	<1	2.1	110	--	--	0.037	0.031 J	--	0.0021 J	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-NR3-D	02/20/20	N	<0.2	<1	2.1	120	--	--	0.12 J	0.066 J	--	0.0017	4.6 J	--	1.6	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-NR3-D	04/30/20	N	<0.2	<1	2.2	110	--	--	0.049	<0.02	--	<0.0005	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-NR3-D	08/20/20	N	<0.2	<1	2.4	110 J	--	--	0.025 J	<0.02 J	--	0.0006	4.6	--	1.4	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-NR3-D	11/19/20	N	<0.2	<1	2.3	100	--	--	0.022	<0.02	--	0.0007	4.5	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	01/28/21	N	<0.2	<1	2.2	120	--	--	0.04	<0.02	--	0.0007	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-NR3-D	02/18/21	N	<0.2	<1	2.4	120	--	--	0.07 J	<0.02 J	--	0.0011	4.8	--	1.3	--	--	--	--	--	--	--	--	--	0.41	--	--	--
C-NR3-D	05/20/21	N	<0.2	<1	2.1	100	--	--	<0.02	<0.02	--	<0.0005	4.4	--	1.4	--	--	--	--	--	--	--	--	--	0.57	--	--	--
C-NR3-D	08/19/21	N	<0.2	<1	2	99	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--	1.4	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-NR3-D	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-NR3-D	11/18/21	FD	<0.2	<1	3.1 J	--	--	--	--	--	--	<0.0005	4.4	--	1.7	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-NR3-D	02/17/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-D	05/19/22	FD	<0.2	<1 J	2.1 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	01/30/20	N	<0.2	<1	2	110	--	--	0.097	0.051 J	--	0.0017 J	4.3	--	1.6	--	--	--	--	--	--	--	--	--	0.33	--	--	--
C-NR3-S	02/20/20	N	<0.2	<1	2.2	120	--	--	0.091 J	0.02 J	--	0.0013	4.7 J	--	1.5	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-NR3-S	04/30/20	N	<0.2	<1	2	110	--	--	0.03	<0.02	--	<0.0005	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-NR3-S	08/20/20	N	<0.2	<1	2.4	110 J	--	--	0.022 J	<0.02 J	--	0.00057	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-NR3-S	11/19/20	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02	--	0.00068	4.6	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	11/19/20	FD	<0.2	<1	2.2	100	--	--	0.022	<0.02	--	0.00067	4.5	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	01/28/21	N	<0.2	<1	2.4	120	--	--	0.084	0.025	--	0.00084	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-NR3-S	01/28/21	FD	<0.2	<1	2.3	120	--	--	0.026	<0.02	--	0.00061	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-NR3-S	02/18/21	N	<0.2	<1	2.5	120	--	--	0.032 J	<0.02 J	--	0.0013	4.8	--	1.5	--	--	--	--	--	--	--	--	--	0.41	--	--	--
C-NR3-S	05/20/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02	--	<0.0005	4.5	--	1.3	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-NR3-S	08/19/21	N	<0.2	<1	2.4	100	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--	1.5	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-NR3-S	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.5	--	1.8	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-NR3-S	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR3-S	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-D	01/30/20	N	<0.2	<1	2.1	110	--	--	0.065	<0.02 J	--	0.0015 J	4.3	--	1.5	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-NR4-D	02/20/20	N	<0.2	<1	2.1	120	--	--	0.072 J	0.022 J	--	0.001	4.7 J	--	1.5	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-NR4-D	04/30/20	N	<0.2	<1	2.1	110	--	--	0.049	0.035 J	--	<0.0005	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.89	--	--	--
C-NR4-D	08/20/20	N	<0.2 J	<1	2.4	110 J	--	--	0.021 J	<0.02 J	--	0.00071	4.7	--	1.5	--	--	--	--	--	--	--	--	--	0.44	--	--	--
C-NR4-D	08/20/20	FD	<0.2	<1	2.4	110 J	--	--	0.027 J	<0.02 J	--	0.001	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.54	--	--	--
C-NR4-D	11/19/20	N	<0.2	<1	2.3	110	--	--	<0.02	<0.02	--	0.00057	4.7	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-D	01/28/21	N	<0.2	<1	2.3	120	--	--	0.058	<0.02	--	0.00073	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-NR4-D	01/28/21	FD	<0.2	<1	2.3	120	--	--	<0.02	<0.02	--	0.00085	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-NR4-D	02/18/21	N	<0.2	<1	2.4	110	--	--	0.031 J	<0.02 J	--	0.00099	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-NR4-D	05/20/21	N	<0.2	<1	1.9	100	--	--	0.027 J	<0.02	--	<0.0005	4.4	--	1.3	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-NR4-D	05/20/21	FD	<0.2	<1	2.1	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--	1.2	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-NR4-D	08/19/21	N	<0.2	<1	2.4	100	--	--	0.024	<0.02 J	--	<0.0005	4.2	--	1.3	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-NR4-D	08/19/21	FD	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--	1.4	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-NR4-D	11/18/21	N	<0.2	<1	3.2 J	--	--	--	--	--	--	<0.0005	4.7	--	1.8	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-NR4-D	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
C-NR4-D	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	01/30/20	N	<0.2	<1	2.1	110	--	--	0.038	0.022 J	--	0.0015 J	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-NR4-S	02/20/20	N	<0.2	<1	2.1	110	--	--	0.12 J	0.03	--	0.0011	4.5 J	--	1.5	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-NR4-S	04/30/20	N	<0.2	<1	2.2	110	--	--	0.042	<0.02	--	0.00053	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-NR4-S	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.031 J	<0.02 J	--	0.00065	4.7	--	1.5	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-NR4-S	11/19/20	N	<0.2	<1	2.4	120	--	--	<0.02	<0.02	--	0.00062	4.7	--	1.7	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	01/28/21	N	<0.2	<1	2.3	120	--	--	0.032	0.032	--	0.00073	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-NR4-S	02/18/21	N	<0.2	<1	2.2	120	--	--	0.071 J	<0.02 J	--	0.0011	4.9	--	1.6	--	--	--	--	--	--	--	--	--	0.44	--	--	--
C-NR4-S	05/20/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02	--	<0.0005	4.5	--	1.3	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-NR4-S	08/19/21	N	<0.2	<1	1.9	99	--	--	<0.02	<0.02 J	--	<0.0005	4.2	--	1.6	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-NR4-S	11/18/21	N	<0.2	<1	3.1 J	--	--	--	--	--	--	<0.0005	4.4	--	2	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-NR4-S	02/17/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-NR4-S	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-D	01/29/20	N	<0.2	<1	2.2	120	--	--	0.13	<0.02	--	0.0026	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-R22A-D	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.13 J	0.11 J	--	0.0012	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.33	--	--	--
C-R22A-D	04/29/20	N	<0.2	<1	2.2	110	--	--	0.43 J	0.035 J	--	0.00088	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-R22A-D	08/19/20	N	<0.2	<1	2.4	110 J	--	--	0.047 J	0.037 J	--	0.00065	4.6	--	1.4	--	--	--	--	--	--	--	--	--	0.32	--	--	--
C-R22A-D	11/18/20	N	<0.2	<1	2.2	110	--	--	0.025	<0.02	--	0.0018	4.3	--	1.6	--	--	--	--	--	--	--	--	--	0.25	--	--	--
C-R22A-D	01/27/21	N	<0.2	<1	2.2	110	--	--	0.029	0.024 J	--	0.0023	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-R22A-D	02/17/21	N	<0.2	<1	2.3	110	--	--	0.048 J	0.034 J	--	0.0024	4.8	--	1.9	--	--	--	--	--	--	--	--	--	0.46	--	--	--
C-R22A-D	05/19/21	N	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	0.00088	4.7	--	1.5	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-R22A-D	08/18/21	N	<0.2	<1	2	100	--	--	0.021 J	<0.02	--	<0.0005	4.1	--	1.2	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-R22A-D	11/17/21	N	<0.2	<1	2.6	--	--	--	--	--	--	0.00058	4.5 J	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-R22A-D	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-D	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-S	01/29/20	N	<0.2	<1	2.3	120	--	--	0.12	<0.02	--	0.0027	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-R22A-S	01/29/20	FD	<0.2	<1	2.3	130	--	--	0.16	0.027	--	0.0029	4.9	--	1.6	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-R22A-S	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.09	0.032 J	--	0.0014	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.33	--	--	--
C-R22A-S	04/29/20	N	<0.2	<1	2.2	110	--	--	0.088 J	<0.02 J	--	0.00058	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-R22A-S	08/19/20	N	<0.2	<1	2.6	110 J	--	--	0.058 J	<0.02 J	--	0.00074	4.8	--	1.4	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-R22A-S	11/18/20	N	<0.2	<1	2.3	110	--	--	0.06	0.027	--	0.0016	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.26	--	--	--
C-R22A-S	01/27/21	N	<0.2	<1	2.3	120	--	--	0.032	<0.02	--	0.0022	4.9	--	1.5	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-R22A-S	02/17/21	N	<0.2	<1	2.3	110	--	--	0.1 J	<0.02 J	--	0.0026	4.6	--	1.8	--	--	--	--	--	--	--	--	--	0.46	--	--	--
C-R22A-S	02/17/21	FD	<0.2	<1	2.2	110	--	--	0.043 J	<0.02 J	--	0.0025	4.5	--	1.7	--	--	--	--	--	--	--	--	--	0.51	--	--	--
C-R22A-S	05/19/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02 J	--	0.0017	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-R22A-S	08/18/21	N	<0.2	<1	2.2	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--	1.3	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-R22A-S	11/17/21	N	<0.2	<1	2.7	--	--	--	--	--	--	<0.0005	4.3 J	--	1.5	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-R22A-S	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-S	02/16/22	FD	<0.2	--	2.1	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R22A-S	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-D	01/29/20	N	<0.2	<1	2.1	120	--	--	0.18	0.11	--	0.004	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.25	--	--	--
C-R27-D	02/19/20	N	<0.2	<1	2.1	120 J	--	--	0.26 J	0.039 J	--	0.0021	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-R27-D	02/19/20	FD	<0.2	<1	2.2	120 J	--	--	0.19 J	0.061 J	--	0.0011	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-R27-D	04/29/20	N	<0.2	<1	2.2	110	--	--	0.071 J	0.047 J	--	0.0011	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-R27-D	08/19/20	N	<0.2	<1	2.4	110 J	--	--	0.054 J	0.023 J	--	0.00067	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.34	--	--	--
C-R27-D	11/18/20	N	<0.2	<1	2.4	110	--	--	0.032	<0.02	--	0.001	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.24	--	--	--
C-R27-D	01/27/21	N	<0.2	<1	2.3	120	--	--	0.028	<0.02	--	0.0014	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.4	--	--	--
C-R27-D	02/17/21	N	<0.2	<1	2.2	110	--	--	0.11 J	<0.02 J	--	0.0016	4.7	--	1.7	--	--	--	--	--	--	--	--	--	0.46	--	--	--
C-R27-D	05/19/21	N	<0.2	<1	2.1	110	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--	1.3	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-R27-D	08/18/21	N	<0.2	<1	1.9	100	--	--	0.023 J	0.021	--	<0.0005	4.3	--	1.5	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-R27-D	11/17/21	N	<0.2	<1	3	--	--	--	--	--	--	0.00059	4.4 J	--	1.8	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-R27-D	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-D	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-S	01/29/20	N	<0.2	<1	2.2	120	--	--	0.17	<0.02	--	0.002	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.31	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
C-R27-S	02/19/20	N	<0.2	<1	2.3	120 J	--	--	0.27 J	0.058 J	--	0.0011	4.7	--	1.7	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-S	04/29/20	N	<0.2	<1	2.2	110	--	--	0.07 J	0.037 J	--	<0.0005 J	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.39	--	--	--
C-R27-S	04/29/20	FD	<0.2	<1	2.2	120	--	--	0.11 J	0.088 J	--	0.0014 J	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-R27-S	08/19/20	N	<0.2 J	<1	2.4	110 J	--	--	0.058 J	0.022 J	--	0.0006	4.6	--	1.4	--	--	--	--	--	--	--	--	--	0.34	--	--	--
C-R27-S	08/19/20	FD	<0.2 J	<1	2.6	120 J	--	--	0.19 J	0.026 J	--	0.00069	4.9	--	1.5	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-R27-S	11/18/20	N	<0.2	<1	2.5	110	--	--	0.038	<0.02	--	0.00093	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-R27-S	01/27/21	N	<0.2	<1	2.1	120	--	--	0.031	<0.02	--	0.0015	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-R27-S	02/17/21	N	<0.2	<1	2.4	120	--	--	0.098 J	<0.02 J	--	0.0022	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-R27-S	05/19/21	N	<0.2	<1	2.1	100	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--	1.4	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-R27-S	08/18/21	N	<0.2	<1	2	100	--	--	0.043 J	<0.02	--	<0.0005	4.3	--	1.2	--	--	--	--	--	--	--	--	--	0.36	--	--	--
C-R27-S	11/17/21	N	<0.2	<1	2.9	--	--	--	--	--	--	<0.0005	4.4 J	--	1.9	--	--	--	--	--	--	--	--	--	0.31	--	--	--
C-R27-S	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-R27-S	05/18/22	N	<0.2	<1	1.9 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-D	01/29/20	N	<0.2	<1	2.2	110	--	--	0.15	0.026	--	0.0022	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-TAZ-D	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.12 J	0.033 J	--	0.0014	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-TAZ-D	04/29/20	N	<0.2	<1	2.2	110	--	--	0.065 J	<0.02 J	--	<0.0005	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-TAZ-D	08/19/20	N	<0.2	<1	2.5	120 J	--	--	0.053 J	<0.02 J	--	<0.0005	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-TAZ-D	11/18/20	N	<0.2	<1	2.4	110	--	--	0.042	<0.02	--	0.0013	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.27	--	--	--
C-TAZ-D	01/27/21	N	<0.2	<1	2.2	120	--	--	0.034	0.025 J	--	0.00069	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.29	--	--	--
C-TAZ-D	02/17/21	N	<0.2	<1	2.3	110	--	--	0.15 J	<0.02 J	--	0.0014	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.45	--	--	--
C-TAZ-D	05/19/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02 J	--	<0.0005	4.4	--	1.4	--	--	--	--	--	--	--	--	--	0.54	--	--	--
C-TAZ-D	08/18/21	N	<0.2	<1	2	100	--	--	0.036 J	<0.02	--	<0.0005	4.2	--	1.4	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-TAZ-D	08/18/21	FD	<0.2	<1	2.2	98	--	--	0.023 J	<0.02	--	<0.0005	4.2	--	1.4	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-TAZ-D	11/17/21	N	<0.2	<1	2.9	--	--	--	--	--	--	<0.0005	4.5 J	--	1.8	--	--	--	--	--	--	--	--	--	0.3	--	--	--
C-TAZ-D	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-D	02/16/22	FD	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-D	05/18/22	N	<0.2	<1	2.1 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-S	01/29/20	N	<0.2	<1	2.2	110	--	--	0.1	<0.02	--	0.0016	4.6	--	1.7	--	--	--	--	--	--	--	--	--	0.35	--	--	--
C-TAZ-S	02/19/20	N	<0.2	<1	2.2	120 J	--	--	0.084 J	0.03 J	--	0.001	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.32	--	--	--
C-TAZ-S	04/29/20	N	<0.2	<1	2.2	110	--	--	0.28 J	0.031 J	--	0.00055	4.5	--	1.6	--	--	--	--	--	--	--	--	--	2.5	--	--	--
C-TAZ-S	08/19/20	N	<0.2	<1	2.5	110 J	--	--	0.039 J	<0.02 J	--	0.00052	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.43	--	--	--
C-TAZ-S	11/18/20	N	<0.2	<1	2.4	110	--	--	0.037	<0.02	--	0.0013	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.28	--	--	--
C-TAZ-S	01/27/21	N	<0.2	<1	2.2	120	--	--	0.061	0.022 J	--	0.00079	4.8	--	1.5	--	--	--	--	--	--	--	--	--	0.26	--	--	--
C-TAZ-S	02/17/21	N	<0.2	<1	2.3	110	--	--	0.34 J	<0.02 J	--	0.0018	4.7	--	1.8	--	--	--	--	--	--	--	--	--	0.42	--	--	--
C-TAZ-S	05/19/21	N	<0.2	<1	2	110	--	--	<0.02	<0.02 J	--	<0.0005	4.3	--	1.5	--	--	--	--	--	--	--	--	--	0.38	--	--	--
C-TAZ-S	08/18/21	N	<0.2	<1	2.2	100	--	--	<0.02	<0.02	--	<0.0005	4.2	--	1.3	--	--	--	--	--	--	--	--	--	0.37	--	--	--
C-TAZ-S	11/17/21	N	<0.2	<1	3.3	--	--	--	--	--	--	<0.0005	4.6 J	--	1.8	--	--	--	--	--	--	--	--	--	0.31	--	--	--
C-TAZ-S	02/16/22	N	<0.2	--	1.9	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C-TAZ-S	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CW-01D	10/08/20	N	0.59	2	1.4	22	1.1	100	0.93 J	0.19 J	21	0.0075	20	10	4.8	1,400	2.4	90	<0.2	2,200	2.5	--	--	2.6	500	4,600	--
CW-01D	12/01/21	N	0.51	1.6	<0.1 J	20	1.1	150	--	--	19	<0.0005	24	13 J	7.6	1,400	2.4	73	--	1,900	2.7	--	--	8.3	510	4,000	--
CW-01M	10/08/20	N	0.6	<1	1.3	82	1.2	110	0.17 J	0.099 J	14	<0.0005	17	9.7	4.6	1,500	2.5	89	<0.2	2,200	2.2	--	--	3 J	510	4,700	--
CW-01M	10/08/20	FD	0.58	<1	1.3	81	1.2	120	0.19 J	0.12 J	14	<0.0005	17	8.9	4.7	1,700	2.5	90	<0.2	2,200	2.2	--	--	5.4 J	510	4,600	--
CW-01M	12/01/21	N	1.2	2.4	<0.1 J	74	0.98	180	--	--	13	0.00092	17	12 J	4.1	1,500	2.2	90	--	2,100	2.4	--	--	2.5	490	4,300	--
CW-02D	10/07/20	N	0.47	1.3	2.2 J	21	3.7 J	150	<0.02	<0.1	12 J	0.00074	14 J	8.2 J	4.3	1,500	3.2	66	<0.2	2,300	2	--	--	2.8	510	4,300	--
CW-02D	12/06/21	N	0.45	1.4 J	<0.1	17	1 J	100	--	--	5.2 J	0.00089 J	14	14	4.1	1,500	3.7	64	--	2,200	2.1	--	--	2.8	510	4,000	--
CW-02D	12/06/21	FD	0.45	1.5 J	<0.1	17	0.97 J	95	--	--	4.9 J	0.001 J	14	10	4.3	1,600	3.7	64	--	2,200	1.9	--	--	2.7	510	4,200	--
CW-02M	10/07/20	N	1.1	2.1	2.1 J	63	1.7 J	130	1	<0.1	12 J	0.0019	15 J	6.1 J	4.2	1,500	3.7	59	<0.2	2,200	3.1	--	--	2.6	500	4,300	--
CW-02M	12/06/21	N	1.1	2.3 J	<0.1	66	1.1 J	140	--	--	9.8 J	0.00075 J	14	15	3.4	1,500	3.5	63	--	2,200	3.2	--	--	2.8	500	4,100	--
CW-03D	10/07/20	N	1	2.5	1.8 J	19	2.6 J	79	3.40	0.13 J	7.3 J	0.014	16 J	8.7 J	4.4	1,600	2.7	68	<0.2	2,200	2.5	--	--	2.9	490	4,300	--
CW-03D	12/06/21	N	1.2	2.2 J	<0.1	19	0.89 J	73	--	--	4.6 J	0.0055 J	13	11	3.9	1,500	2.3	70	--	2,200	2.4	--	--	2.6	500	4,100	--
CW-03M	10/07/20	N	2.8	6.7	1.5 J	40	3.4 J	170	0.59 J	<0.1	17 J	0.0025 J	33 J	8 J	3.1	1,500	2.9	53	<0.2	2,300	3.7	--	--	2.6	510	4,500	--
CW-03M	10/07/20	FD	2.8	6	1.5 J	38	2.9 J	150	0.44 J	<0.1	15 J	0.0014 J	34 J	8.1 J	3.1	1,500	3	53	<0.2	2,300	3.8	--	--	2.6	510	4,400	--
CW-03M	12/06/21	N	2.2	3.6 J	<0.1	34	1.2 J	150	--	--	11 J	0.002 J	37	13	2.5	1,500	2.6	52	--	2,200	4.2	--	--	2.6	520	4,100	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
CW-04D	10/02/20	N	0.53	3.9	<0.1	23	1.2	100 J	0.099	0.058 J	11 J	0.0016	21	11	3.6	1,500	3	59	0.21	2,100	4.2	--	--	2.9	470	4,400	--
CW-04D	12/01/21	N	0.3	17	<0.1 J	30	0.99	160	--	--	11	0.095	24	13 J	3.5	1,500	5.3	72	--	2,100	2.9	--	--	2.7	480	4,300	--
CW-04M	10/02/20	N	1	4.8	<0.1	100	1.2	150 J	0.29	0.06 J	16 J	0.0022	12	13	5.9	1,400	3.6	60	<0.2	2,100	2.1	--	--	2.7	480	4,500	--
CW-04M	12/01/21	N	1.2	2.1	<0.1 J	98	0.91	210	--	--	14	<0.0005	10	13 J	3.2	1,400	3.2	57	--	2,100	2.3	--	--	2.7	490	4,200	--
IRZ-09-100	09/14/20	N	19	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-09-100	01/25/22	N	19	18	<0.1	75	1	330	<0.02	<0.02	27	0.0027	13	19 J	0.83	1,900 J	3	52	<0.2	3,000	3.2	1.8	<5	--	480	6,800	<1
IRZ-09-100	03/10/22	N	6.7	--	--	--	--	--	0.081	0.022	--	0.0016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-09-100	04/12/22	N	11	--	--	--	--	--	0.34	<0.02	--	0.0018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-09-100	05/18/22	N	15	--	--	--	--	--	0.14 J	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-09-100	06/13/22	N	18	--	--	--	--	--	--	0.048 J	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-13D-210	08/07/20	N	350	330	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-13D-210	03/10/22	N	350	340	<0.1 J	44 J	1.4	450	<0.02	0.059 J	52 J	0.062	34	29 J	0.96	4,200	2.5	52	<0.2	6,200	3.7	1.5	<5	--	950	12,000	<50
IRZ-13D-210	04/12/22	N	410	--	--	--	--	--	0.63	<0.02	--	0.028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-13D-210	05/17/22	N	500	--	--	--	--	--	<0.1 J	<0.02 J	--	0.0025	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-13D-210	06/13/22	N	500	--	--	--	--	--	--	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-13S-095	03/10/22	N	17	17	<0.1 J	76 J	1.1	430	0.06	<0.02 J	37 J	<0.0005	15	16 J	0.86	2,000	3.9	48	<0.22	2,800	3.8	1.6	<5	--	460	5,600	<1
IRZ-13S-095	04/12/22	N	6.2	--	--	--	--	--	0.18	<0.02	--	0.0029	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-13S-095	05/17/22	N	23	--	--	--	--	--	0.054 J	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-13S-095	06/13/22	N	23	--	--	--	--	--	--	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-15-055	06/30/20	N	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-15-055	12/20/21	N	590	690	<0.1 J	45	1.7	460	0.14 J	0.023	23	0.014	45	38 J	1.5	4,900	3.7	38	--	7,100	4.2	1.4	<5	--	920	13,000	<50
IRZ-15-055	04/12/22	N	960	930	<0.1 J	31	--	--	--	<0.02	--	0.0059	--	--	--	--	--	--	--	--	--	1.6	--	--	770	--	<1
IRZ-15-200	06/30/20	N	800	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
IRZ-15-200	12/20/21	N	65	77	<0.1 J	52	0.56	180	0.18 J	<0.02	26	0.00097	19	10 J	2.1	600 J	3.2	81	--	1,200	2.8	2.3	<5	--	230	2,400	<1
IRZ-15-200	04/12/22	N	320	260	<0.1 J	82	--	--	--	<0.02	--	0.0038	--	--	--	--	--	--	--	--	--	1.5	--	--	500	--	<1
IRZ-21-065	12/20/21	N	270	180	1.3 J	40	0.34	76	4.80 J	<0.02	21	<0.0005	10	7.5 J	3.5	400	8.5	96	--	470	1.9	4.6	<5	--	180	1,200	<1
IRZ-21-065	04/12/22	N	370	350	<0.1 J	63	--	--	--	<0.02	--	0.053	--	--	--	--	--	--	--	--	--	0.76	--	--	540	--	<1
IRZ-21-157	12/20/21	N	2,900	2,900	<0.1 J	230	1.7	640	3.50 J	<0.02	24	0.015	51	32 J	2.4	4,300	6	39	--	7,300	4.6	2.2	<5	--	840	13,000	<1
IRZ-21-157	04/12/22	N	410	460	<0.1 J	77	--	--	--	<0.02	--	0.16	--	--	--	--	--	--	--	--	--	0.5	--	--	600	--	<1
IRZ-23-143	12/21/21	N	150	150	0.92 J	51	0.63 J	170	0.69	0.091 J	26 J	<0.0005	6.7	9.9 J	4.1	580	9.6	87	<0.2	990	2	5.5	<5	--	220	2,200	<10
IRZ-23-143	01/25/22	N	780	--	--	--	--	--	0.13	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-23-143	02/21/22	N	880	--	--	--	--	--	<0.02	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<20
IRZ-23-143	03/10/22	N	900	--	--	--	--	--	0.11	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-23-143	04/12/22	N	710	--	--	--	--	--	0.13	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-23-143	05/17/22	N	650	--	--	--	--	--	<0.02 J	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-23-143	06/13/22	N	660	--	--	--	--	--	--	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1
IRZ-25-100	12/20/21	N	2,000	2,000	0.91 J	30	0.53	110	1.70 J	<0.02	19	0.00055	16	7.8 J	8.6	380	5.7	89	--	490	1.4	12	<5	--	270	1,500	<1
IRZ-25-100	04/12/22	N	2,600	2,500	0.85 J	25	--	--	--	<0.02	--	0.013	--	--	--	--	--	--	--	--	--	14	--	--	300	--	<1
IRZ-25-166	12/20/21	N	3,700	810	<0.1 J	41	0.9	160	0.25 J	<0.02	17	0.018	17	15 J	7.2	420 J	5	47	--	5,600	4.2	2.8	<5	--	790	13,000	<1
IRZ-25-166	04/12/22	N	1,400	1,300	<0.1 J	39	--	--	--	<0.02	--	0.0062	--	--	--	--	--	--	--	--	--	7.2	--	--	380	--	<1
IRZ-33-077	01/04/22	N	2,200	2,200	1.2	35	0.94 J	140	0.96	<0.02	26 J	<0.0005	91	11 J	62	940	4.2	120	--	1,000	2.3	27	<5	--	620	2,900	<1
MARINA-1	09/20/21	N	1.28	<10	<10	80.7	2.87	338	--	<1	10.4	<0.1	61.4	51.3	<10	5,360	<10	--	--	9,580	3.28	--	--	--	653	19,400	--
MARINA-1	03/10/22	N	2.08	<10	<10	74.1	2.64	313	--	<1	8.92	<0.1	66.7	49.6	<10	5,280	<10	--	--	12,400	3.5	--	--	--	864	14,600	--
MARINA-1	03/10/22	FD	1.99	<10	<10	73.9	2.59	316	--	<1	8.92	<0.1	67.5	50.3	<10	5,260	<10	--	--	11,700	3.26	--	--	--	754	16,800	--
MARINA-1	05/17/22	N	3.73	<10	<10	63.2	1.63	209	--	<1	10.6	<0.1	41.8	32	<10	3,120	<10	39.8	--	13,400	3.75	--	--	--	902	15,400	--
MTS-1	09/22/21	N	2.02	3.32	15.3	82.6	0.996	87.8	--	<0.1	2.84	<0.01	19.5	7.94	<1	404	9.65	--	--	565	5.25	--	--	--	129	1,090	--
MTS-1	11/15/21	N	<0.2	<1	23.9	28.1	0.487	11.2	--	<0.1	0.358	<0.01	14.3	6.38	<1	352	<1	40.7	0.261	1,160	4.74	--	--	--	128	2,090	--
MTS-1	02/16/22	N	<1	<1	20.7	65.8	0.667	91	--	<0.1	2.84	<0.01	16.2	8.49	<1	602	3.69	--	--	938	5.08	--	--	--	126	1,810	--
MTS-1	05/17/22	N	0.687	<10	13	88.8	0.728	92.8	--	<1	3.16	<0.1	<20	8.13	<10	434	<10	71.3	--	878	5.47	--	--	--	137	1,350	--
MTS-2	09/22/21	N	8.5	10.3	18.1	84.4	0.972	88	--	<0.1	2.82	<0.01	19.1	7.87	<1	400	11.8	--	--	586	5.1	--	--	--	124	1,120	--
MTS-2	11/15/21	N	5.43	7.3	17.3	82.6	0.756	85.6	--	<0.1	3.07	<0.01	17.9	7.68	<1	370	11.2	69.8	<0.1	724	5	--	--	--	144	1,350	--
MTS-2	02/16/22	N	5.54	8.37	16.6	89.7	0.804	91.9	--	0.178	3.17	0.0218	19.6	7.6	<1	393	12.3	--	--	612	5.48	--	--	--	132	1,260	--
MTS-2	05/17/22	N	9.87	11	17.1	88.9	0.744	94.3	--	<1	3.22	<0.1	<20	7.77	<10	386	10.2	74	--	760	5.49	--	--	--	161	1,300	--
MW-09	04/24/20	N	130	130	1.1	--	--	--	--	--	--	0.0021	6.8	--	5.3	--	--	--	--	--	--	--	--	11	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-09	12/01/20	N	120	120	1.8	--	1 J	100 J	--	<0.02	36 J	0.0017	4.4	--	5.3	450 J	--	120	--	740	--	--	--	--	250	1,700	--
MW-09	02/24/21	N	120	120	--	--	--	--	--	--	--	--	4.7	--	5.8	--	--	--	--	--	--	--	--	13	--	--	--
MW-09	05/19/21	N	120	110	0.86	--	--	--	--	--	--	<0.0005	3.9	--	5.2	--	--	--	--	--	--	--	--	11	--	--	--
MW-09	12/08/21	N	170	170	0.38	--	--	--	--	--	--	0.0016 J	6.2	--	6.2	--	--	--	--	--	--	--	--	14	--	--	--
MW-09	12/08/21	FD	170	180	0.52	--	--	--	--	--	--	0.002 J	6.7	--	6.4	--	--	--	--	--	--	--	--	14	--	--	--
MW-09	06/08/22	N	0.9	4	--	--	--	--	--	--	--	--	10	--	2.2	--	--	--	--	--	--	3.1	--	--	--	--	--
MW-09	06/08/22	FD	1.1	4.1	--	--	--	--	--	--	--	--	11	--	2.3	--	--	--	--	--	--	2.9	--	--	--	--	--
MW-10	04/23/20	N	150	150	--	--	--	--	--	--	--	--	19	--	6.1	--	--	--	--	--	--	--	--	12	--	--	--
MW-10	11/30/20	N	120	120	2.2	51	1 J	120 J	--	0.029 J	26 J	0.0071	21	--	6	280 J	14	120	--	520	--	--	--	12	250	1,400	--
MW-10	11/30/20	FD	120	120	2.2	50	1 J	120 J	--	0.026 J	26 J	0.0067	20	--	5.3	300 J	14	120	--	520	--	--	--	12	260	1,400	--
MW-10	02/24/21	N	110	120	--	--	--	--	--	--	--	--	16	--	6.5	--	--	--	--	--	--	--	--	9	--	--	--
MW-10	05/05/21	N	130	130 J	1.5	--	--	160	--	--	--	0.00057	17	13 J	6.3	420	--	--	--	670	--	--	--	8.8	270	1,700	--
MW-10	09/22/21	N	120	140 J	1.6 J	--	--	150 J	--	--	23 J	<0.0005	17 J	11	7.3	500	--	--	--	710	--	--	--	11	280	1,800	--
MW-10	12/08/21	N	69	71	0.93	--	--	--	--	--	--	0.0013 J	15	--	6.1	--	--	--	--	--	--	--	--	11	--	--	--
MW-10	12/08/21	FD	67	72	0.92	--	--	--	--	--	--	0.0011 J	15	--	6.2	--	--	--	--	--	--	--	--	11	--	--	--
MW-10	06/08/22	N	98	96	--	--	--	--	--	--	--	--	16	--	5.8	--	--	--	--	--	--	9.6	--	--	--	--	--
MW-10	06/08/22	FD	99	95	--	--	--	--	--	--	--	--	16	--	6.1	--	--	--	--	--	--	9.6	--	--	--	--	--
MW-10D	02/24/20	N	370	370	0.43	54	1.3	160	0.022 J	<0.02	31	<0.0005	1.8	14 J	7.6	620	9.1	120	0.05 J	980	1.1	--	--	11	370	2,500	<1
MW-10D	05/28/20	N	380	390	0.52	53	1.3	150	0.24	0.022	37	0.0024	2.3	14 J	7.9	710	10	120	<0.2	1,000	<1	--	--	13 J	380	2,400	<1
MW-10D	08/19/20	N	410	380	<0.1	40	1.3	130 J	0.089	0.065 J	35	0.018	1.9	14	8	640	11	120	<0.2	980	1.1	--	--	13 J	370	2,500	<1
MW-10D	12/10/20	N	420	390	0.21	46	1.1	140 J	0.18 J	0.046 J	39	<0.0005	1.4	15	7.7	580	11	120	<0.2	1,000	1.2	--	--	13	390	2,400	<1
MW-10D	02/24/21	N	380	380	<0.1	49 J	1.4	170	0.25 J	<0.02	41	<0.0005	1.4	16 J	7.1	800 J	11	120	<0.22	1,000	1.3	--	--	9.9	380	2,300	<1
MW-10D	05/05/21	N	400	370 J	<0.1	--	--	200	--	--	--	<0.0005	1.6	16 J	6.9	630	--	--	--	990	--	--	--	12	370	2,300	--
MW-10D	05/19/21	N	400	390	<0.1	45	1.1	160	<0.02 J	<0.02	32 J	<0.0005	1.4	16 J	7.3	590	12	120	<0.2	980	1.1	--	--	12	380	2,300	<1
MW-10D	08/24/21	N	240	270	<0.1	43	1.1	130	0.053 J	<0.02 J	28	<0.0005 J	1.4	18 J	6.6	630	14	120	<0.2	920	1.2	--	--	11	370	2,200	<1
MW-10D	09/22/21	N	94	120 J	<0.1 J	--	--	120 J	--	--	22 J	<0.0005	1.4 J	12	6.6	520	--	--	--	840	--	--	--	9.5	270	1,900	--
MW-10D	12/08/21	N	88	89	<0.1	--	--	--	--	--	--	<0.0005 J	1.8	--	5.3	--	--	--	--	--	--	--	--	9.5	--	--	--
MW-10D	06/08/22	N	160	150	--	--	--	--	--	--	--	--	1.5	--	5.7	--	--	--	--	--	--	8.9	--	--	--	--	--
MW-11	04/23/20	N	43	43	0.9	--	--	--	--	--	--	0.0013	5.8	--	4	--	--	--	--	--	--	--	--	5.2	--	--	--
MW-11	12/10/20	N	33	33	1.4	--	0.68	120	--	0.1 J	26	0.0006	5.1 J	--	4	270	--	87	--	590	--	--	--	4.4	170	1,300	--
MW-11	05/19/21	N	38	37	0.42	--	--	--	--	--	--	<0.0005	5.7	--	4.1	--	--	--	--	--	--	--	--	5	--	--	--
MW-11	12/09/21	N	170	180	0.48 J	--	--	--	--	--	--	0.00077	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	06/08/22	N	45	44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11D	01/29/20	N	390	380	<0.1	59	1.7	400	0.16	0.036	73 J	0.049	6.6	18	5	800	3.8	84	<0.1	1,500	1.2	--	--	6.6	460	3,500	<1
MW-11D	02/24/20	N	390	370	<0.1	54	1.5	320	0.15 J	0.11 J	52	0.012	6.2	18 J	4.8	730	4.1	86	0.05 J	1,500	<2	--	--	6.4	480	3,800	<1
MW-11D	05/28/20	N	340	340	<0.1	54	1.5	340	0.26	0.037	62	0.0058	7.2	19 J	4.6	750	3.8	86	<0.2	1,600	<2	--	--	8.1 J	520	4,400	<1
MW-11D	08/26/20	N	480	460	<0.1	53	1.4 J	260	0.15 J	<0.02	64 J	0.0021	6.1	19 J	5.2	830 J	4.9	86	<0.2	1,600	<2	--	--	7.8 J	500	4,400	<1 J
MW-11D	12/10/20	N	530	520	<0.1	49	1.3	300 J	0.23 J	<0.02 J	62	<0.0005	4.6	20	5	680	5.8	85	<0.2	1,700	<2	--	--	7.8	490	3,500	<1
MW-11D	02/24/21	N	490	510	<0.1	55 J	1.6	400	0.055 J	<0.02	66	<0.0005	4.9	21 J	4.7	770 J	6.3	83	<0.22	1,600	2.1	--	--	5.7	500	3,700	<1
MW-11D	05/19/21	N	510	490	<0.1	50	1.3	330	0.042 J	0.024	53 J	<0.0005	5.9	20 J	5.3	830	5.8	82	<0.2	1,800	<2	--	--	7.4	550	4,000	<1
MW-11D	08/24/21	N	300	330	<0.1	63	0.88	350	0.023 J	<0.02 J	64	<0.0005 J	4.1	23 J	4.1	820	5.9	79	<0.2	1,600	<2	--	--	5.3 J	360	4,100	<1
MW-11D	12/09/21	N	150	150	<0.1 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11D	06/08/22	N	220	230	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-12	04/28/20	N	2,700	2,800	45	--	--	--	--	--	--	0.0014	8.8	--	13	--	--	--	--	--	--	--	--	15	--	--	--
MW-12	12/14/20	N	1,600	1,900	45	41	1.2	22 J	--	0.068 J	5.8	0.0022	10	--	28	1,200	20	110	--	1,800	--	--	--	15	470	3,800	--
MW-12	12/14/20	FD	1,600	1,900	48	43	1.1	24 J	--	0.12 J	6.4	0.0023	10	--	28	1,400	20	110	--	1,700	--	--	--	14	460	3,900	--
MW-12	02/17/21	N	1,400	1,600	--	--	--	--	--	--	--	--	12	--	29	--	--	--	--	--	--	--	--	15	--	--	--
MW-12	05/26/21	N	1,300	1,200	--	--	--	--	--	--	--	--	11	--	34	--	--	--	--	--	--	--	--	16	--	--	--
MW-12	12/13/21	N	2,000	2,000	35	--	--	--	--	--	--	0.00064	9.7	--	19	--	--	--	--	--	--	--	--	17	--	--	--
MW-12	06/08/22	N	2,300	2,400	--	--	--	--	--	--	--	--	12	--	15	--	--	--	--	--	--	14	--	--	--	--	--
MW-12	06/08/22	FD	2,200	2,400	--	--	--	--	--	--	--	--	13	--	16	--	--	--	--	--	--	15	--	--	--	--	--
MW-13	12/14/20	N	23	24	1.9	--	0.68	120 J	--	0.043 J	21	0.0026	12	--	3.3	340	--	71	--	680	--	--	--	--	150	1,600	--
MW-13	12/07/21	N	19	20	0.8 J	--	--	--	--	--	--	0.0051 J	12	--	3	--	--	--	--	--	--	--	--	5.4	--	--	--
MW-13	12/07/21	FD	18	20	0.81 J	--	--	--	--	--	--	0.0047 J	11	--	2.8	--	--	--	--	--	--	--	--	5.5	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-13	06/16/22	N	22	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-14	06/24/20	N	12	12	0.12	--	--	--	--	--	--	0.00079	10	--	1.8	--	--	--	--	--	--	--	--	--	3.2	--	--	--
MW-14	06/24/20	FD	12	12	0.18 J	--	--	--	--	--	--	0.00072	10	--	2	--	--	--	--	--	--	--	--	--	2.8	--	--	--
MW-14	12/10/20	N	13	13	<0.1	190	0.25	160	--	0.067 J	30	0.00097	10	--	2	370	2.5	60	--	940	--	--	--	2.8	150	1,900	--
MW-14	05/28/21	N	17	16	0.82	--	--	--	--	--	--	0.0022	12	--	2	--	--	--	--	--	--	--	--	3.7	--	--	--	--
MW-14	12/07/21	N	12	12	<0.1 J	--	--	--	--	--	--	0.0026 J	13	--	2.1	--	--	--	--	--	--	--	--	3.7	--	--	--	--
MW-14	06/16/22	N	11	11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	12/10/20	N	15	14	--	--	0.2	130	--	0.069 J	36	<0.0005	3.1	--	3.5	220	--	67	--	590	--	--	--	--	170	1,400	--
MW-15	12/02/21	N	13	13	1.2 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-15	06/14/22	N	12	11 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	04/27/20	N	32	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	12/07/20	N	94	92 J	--	--	0.62 J	100 J	--	0.022 J	19 J	<0.0005	6.6 J	--	3.2 J	230 J	--	100	--	510	--	--	--	--	160	1,200	--
MW-19	05/28/21	N	500	500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	12/13/21	N	43	48	0.3	--	--	--	--	--	--	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-19	06/17/22	N	55	54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-20-070	04/24/20	N	2,500	2,500	2.2	--	--	--	--	--	--	0.0022	29	--	7.7	--	--	--	--	--	--	--	--	--	13	--	--	--
MW-20-070	12/04/20	N	1,600 J	1,700	--	--	0.6 J	78	--	0.024 J	22 J	<0.0005	27	5.9	11	280	--	88	--	470	--	--	--	--	17	320	1,400	--
MW-20-070	05/28/21	N	1,700	1,700	--	--	--	--	--	--	--	--	22	--	21	--	--	--	--	--	--	--	--	--	25	--	--	--
MW-20-070	12/15/21	N	570	590	0.9	47	--	--	--	0.037 J	--	<0.0005	18	--	33 J	--	--	--	<0.2	--	--	--	<5	39	490	--	<1
MW-20-070	02/03/22	N	520	--	2.1 J	32	--	--	--	<0.02 J	--	0.0046	--	--	--	--	--	--	--	--	--	21	--	--	330	--	<1
MW-20-070	03/10/22	N	450	420	1.5	26	--	--	--	<0.02	--	<0.0005	20	--	15	--	--	--	<0.2	--	--	17	--	--	300	--	<5
MW-20-070	03/10/22	FD	450	450	1.6	26	--	--	--	<0.02	--	<0.0005	21	--	16	--	--	--	<0.2	--	--	17	--	--	300	--	<1
MW-20-070	04/14/22	N	320	--	1.4	24	--	--	--	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	14 J	--	--	250	--	<5
MW-20-070	05/20/22	N	330	--	1.1 J	29 J	--	--	--	<0.02	--	0.0016	--	--	--	--	--	--	--	--	--	16	--	--	280	--	<1
MW-20-070	05/20/22	FD	330	--	0.95 J	26 J	--	--	--	<0.02	--	0.0013	--	--	--	--	--	--	--	--	--	16	--	--	270	--	<1
MW-20-070	06/13/22	N	610	610 J	0.62 J	35	--	--	--	<0.02	--	<0.0005	19	--	22	--	--	--	<0.2	--	--	24	<5	--	410	--	<1
MW-20-100	04/24/20	N	750	760	1.3	--	--	--	--	--	--	0.0011	4.8	--	5.4	--	--	--	--	--	--	--	--	7.5	--	--	--	--
MW-20-100	12/04/20	N	610 J	660	--	--	1 J	95	--	<0.02 J	19 J	<0.0005	3.8	6.1 J	5.6	250	--	140	--	460	--	--	--	6.7	210	1,200	--
MW-20-100	05/28/21	N	680	690	--	--	--	--	--	--	--	--	3.8	--	5	--	--	--	--	--	--	--	--	6.6	--	--	--	--
MW-20-100	12/15/21	N	650	660	1.3	24	--	--	--	0.033 J	--	<0.0005	3.6	--	6 J	--	--	--	<0.2	--	--	--	<2.5	7.9	200	--	<1
MW-20-100	02/03/22	N	1,300	--	1.6 J	31	--	--	--	0.022 J	--	0.0052	--	--	--	--	--	--	--	--	--	6	--	--	270	--	<1
MW-20-100	03/10/22	N	2,100	2,000	0.65	44	--	--	--	0.1	--	<0.0005	3.1	--	14	--	--	--	0.29	--	--	9.3	--	--	400	--	<1
MW-20-100	04/14/22	N	1,300	--	<0.1	83	--	--	--	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	6.3 J	--	--	740	--	<1
MW-20-100	04/14/22	FD	1,300	--	<0.1	83	--	--	--	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	6.5 J	--	--	740	--	<1
MW-20-100	05/20/22	N	880	--	<0.1 J	62 J	--	--	--	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	4.3	--	--	650	--	<1
MW-20-100	06/13/22	N	910	980 J	<0.1 J	66	--	--	--	<0.02 J	--	<0.0005	2.1	--	11	--	--	--	<0.2	--	--	5.1	<5	--	700	--	<1
MW-20-130	04/24/20	N	5,900	6,100	0.97	--	--	--	--	--	--	0.00084	42	--	22	--	--	--	--	--	--	--	--	11	--	--	--	--
MW-20-130	12/04/20	N	4,000 J	4,400	<0.1	--	2 J	140	--	0.092 J	20 J	0.0025	20	64	53	1,200	--	57 J	--	2,200	--	--	--	11	1,000	5,200	--
MW-20-130	12/04/20	FD	4,100 J	4,500	<0.1	--	2.2 J	150	--	0.023 J	21 J	0.0023	19	67 J	51	1,300	--	92 J	--	2,500	--	--	--	11	940	5,800	--
MW-20-130	05/28/21	N	4,100	4,000	3.1	--	--	--	--	--	--	0.0015	24	--	39	--	--	--	--	--	--	--	--	12	--	--	--	--
MW-20-130	12/15/21	N	3,300	3,400	0.22	24	--	--	--	<0.02 J	--	0.0016	22	--	37 J	--	--	--	<0.2	--	--	--	<5	13	960	--	<1
MW-20-130	02/03/22	N	6,000	--	<0.1	29	--	--	--	<0.02 J	--	0.0053	--	--	--	--	--	--	--	--	--	9.3	--	--	870	--	<1
MW-20-130	03/10/22	N	4,800	4,500	<0.1	26	--	--	--	0.041	--	0.0021	32	--	21	--	--	--	<0.2	--	--	9	--	--	950	--	<1
MW-20-130	04/14/22	N	3,300	--	<0.1	29	--	--	--	<0.1	--	0.00072	--	--	--	--	--	--	--	--	--	7 J	--	--	1,100	--	<1
MW-20-130	05/20/22	N	2,000	--	<0.1 J	32 J	--	--	--	<0.02	--	0.0032	--	--	--	--	--	--	--	--	--	4	--	--	1,400	--	<1
MW-20-130	06/13/22	N	1,700	1,600 J	<0.1 J	32	--	--	--	<0.02	--	0.0022	8.5	--	13	--	--	--	<0.2	--	--	4.3	<5	--	1,400	--	<1
MW-20-130	06/13/22	FD	1,700	1,700 J	<0.1 J	34	--	--	--	0.04 J	--	0.0024	9	--	14	--	--	--	<0.2	--	--	4.3	<5	--	1,400	--	<1
MW-21	04/30/20	N	4.6	5.4	--	--	--	--	--	--	--	--	46	--	42	--	--	--	--	--	--	--	--	2.8	--	--	--	--
MW-21	12/15/20	N	<1	<1	--	--	6.4	190 J	--	<0.1	97	0.038	64	--	4.7	2,900	--	750	--	3,400	--	--	--	0.21	1,600	9,700	--
MW-21	06/08/21	N	<1	1.7	--	--	--	--	--	--	--	--	43	--	4.2	--	--	--	--	--	--	--	--	0.81	--	--	--	--
MW-21	12/16/21	N	<1	<1	<0.1	41	--	--	--	0.076 J	--	0.2	65	--	4.5	--	--	--	<0.2	--	--	--	<5	0.27	1,600	--	<1
MW-21	02/03/22	N	6.7	--	6.4 J	32	--	--	--	0.77 J	--	0.04	--	--	--	--	--	--	--	--	--	4.8	--	--	1,100	--	<25
MW-21	03/14/22	N	2.3	5.6	14 J	35	--	--	--	0.13	--	0.028	28	--	76	--	--	--	<0.2	--	--	3.9	--	--	1,400	--	<20
MW-21	03/14/22	FD	2.4	5.7	9 J	36	--	--	--	0.16	--	0.029	28	--	78	--	--	--	<0.2	--	--	3.7	--	--	1,400	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-21	04/12/22	N	0.34	--	6 J	31	--	--	--	0.068	--	0.14	--	--	--	--	--	--	--	--	--	1	--	--	1,500	--	<1
MW-21	05/18/22	N	<0.2	--	7.6	35	--	--	--	0.93 J	--	0.48	--	--	--	--	--	--	--	--	--	<0.5	--	--	2,000	--	<1
MW-21	06/14/22	N	<0.2	3.8	8.2	38 J	--	--	--	1.10	--	0.68	64	--	1.4 J	--	--	--	<0.2	--	--	<0.5	<5	--	1,900	--	<1
MW-22	06/16/20	N	<0.2	<1	3.2	--	--	--	--	--	--	1.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-22	12/08/20	N	<1	<1	14	120	3.9 J	560 J	--	8.80 J	280 J	4	32	--	<0.5	4,500 J	1.1	690	--	7,700	--	--	--	--	2,000	15,000	--
MW-22	12/08/20	FD	<1	<1	15	130	4.1 J	550 J	--	9.10 J	290 J	4.10	33	--	<0.5	4,600 J	1.1	690	--	8,000	--	--	--	--	2,000	15,000	--
MW-22	04/27/21	N	<1	<1	8.2	--	--	--	--	--	--	1.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-22	11/30/21	N	<1	<1	22 J	87	--	--	--	8.20	--	2.50	36	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.3
MW-22	11/30/21	FD	<1	<1	24 J	92	--	--	--	8	--	2.50	38	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.4
MW-22	03/04/22	N	<1	--	6.5	110	--	--	--	11	--	4.30	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	1
MW-22	05/05/22	N	<1	<1	3.7 J	110 J	--	--	--	4.30	--	2.10	--	--	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--	1.8
MW-22	05/05/22	FD	<1	<1	5.1 J	150 J	--	--	--	4.80	--	2	--	--	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--	1.8
MW-23-060	06/18/20	N	40	37	0.86 J	--	--	--	--	--	--	0.001	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-060	12/08/20	N	42	40	4.5	--	1.6 J	810 J	--	<0.1 J	5.2 J	0.00095	21	--	4.8	3,000 J	--	16	--	5,800	--	--	--	--	670	12,000	--
MW-23-060	04/30/21	N	41	38	<0.1	--	--	--	--	--	--	0.00073	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-060	12/09/21	N	36	35	<0.1 J	--	--	--	--	--	--	0.0016	24	--	5.3	--	--	--	--	--	--	--	--	5.7	--	--	--
MW-23-060	12/09/21	FD	36	34	<0.1 J	--	--	--	--	--	--	0.0015	23	--	5	--	--	--	--	--	--	--	--	5.8	--	--	--
MW-23-060	06/09/22	N	43	38 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-080	06/18/20	N	<1	<1	4.9 J	--	--	--	--	--	--	0.0012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-080	12/08/20	N	<1	<1	5.9	--	1.9 J	770 J	--	<0.1 J	<500	0.001	45	--	5	3,500 J	--	50	--	5,700	--	--	--	--	1,000	12,000	--
MW-23-080	04/30/21	N	<1	1.3	<0.1	--	--	--	--	--	--	0.0015	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-23-080	12/09/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.00094	46	--	4.5	--	--	--	--	--	--	--	--	4.7	--	--	--
MW-23-080	06/09/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-24A	05/01/20	N	<0.2	2.9	<0.1	--	--	--	--	--	--	0.017	100	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-24A	10/05/20	N	<0.2	3.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-24A	12/01/20	N	<0.2	<1	0.43	23	--	--	--	--	--	0.02	120	--	<0.5	--	<1	--	--	--	--	--	--	--	--	--	--
MW-24A	12/01/20	FD	<0.2	<1	0.35	23	--	--	--	--	--	0.02	110	--	<0.5	--	<1	--	--	--	--	--	--	--	--	--	--
MW-24A	05/05/21	N	<0.2	<1 J	<0.1	--	--	11	--	--	--	0.015	96	3.6 J	<0.5	400	--	--	--	300	--	--	--	<0.05	180	990	--
MW-24A	12/09/21	N	<0.2	1.9	<0.1 J	--	--	--	--	--	--	0.43	110	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-24A	06/16/22	N	<0.2	<1	--	--	--	--	--	--	--	--	46	--	0.63	--	--	--	--	--	--	0.55	--	--	--	--	--
MW-24A	06/16/22	FD	<0.2	<1	--	--	--	--	--	--	--	--	42	--	<0.5	--	--	--	--	--	--	0.5	--	--	--	--	--
MW-24B	05/01/20	N	120	140	<0.5	--	--	--	--	--	--	0.096	56	--	<2.5	--	--	--	--	--	--	--	--	0.87	--	--	--
MW-24B	10/05/20	N	<1	57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-24B	12/01/20	N	64	65	3.8	74	--	--	--	--	--	0.12	63	--	1.8	--	3.6	--	--	--	--	--	--	--	--	--	--
MW-24B	05/05/21	N	48	45 J	<0.1	--	--	97	--	--	--	0.11	59	51 J	1.4	5,600	--	--	--	6,700	--	--	--	0.48	760	13,000	--
MW-24B	12/09/21	N	<1	1.3	<0.1 J	--	--	--	--	--	--	0.087	63	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-24B	12/09/21	FD	<1	1.1	<0.1 J	--	--	--	--	--	--	0.087	64	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-24B	06/16/22	N	45	160	--	--	--	--	--	--	--	--	36	--	1.4	--	--	--	--	--	--	1.3	--	--	--	--	--
MW-24BR	12/02/20	N	<1	<1	0.63	--	3	100	--	0.8	4.3	0.16	58	--	<0.5	2,700	--	45	--	4,400	--	--	--	<0.1	450	8,900	--
MW-24BR	12/10/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.079	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-24BR	06/17/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-25	06/24/20	N	56	55	0.96	--	--	--	--	--	--	0.0027	4.3	--	7.5	--	--	--	--	--	--	--	--	13	--	--	--
MW-25	06/24/20	FD	57	56	0.93	--	--	--	--	--	--	0.0032	4.4	--	7.4	--	--	--	--	--	--	--	--	12	--	--	--
MW-25	12/07/20	N	68	65 J	0.79	--	0.55 J	110 J	--	0.032 J	27 J	0.00055	5.9 J	7.5 J	6.7 J	180 J	--	120	--	400	--	--	--	12	220	1,200	--
MW-25	05/25/21	N	55	56	1.5 J	--	--	--	--	--	--	0.00062	4.6	--	7.3	--	--	--	--	--	--	--	--	11	--	--	--
MW-25	05/25/21	FD	55	56	1.2 J	--	--	--	--	--	--	0.00051	4.7	--	8	--	--	--	--	--	--	--	--	12	--	--	--
MW-25	12/07/21	N	70	80	0.75 J	--	--	--	--	--	--	0.0036 J	14	--	6.2	--	--	--	--	--	--	--	--	10	--	--	--
MW-25	06/14/22	N	58	53 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-26	04/27/20	N	2,300	2,300	0.88	--	--	--	--	--	--	0.0015	35	--	39	--	--	--	--	--	--	--	--	21	--	--	--
MW-26	12/03/20	N	2,200	2,200	0.74	33 J	1.1	120	--	0.084	40	<0.0005	33	9	31 J	470	7.5	130	--	770	--	--	--	18	470	2,200	--
MW-26	12/03/20	FD	2,200	2,500	0.88	33 J	1.1	130	--	0.074	41	<0.0005	32	9.6	31 J	500	7.9	140	--	760	--	--	--	18	460	2,200	--
MW-26	05/20/21	N	2,200	2,300	0.48	--	--	--	--	--	--	<0.0005	31	--	33	--	--	--	--	--	--	--	--	19	--	--	--
MW-26	12/15/21	N	2,200	2,300	0.92	33	--	--	--	0.046 J	--	0.0023	16	--	13 J	--	--	--	<0.2	--	--	--	<5	13	430	--	<1
MW-26	02/02/22	N	1,800	--	1.2 J	36	--	--	--	0.037	--	0.006	--	--	--	--	--	--	--	--	--	12	--	--	400	--	<5

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-26	03/14/22	N	1,600	1,600	0.82 J	45	--	--	--	0.022	--	0.62	13	--	8.5	--	--	--	<0.2	--	--	6.8	--	--	380	--	<1
MW-26	03/14/22	FD	1,600	1,600	0.75 J	44	--	--	--	<0.02	--	0.64	13	--	8.5	--	--	--	<0.2	--	--	6.7	--	--	390	--	<1
MW-26	04/13/22	N	740	--	<0.1	84	--	--	--	0.033 J	--	0.72	--	--	--	--	--	--	--	--	--	3.1	--	--	480	--	<1
MW-26	05/20/22	N	340	--	<0.1 J	87 J	--	--	--	<0.02	--	0.12	--	--	--	--	--	--	--	--	--	1.2	--	--	560	--	<1
MW-26	06/14/22	N	140	130	<0.1	88 J	--	--	--	0.049	--	0.88	6.4	--	1 J	--	--	--	<0.2	--	--	0.73	<5	--	550	--	<1
MW-27-020	12/03/20	N	<0.2	<1	0.86 J	--	<100	73	--	0.1 J	27 J	0.012	5.8	--	0.54	66 J	--	170	--	91	--	--	--	<0.1	220	620	--
MW-27-020	12/01/21	N	<0.2	<1	0.71	55	--	--	--	0.032	--	0.0094	5.9	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1
MW-27-020	03/10/22	N	<0.2	--	0.89	53	--	--	--	0.034	--	0.056	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	1
MW-27-020	05/05/22	N	<0.2	<1	0.55 J	75 J	--	--	--	<0.02	--	<0.0005 J	--	--	--	--	--	--	--	--	--	0.44	--	--	--	--	1.5
MW-27-060	12/03/20	N	<0.2	<1	9.8 J	--	0.1	78	--	0.35 J	23 J	0.28	4.6	--	<0.5	68 J	--	190	--	87	0.66	--	--	<0.1	210	640	--
MW-27-060	12/01/21	N	<0.2	<1	12	70	--	--	--	0.39	--	0.27	4.7	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.3
MW-27-060	03/10/22	N	<0.2	--	8.5	73	--	--	--	0.34	--	0.24	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	1.3
MW-27-060	05/05/22	N	<0.2	<1	9.1 J	68 J	--	--	--	0.43	--	0.24 J	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	1.4
MW-27-085	06/18/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.11	16	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-27-085	12/03/20	N	<1	<1	<0.1 J	--	1.1	180	--	0.1 J	56 J	0.078	21	--	<0.5	1,400 J	--	260	--	2,900	2.2	--	--	<0.1	660	6,800	--
MW-27-085	04/27/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.1	16 J	--	<0.5	--	--	--	--	--	--	--	--	0.061	--	--	--
MW-27-085	12/01/21	N	<1	<1	<0.1	43	--	--	--	0.17	--	0.14	19	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-27-085	03/10/22	N	<1	--	<0.1	40	--	--	--	0.14	--	0.14	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-27-085	05/05/22	N	<1	<1	<0.1 J	37 J	--	--	--	0.24	--	0.13 J	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	<1
MW-28-025	06/23/20	N	<0.2	<1	0.52	--	--	--	--	--	--	0.0022	4.1	--	1.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-28-025	12/15/20	N	<0.2	<1	0.58	--	0.43	99 J	--	<0.02	30	0.0031	4.5	--	1.5	100	--	220	--	100	--	--	--	<0.05	250	750	--
MW-28-025	04/29/21	N	<0.2	<1	0.7	--	--	--	--	--	--	0.24	5.5	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-28-025	12/08/21	N	<0.2	<1	0.4	68	--	--	--	<0.02	--	0.006	4.6	--	1.3	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-28-025	03/08/22	N	<0.2	--	0.48 J	61	--	--	--	<0.02 J	--	0.0067	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-28-025	05/04/22	N	<0.2	<1	0.57	57	--	--	--	<0.02 J	--	0.046	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-28-090	06/23/20	N	<0.2	<1	1	--	--	--	--	--	--	0.28	20	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-28-090	12/15/20	N	<0.2	<1	2	--	1.3	190 J	--	0.43 J	52	0.12	24	--	<0.5	1,300	--	260	--	1,800	1.8	--	--	<0.05	560	4,400	--
MW-28-090	04/29/21	N	<0.2	<1	0.43	--	--	--	--	--	--	0.29	25	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-28-090	12/08/21	N	<0.2	<1	<0.1	27	--	--	--	0.59	--	0.14	26	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-28-090	03/08/22	N	<0.2	--	<0.1 J	27	--	--	--	0.87 J	--	0.27	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-28-090	05/04/22	N	<0.2	<1	<0.1	29	--	--	--	0.99 J	--	0.43	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-29	06/23/20	N	<0.2	<1	8.4	--	--	--	--	--	--	0.29	18	--	3.3	--	--	--	--	--	--	--	--	0.13	--	--	--
MW-29	12/04/20	N	<0.2	<1	15	--	0.57 J	84	--	1.40 J	45 J	0.22	9.2	--	1.5	220	--	430	--	260	--	--	--	<0.1	250	1,200	--
MW-29	04/29/21	N	<0.2	<1	8	--	--	--	--	--	--	0.39	13	--	1.7	--	--	--	--	--	--	--	--	0.15	--	--	--
MW-29	12/02/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-29	03/08/22	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-29	06/13/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-30-030	12/07/20	N	<1	<1 J	0.91	--	1.7 J	51 J	--	0.85 J	52 J	0.25	57 J	--	1.6 J	1,400 J	--	1,000	--	1,200	--	--	--	<0.1	1,400	5,000	--
MW-30-030	12/03/21	N	<1	<1	<0.1	250	--	--	--	0.54 J	--	0.18	48	--	0.54	--	--	--	--	--	--	--	--	0.1	--	--	11
MW-30-030	03/09/22	N	<1	--	<0.1	120	--	--	--	0.26 J	--	0.079	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	2.9
MW-30-030	05/03/22	N	<1	<1	0.2	76	--	--	--	0.17	--	0.049	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	5.6
MW-30-050	12/07/20	N	<0.2	<1 J	2.7	--	0.31 J	82 J	--	0.062 J	19 J	0.2	4.3 J	--	<0.5	81 J	--	180	--	87	--	--	--	<0.1	200	630	--
MW-30-050	12/03/21	N	<0.2	2.6	2.7	21	--	--	--	0.038 J	--	0.26	4.9	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1
MW-30-050	03/09/22	N	1.4	--	2.4	18	--	--	--	<0.02 J	--	0.0021	--	--	--	--	--	--	--	--	--	0.14	--	--	--	--	<1
MW-30-050	05/03/22	N	<0.2	2.6	2.2	19	--	--	--	0.02	--	0.38	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-30-050	06/17/22	N	<0.2	--	2 J	21	--	--	--	0.058 J	--	0.54 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	210	--	<1
MW-31-060	06/24/20	N	320	280	0.36	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-31-060	12/07/20	N	410	400 J	0.53	--	0.54 J	100 J	--	0.03 J	19 J	0.001	22 J	6 J	3.3 J	450 J	--	99	--	790	--	--	--	4.1	220	1,700	--
MW-31-060	04/30/21	N	150	150	<0.1	--	--	--	--	--	--	0.0019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-31-060	12/16/21	N	310	310	0.52	55	--	--	--	0.021 J	--	0.0013	25	--	3.1	--	--	--	<0.2	--	--	--	<2.5	3.6	210	--	<1
MW-31-060	12/16/21	FD	310	310	0.32	57	--	--	--	<0.02	--	0.0013	26	--	3.1	--	--	--	<0.2	--	--	--	<2.5	3.6	210	--	<1
MW-31-060	02/01/22	N	<1	--	6.9	480	--	--	--	0.031	--	7.80 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	48	--	<25
MW-31-060	03/04/22	N	230	230	<0.1	320	--	--	--	0.047	--	2.20	22	--	8.8	--	--	--	0.25	--	--	4.4	--	--	430	--	<20
MW-31-060	04/12/22	N	<0.2	--	3.6 J	230	--	--	--	0.21	--	5.40	--	--	--	--	--	--	--	--	--	<0.5	--	--	540	--	<20

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-31-060	05/20/22	N	48	--	<0.1 J	79 J	--	--	--	0.14	--	0.69	--	--	--	--	--	--	--	--	--	<0.5	--	--	560	--	<1
MW-31-060	06/13/22	N	340	340 J	<0.1 J	67	--	--	--	0.044 J	--	0.024	17	--	3.8	--	--	--	<0.2	--	--	2.6	<25	--	570	--	<50
MW-31-135	12/07/20	N	15	13 J	<0.1	--	2.4 J	340 J	--	<0.1 J	31 J	<0.0005	26 J	--	0.72 J	1,800 J	--	35	--	3,900	--	--	--	--	500	7,900	--
MW-31-135	12/16/21	N	13	14	<0.1	46	--	--	--	<0.02	--	<0.0005	27	--	0.58	--	--	--	<0.2	--	--	--	<5	1.2	500	--	<1
MW-31-135	02/01/22	N	15	--	<0.1	49	--	--	--	0.024	--	0.0067 J	--	--	--	--	--	--	--	--	--	1.4	--	--	570	--	<1
MW-31-135	03/07/22	N	20	24	3.8 J	62 J	--	--	--	0.48	--	0.014 J	28	--	1	--	--	--	<0.2	--	--	1.6	--	--	720	--	<1
MW-31-135	03/07/22	FD	19	23	3.5 J	59 J	--	--	--	0.53	--	0.018 J	27	--	0.9	--	--	--	<0.2	--	--	1.6	--	--	720	--	<1
MW-31-135	04/12/22	N	26	--	<0.1 J	55	--	--	--	<0.02	--	0.00076	--	--	--	--	--	--	--	--	--	1.9	--	--	740	--	<1
MW-31-135	05/20/22	N	26	--	<0.1 J	51 J	--	--	--	<0.02	--	0.003	--	--	--	--	--	--	--	--	--	1.5	--	--	720	--	<50
MW-31-135	06/13/22	N	23	21 J	<0.1 J	49	--	--	--	0.048 J	--	0.0036	29	--	0.79	--	--	--	<0.2	--	--	1.4	<5	--	700	--	<1
MW-32-020	12/07/20	N	<1	<1 J	3.8	--	3.8 J	340 J	--	6.10 J	440 J	0.16	160 J	--	1.5 J	5,000 J	--	1,400	--	5,800	--	--	--	--	3,800	16,000	--
MW-32-020	11/30/21	N	<1	<1	<0.1 J	110	--	--	--	4.50	--	0.2	100	--	2.2	--	--	--	--	--	--	--	--	<0.1	--	--	4.4
MW-32-020	03/04/22	N	<1	--	<0.1	170	--	--	--	3.50	--	0.13	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	4.4
MW-32-020	05/04/22	N	<1	<1	<0.1 J	77 J	--	--	--	2.20	--	0.094 J	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	2.8
MW-32-035	06/18/20	N	<0.2	<1	26 J	--	--	--	--	--	--	0.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-32-035	12/07/20	N	<1	<1 J	17	--	0.94 J	300 J	--	11 J	210 J	0.75	13 J	18 J	<0.5	1,100 J	--	720	--	2,000	--	--	--	<0.1	840	5,200	--
MW-32-035	12/07/20	FD	<1	<1 J	17	--	0.9 J	300 J	--	10 J	200 J	0.73	13 J	19 J	<0.5	1,100 J	--	730	--	2,000	--	--	--	<0.1	850	5,300	--
MW-32-035	04/27/21	N	<0.2	1.1	24	--	--	--	--	--	--	0.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-32-035	11/30/21	N	<0.2	<1	15 J	160	--	--	--	12	--	0.59	9.6	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.9
MW-32-035	03/04/22	N	<1	--	13	200	--	--	--	10	--	0.58	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	1.9
MW-32-035	05/04/22	N	<0.2	<1	5.7 J	84 J	--	--	--	1.90 J	--	0.74 J	--	--	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--	1.7
MW-32-035	05/04/22	FD	<0.2	<1	10 J	83 J	--	--	--	2.90 J	--	0.62 J	--	--	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--	1.7
MW-33-040	06/17/20	N	<0.2	<1	5.5	--	--	--	--	--	--	0.054	120	--	<0.5	--	--	--	--	--	--	--	--	0.077	--	--	--
MW-33-040	12/02/20	N	<1	1.8	9.3	--	4.2	75	--	<0.1	180	0.016	440	--	11	3,600	--	570	--	5,500	17	--	--	0.41	2,700	14,000	--
MW-33-040	04/29/21	N	<0.2	<1	4.7	--	--	--	--	--	--	0.036	140	--	0.52	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-33-040	11/30/21	N	<1	2.2	--	--	--	--	--	--	--	--	380	--	5.7	--	--	--	--	--	--	--	--	0.35	--	--	--
MW-33-040	03/03/22	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-040	06/09/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	06/17/20	N	3.3	6.3	<0.1	--	--	--	--	--	--	0.011	8.2	--	<0.5	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-33-090	12/02/20	N	3.1	11	1.1	--	1.2	230	--	0.42	30	0.023	9.9	--	<0.5	1,600	--	150	--	2,900	2.5	--	--	0.99	670	6,400	--
MW-33-090	04/29/21	N	3.4	3.9	<0.1	--	--	--	--	--	--	0.0041	8.4	--	<0.5	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-33-090	11/30/21	N	3	5.6	--	--	--	--	--	--	--	--	8.1	--	<0.5	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-33-090	11/30/21	FD	3	6.6	--	--	--	--	--	--	--	--	8.2	--	<0.5	--	--	--	--	--	--	--	--	1	--	--	--
MW-33-090	03/03/22	N	4.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-090	06/09/22	N	2.7	3.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-150	06/17/20	N	4.9	11	<0.1	--	--	--	--	--	--	0.0083	48	--	0.83	--	--	--	--	--	--	--	--	1.4	--	--	--
MW-33-150	12/02/20	N	5	8.8	1.3	--	2	450	--	0.28	77	0.012	41	--	0.61	2,500	--	60	--	5,100	2.2	--	--	1.4	840	11,000	--
MW-33-150	04/29/21	N	7	8.2	<0.1	--	--	--	--	--	--	0.015	45	--	0.82	--	--	--	--	--	--	--	--	1.6	--	--	--
MW-33-150	11/30/21	N	2.8	31	--	--	--	--	--	--	--	--	39	--	0.63	--	--	--	--	--	--	--	--	1.5	--	--	--
MW-33-150	03/03/22	N	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-150	06/09/22	N	3.3	5.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	06/17/20	N	7.2	15	<0.1	--	--	--	--	--	--	0.0072	22	--	<0.5	--	--	--	--	--	--	--	--	1.7	--	--	--
MW-33-210	12/02/20	N	12	15	1.2	--	2.6	440	--	0.24	69	0.012	20	--	0.75	3,400	--	58	--	6,200	2.8	--	--	1.7	1,200	13,000	--
MW-33-210	04/29/21	N	7.5	8.9	<0.1	--	--	--	--	--	--	0.0078	24	--	<0.5	--	--	--	--	--	--	--	--	1.6	--	--	--
MW-33-210	11/30/21	N	12	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	03/03/22	N	8.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-33-210	06/09/22	N	9.9	10 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	12/03/20	N	<0.2	<1	2.7 J	--	0.19	67	--	0.033 J	23 J	0.068	5.2	5.4 J	<0.5	92 J	--	160	--	82	--	--	--	<0.1	210	580	--
MW-34-055	12/03/20	FD	<0.2	<1	2.8 J	--	0.18	65	--	0.022 J	22 J	0.07	5.4	5.3 J	<0.5	89 J	--	150	--	84	--	--	--	<0.1	210	580	--
MW-34-055	06/30/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	07/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-34-055	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	09/22/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	11/02/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-055	12/01/21	N	<0.2	<1	4	30	--	--	--	0.096	--	0.087	4.5	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-34-055	03/10/22	N	0.27	--	2.2	30	--	--	--	0.043	--	0.079	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-34-055	05/05/22	N	<0.2	<1	2.1 J	27 J	--	--	--	0.027	--	0.058 J	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	<1
MW-34-080	06/18/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.066	--	--	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-34-080	12/03/20	N	<0.2	<1	<0.1 J	--	0.98	210	--	0.17 J	93 J	0.052	13	18 J	<0.5	1,400 J	--	310	--	2,200	--	--	--	<0.1	580	4,900	--
MW-34-080	04/28/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.064	--	--	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-34-080	06/30/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	06/30/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	07/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	09/22/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	11/02/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-080	12/01/21	N	<0.2	<1	<0.1	36	--	--	--	0.35	--	0.074	12	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-34-080	03/10/22	N	<0.2	--	<0.1	34	--	--	--	0.32	--	0.092	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-34-080	05/05/22	N	<0.2	<1	<0.1 J	35 J	--	--	--	0.35	--	0.066 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<20
MW-34-080	06/17/22	N	<0.2	--	<0.1 J	35	--	--	--	0.79 J	--	0.11 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	490	--	<1
MW-34-100	02/20/20	N	<0.2	4	<0.1	--	--	--	--	--	--	0.086	53	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-34-100	06/18/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.11	64	--	<0.5	--	--	--	--	--	--	--	--	0.18	--	--	--
MW-34-100	10/01/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.19	85	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-34-100	12/03/20	N	<1	<1	<0.1 J	--	1.2 J	92	--	0.088 J	25 J	0.18	57	26 J	<0.5	2,000 J	--	200	--	3,000	--	--	--	<0.1	870	6,200	--
MW-34-100	12/03/20	FD	<1	<1	<0.1 J	--	1.6 J	120	--	0.1 J	32 J	0.17	60	28 J	<0.5	2,000 J	--	210	--	2,800	--	--	--	<0.1	840	6,100	--
MW-34-100	02/25/21	N	<1	1.7	<0.1	--	--	--	--	--	--	0.16	55	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-34-100	04/28/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	0.11	63	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-34-100	06/30/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	07/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	08/26/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.16	65	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-34-100	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	09/22/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	10/20/21	FD	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	11/02/21	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	11/19/21	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-34-100	12/01/21	N	<1	<1	<0.1	23	--	--	--	0.073	--	0.092	59	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-34-100	12/01/21	FD	<1	<1	<0.1	23	--	--	--	0.052	--	0.094	59	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-34-100	03/10/22	N	<1	--	<0.1	19	--	--	--	0.077	--	0.08	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-34-100	05/05/22	N	<0.2	<1	<0.1 J	20 J	--	--	--	0.15	--	0.25 J	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	<1
MW-35-060	04/27/20	N	32	32	0.45	--	--	--	--	--	--	0.0011	15	--	1.5	--	--	--	--	--	--	--	--	2.8	--	--	--
MW-35-060	12/08/20	N	21	21	1.3	72	0.83 J	190 J	--	0.044 J	32 J	0.001	10	--	1.3	990 J	2.9	84	--	2,000	--	--	--	2	310	4,100	--
MW-35-060	12/08/20	FD	20	21	1.2	72	2.1 J	230 J	--	<0.1 J	33 J	0.00081	9.8	--	0.99	1,100 J	3	88	--	2,000	--	--	--	2.1	320	4,100	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-35-060	04/30/21	N	20	22	<0.1	--	--	--	--	--	--	0.001	12	--	1.2	--	--	--	--	--	--	--	--	--	2.3	--	--	--
MW-35-060	12/06/21	N	20	20 J	--	--	--	--	--	--	--	--	8.8	--	0.92	--	--	--	--	--	--	--	--	--	2	--	--	--
MW-35-060	03/02/22	N	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-060	06/07/22	N	20	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-135	04/27/20	N	25	24	<0.1	--	--	--	--	--	--	0.0084	20	--	0.92	--	--	--	--	--	--	--	--	--	2.6	--	--	--
MW-35-135	12/08/20	N	27	27	0.97	38	1.8 J	260 J	--	<0.1 J	42 J	0.00072	21	--	1	2,000 J	1.5	45	--	3,400	--	--	--	--	2.6	850	7,500	--
MW-35-135	12/08/20	FD	28	27	1	38	0.82 J	220 J	--	<0.02 J	38 J	0.00069	21	--	1.1	1,900 J	1.6	46	--	3,300	--	--	--	--	2.6	840	7,400	--
MW-35-135	04/30/21	N	24	24	<0.1	--	--	--	--	--	--	0.0025	20	--	1.1	--	--	--	--	--	--	--	--	--	2.4	--	--	--
MW-35-135	12/06/21	N	26	25 J	--	--	--	--	--	--	--	--	20	--	1	--	--	--	--	--	--	--	--	--	2.5	--	--	--
MW-35-135	03/02/22	N	30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-35-135	06/07/22	N	27	29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	12/15/20	N	<0.2	<1	2.2	--	1.4	190 J	--	2.20 J	220	0.45	21	--	<0.5	1,200	--	820	--	1,100	--	--	--	--	--	1,500	4,900	--
MW-36-020	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-020	12/03/21	N	<0.2	<1	0.48	120	--	--	--	1 J	--	0.29	17	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	1.6
MW-36-020	03/09/22	N	<0.2	--	0.52	88	--	--	--	1.30 J	--	0.27	--	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-36-020	05/04/22	N	<0.2	<1	0.79 J	80 J	--	--	--	0.62	--	0.29 J	--	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	1.8
MW-36-040	12/15/20	N	<0.2	<1	4.5	--	<100	49 J	--	0.34 J	13	0.12	2.9	--	<0.5	160	--	270	--	86	--	--	--	--	<0.05	140	630	--
MW-36-040	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	11/18/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-040	12/03/21	N	<0.2	<1	5	41	--	--	--	0.32 J	--	0.11	3.5	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	2.3
MW-36-040	12/03/21	FD	<0.2	<1	5.2	40	--	--	--	0.31 J	--	0.11	3.3	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	2.3
MW-36-040	03/09/22	N	<0.2	--	7.7	49	--	--	--	0.41 J	--	0.15	--	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	1.5
MW-36-040	05/04/22	N	<0.2	<1	6.7 J	43 J	--	--	--	0.46	--	0.15 J	--	--	--	--	--	--	--	--	--	--	<0.1	--	<0.1	--	--	2
MW-36-050	12/15/20	N	<0.2	<1	5.6	--	<100	76 J	--	0.093 J	19	0.21	3.9	--	<0.5	93	--	190	--	84	--	--	--	--	--	190	590	--
MW-36-050	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	08/25/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-36-050	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-050	12/03/21	N	<0.2	<1	5.2	25	--	--	--	0.15 J	--	0.22	4.1	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	1.3
MW-36-050	03/09/22	N	<0.2	--	5.2	27	--	--	--	0.13 J	--	0.22	--	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-36-050	05/04/22	N	<0.2	<1	4.8 J	25 J	--	--	--	0.13	--	0.3 J	--	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	1.2
MW-36-070	12/15/20	N	0.2	<1	1.9	--	<100	71 J	--	<0.02	17	0.14	5	--	<0.5	98	--	160	--	93	--	--	--	--	210	640	--
MW-36-070	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-070	12/03/21	N	<0.2	<1	2.2	33	--	--	--	<0.02 J	--	0.21	4.9	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-36-070	03/09/22	N	<0.2	--	2.4	32	--	--	--	0.029 J	--	0.22	--	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-36-070	05/04/22	N	<0.2	<1	2.2 J	32 J	--	--	--	0.021	--	0.39 J	--	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-36-090	06/16/20	N	<0.2	<1	1.3	--	--	--	--	--	--	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	12/15/20	N	<0.2	1.7	5.2	--	0.52	86 J	--	0.11 J	25	0.034	9.6	--	<0.5	620	--	270	--	1,000	--	--	--	--	390	2,400	--
MW-36-090	04/28/21	N	<0.2	<1	1.2	--	--	--	--	--	--	0.038	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	08/25/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	11/01/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	11/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-090	12/03/21	N	<0.2	<1	1.6	36	--	--	--	0.035 J	--	0.072	14	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-36-090	03/09/22	N	<0.2	--	0.78	46	--	--	--	0.035 J	--	0.11	--	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-36-090	05/04/22	N	<0.2	<1	0.55 J	38 J	--	--	--	0.04	--	0.11 J	--	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-36-090	05/04/22	FD	<0.2	<1	0.51 J	39 J	--	--	--	0.037	--	0.11 J	--	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-36-090	06/17/22	N	<0.2	--	<0.1 J	37	--	--	--	0.042 J	--	0.13 J	--	--	--	--	--	--	--	--	--	--	<0.25	--	--	350	--	<1
MW-36-100	06/16/20	N	12	11	1.5	--	--	--	--	--	--	0.24	20	--	<0.5	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-36-100	12/15/20	N	4.5	6	2.9	--	1.2	180 J	--	0.18 J	53	0.22	19	--	<0.5	1,400	--	290	--	1,900	--	--	--	--	<0.05	600	4,600	--
MW-36-100	04/28/21	N	5.5	7.1	<0.1	--	--	--	--	--	--	0.16	21	--	<0.5	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-36-100	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	07/13/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	08/09/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	08/25/21	N	8.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	09/07/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	09/21/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	10/18/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	11/01/21	N	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	11/18/21	N	8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-36-100	12/03/21	N	8	11	<0.1	43	--	--	--	0.26 J	--	0.23	19	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-36-100	03/09/22	N	<0.2	--	2.8	56	--	--	--	0.49 J	--	0.48	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-36-100	05/04/22	N	<0.2	<1	1.5 J	59 J	--	--	--	0.52	--	0.51 J	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	<1
MW-36-100	06/17/22	N	0.93	--	<0.1 J	51	--	--	--	0.41 J	--	0.62 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	470	--	<1
MW-36-100	06/17/22	FD	0.81	--	<0.1 J	52	--	--	--	0.35 J	--	0.56 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	470	--	<1
MW-37D	06/24/20	N	5	6.5	--	--	--	--	--	--	--	--	63	--	0.66	--	--	--	--	--	--	--	--	0.92	--	--	--
MW-37D	12/10/20	N	4.5	5.7	--	--	1.3	220	--	<0.1 J	15	0.0023	65	--	1.1	2,400	--	32	--	3,800	--	--	--	0.98	650	7,100	--
MW-37D	06/07/21	N	4.8	5	--	--	--	--	--	--	--	--	65	--	0.82	--	--	--	--	--	--	--	--	1.4	--	--	--
MW-37D	12/07/21	N	6	7.4	<0.1 J	--	--	--	--	--	--	<0.0005 J	68	--	1	--	--	--	--	--	--	--	--	1.4	--	--	--
MW-37D	06/16/22	N	5.6	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-37S	12/10/20	N	12	13	2	--	0.73	190	--	0.13 J	34	0.006	15 J	--	0.82	1,300	--	44	--	2,200	--	--	--	--	330	4,200	--
MW-37S	12/07/21	N	7.8	8	<0.1 J	--	--	--	--	--	--	0.0057 J	16	--	0.8	--	--	--	--	--	--	--	--	1.2	--	--	--
MW-37S	06/16/22	N	12	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-38D	04/23/20	N	19	16	7.3	--	--	--	--	--	--	0.027	78	--	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-38D	10/05/20	N	20	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-38D	12/14/20	N	17	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-38D	12/15/20	N	19	18	8.5	--	5.1	250 J	--	<0.1	6.9	0.029	89	--	<0.5	3,800	--	43	--	5,800	--	--	--	0.52	580	11,000 J	--
MW-38D	02/25/21	N	25	22	<0.1	--	--	--	--	--	--	0.04	78	--	<0.5	--	--	--	--	--	--	--	--	0.12	--	--	--
MW-38D	05/05/21	N	23	22 J	<0.1	--	--	96	--	--	--	0.02	87	50 J	<0.5	5,700	--	--	--	7,500	--	--	--	0.075	720	12,000 J	--
MW-38D	09/22/21	N	30	36 J	<0.1 J	--	--	550 J	--	--	11 J	0.0054	38 J	47	<0.5	5,300	--	--	--	7,000	--	--	--	0.36	700	13,000	--
MW-38D	12/08/21	N	50	47	<0.1	--	--	--	--	--	--	0.0053 J	58	--	0.83	--	--	--	--	--	--	--	--	1.5	--	--	--
MW-38D	03/03/22	N	39	36	--	--	--	--	--	--	--	--	38	--	0.75	--	--	--	--	--	--	0.75	--	--	--	--	--
MW-38D	06/08/22	N	<4	<5	--	--	--	--	--	--	--	--	28	--	<2.5	--	--	--	--	--	--	<1	--	--	--	--	--
MW-38D	06/08/22	FD	<4	<5	--	--	--	--	--	--	--	--	34	--	<2.5	--	--	--	--	--	--	<1	--	--	--	--	--
MW-38S	02/25/20	N	3.8	3.3	6.6	--	--	--	--	--	--	0.048	25	--	2.5	--	--	--	--	--	--	--	--	4.7	--	--	--
MW-38S	02/25/20	FD	3.9	3.2	6.6	--	--	--	--	--	--	0.048	22	--	2.4	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-38S	04/23/20	N	4	4.4	5.7	--	--	--	--	--	--	0.069	21	--	2.9	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-38S	04/23/20	FD	4	4.6	5.8	--	--	--	--	--	--	0.075	22	--	3.1	--	--	--	--	--	--	--	--	5.5	--	--	--
MW-38S	11/30/20	N	7.2	7.8	6.5	--	0.99 J	23 J	--	<0.02	6.2 J	0.061	20	--	3	270 J	--	150	--	310	--	--	--	5.6	150	940	--
MW-38S	02/25/21	N	8.4	9.1	5.1	--	--	--	--	--	--	0.074	17	--	3.3	--	--	--	--	--	--	--	--	5.3	--	--	--
MW-38S	05/05/21	N	11	11 J	5.5	--	--	34	--	--	--	0.053	15	6.4 J	4	320	--	--	--	350	--	--	--	5.9	150	920	--
MW-38S	08/27/21	N	15	17	6.5 J	--	--	--	--	--	--	0.022	12	--	4.4	--	--	--	--	--	--	--	--	6.1	--	--	--
MW-38S	09/22/21	N	5.6	5.3 J	9 J	--	--	18 J	--	--	3.3 J	0.014	16 J	3.7	2.2	190	--	--	--	140	--	--	--	6.1	81	580	--
MW-38S	12/08/21	N	15	17	7.2	--	--	--	--	--	--	0.0034 J	8.2	--	3.9	--	--	--	--	--	--	--	--	7	--	--	--
MW-38S	03/03/22	N	31	31	--	--	--	--	--	--	--	--	7.7	--	5.7	--	--	--	--	--	--	5.6	--	--	--	--	--
MW-38S	06/08/22	N	17	16	--	--	--	--	--	--	--	--	7	--	4.5	--	--	--	--	--	--	5.2	--	--	--	--	--
MW-39-040	12/11/20	N	<0.2	<1	18	--	--	--	--	--	--	0.099	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-39-040	12/07/21	N	<0.2	<1	16	74	--	--	--	0.32 J	--	0.12	7.7	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	2.2
MW-39-040	02/28/22	N	<0.2	--	15	85	--	--	--	0.32	--	0.11	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	2.7
MW-39-040	05/03/22	N	<0.2	<1	16	72	--	--	--	0.27	--	0.11	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	2.3
MW-39-040	06/15/22	N	<0.2	--	15	72	--	--	--	0.35	--	0.11	--	--	--	--	--	--	--	--	--	<0.25	--	--	150	--	2.5
MW-39-050	12/11/20	N	<0.2	<1	2	--	0.12	72 J	--	0.15 J	19	0.17	4.5 J	--	<0.5	100	--	180	--	87	--	--	--	--	200	610	--
MW-39-050	12/07/21	N	<0.2	<1	16	73	--	--	--	<0.02	--	0.12	7.6	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1
MW-39-050	02/28/22	N	<0.2	--	1.4	42	--	--	--	0.076	--	0.17	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-39-050	05/03/22	N	<0.2	<1	1.8	37	--	--	--	<0.02	--	0.17	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-39-050	06/15/22	N	<0.2	--	1.6	41	--	--	--	<0.02	--	0.17	--	--	--	--	--	--	--	--	--	<0.25	--	--	200	--	<1
MW-39-060	12/11/20	N	<0.2	<1	2.7	--	0.14	54 J	--	0.12 J	17	0.11	5.2 J	--	<0.5	120	--	190	--	93	--	--	--	<0.05	210	620	--
MW-39-060	12/07/21	N	<0.2	<1	16	74	--	--	--	0.11 J	--	0.12	7.7	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-39-060	02/28/22	N	<0.2	--	2	36	--	--	--	1.80	--	0.15	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-39-060	05/03/22	N	R	R	R	R	--	--	--	R	--	R	--	--	--	--	--	--	--	--	--	R	--	--	--	--	R
MW-39-060	06/15/22	N	<1	--	2	24	--	--	--	<0.02	--	0.12	--	--	--	--	--	--	--	--	--	<0.25	--	--	200	--	<1
MW-39-070	12/11/20	N	<0.2	<1	--	--	0.22	53 J	--	0.22 J	17	0.0036	16 J	--	<0.5	360	--	190	--	380	--	--	--	--	270	1,200	--
MW-39-070	12/07/21	N	<0.2	<1	16	74	--	--	--	<0.02	--	0.12	7.7	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-39-070	02/28/22	N	<0.2	--	1.9	21	--	--	--	<0.02	--	0.0076	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-39-070	05/03/22	N	<0.2	<1	1.1	31	--	--	--	<0.02	--	0.0076	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-39-070	06/15/22	N	<0.2	--	0.39	40	--	--	--	<0.02	--	0.0085	--	--	--	--	--	--	--	--	--	<0.25	--	--	260	--	<1
MW-39-080	12/11/20	N	0.47	1.2	--	--	0.61	100 J	--	0.032 J	38	0.0042	26 J	--	<0.5	1,100	--	250	--	1,400	--	--	--	--	460	3,100	--
MW-39-080	12/07/21	N	<0.2	<1	16 J	74 J	--	--	--	<0.02	--	0.12 J	7.7 J	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-39-080	12/07/21	FD	<0.2	<1	1.5 J	22 J	--	--	--	<0.02	--	0.0039 J	22 J	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-39-080	02/28/22	N	<0.2	--	0.49	21	--	--	--	<0.1	--	0.0058	--	--	--	--	--	--	--	--	--	0.15	--	--	--	--	<1
MW-39-080	05/03/22	N	0.33	<1	<0.1	16	--	--	--	<0.02	--	0.0029	--	--	--	--	--	--	--	--	--	0.3	--	--	--	--	<1
MW-39-080	06/15/22	N	10	--	<0.1	25	--	--	--	<0.02	--	0.0036	--	--	--	--	--	--	--	--	--	<0.25	--	--	560	--	<1
MW-39-100	06/18/20	N	93	91	<0.1	--	--	--	--	--	--	0.0042	7.5	--	<0.5	--	--	--	--	--	--	--	--	0.083	--	--	--
MW-39-100	12/15/20	N	120	110	2.3	--	2.6	260 J	--	<0.1	46	0.007	7.5	--	<0.5	2,500	--	250	--	3,700	--	--	--	0.11	920	8,600	--
MW-39-100	04/28/21	N	92	91	<0.1	--	--	--	--	--	--	0.0051	7.5	--	<0.5	--	--	--	--	--	--	--	--	0.13	--	--	--
MW-39-100	12/07/21	N	39	39	<0.1	27	--	--	--	0.029 J	--	0.0058	7.4	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-39-100	02/28/22	N	9.8	--	<0.1	35	--	--	--	0.16	--	0.013	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-39-100	05/03/22	N	R	R	R	R	--	--	--	R	--	R	--	--	--	--	--	--	--	--	--	R	--	--	--	--	R
MW-39-100	06/15/22	N	170	--	<0.1	29	--	--	--	<0.02	--	0.011	--	--	--	--	--	--	--	--	--	<0.25	--	--	940	--	<1
MW-40D	06/17/20	N	12	11	<0.1	--	--	--	--	--	--	0.013	41	--	0.78	--	--	--	--	--	--	--	--	0.57	--	--	--
MW-40D	12/10/20	N	31	29	4.7	--	1.7	300	--	<0.1 J	49	0.0064	41	--	1	3,000	--	47	--	5,100	--	--	--	2	690	11,000 J	--
MW-40D	05/19/21	N	110	98	<0.1	--	--	--	--	--	--	<0.0005	49	--	1.8	--	--	--	--	--	--	--	--	2.1	--	--	--
MW-40D	12/06/21	N	45	41 J	<0.1	--	--	--	--	--	--	<0.0005 J	35	--	1.1	--	--	--	--	--	--	--	--	1.3	--	--	--
MW-40D	06/16/22	N	1.4	3.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-40S	06/17/20	N	18	28	3.2	--	--	--	--	--	--	0.0058	30	--	6.1	--	--	--	--	--	--	--	--	10	--	--	--
MW-40S	12/10/20	N	5.9	29	0.55	--	--	--	--	--	--	0.0082	5.2	--	1.8	--	--	--	--	--	--	--	--	3.5	--	--	--
MW-40S	05/19/21	N	13	13	1.4	--	--	--	--	--	--	0.00083	15	--	3.9	--	--	--	--	--	--	--	--	5.9	--	--	--
MW-40S	12/06/21	N	43	45 J	4.3	--	--	--	--	--	--	<0.0005 J	32	--	11	--	--	--	--	--	--	--	--	25	--	--	--
MW-40S	12/06/21	FD	42	44 J	4.6	--	--	--	--	--	--	<0.0005 J	31	--	11	--	--	--	--	--	--	--	--	25	--	--	--
MW-40S	06/16/22	N	19	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-41D	06/24/20	N	<1	<1	2.4	--	--	--	--	--	--	0.12	80	--	<0.5	--	--	--	--	--	--	--	--	0.14	--	--	--
MW-41D	06/24/20	FD	<1	<1	2.4	--	--	--	--	--	--	0.12	82	--	<0.5	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-41D	12/17/20	N	1.1	1.4	<0.1	--	1.9	380	--	<0.1	31 J	0.047	81	--	0.55	4,300 J	--	41	--	6,900	--	--	--	0.61	760	13,000	--
MW-41D	06/07/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.081 J	90	--	<0.5	--	--	--	--	--	--	--	--	0.44	--	--	--
MW-41D	06/07/21	FD	<1	<1	<0.1 J	--	--	--	--	--	--	0.078 J	88	--	<0.5	--	--	--	--	--	--	--	--	0.5	--	--	--
MW-41D	12/07/21	N	<1	2.8	<0.1 J	--	--	--	--	--	--	0.032 J	79	--	0.65	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-41D	06/16/22	N	<1	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-41M	12/17/20	N	9.5	8.3	<0.1	--	1.4	380	--	<0.1	33 J	<0.0005	26	--	<0.5	2,700 J	--	36	--	4,600	--	--	--	0.59	560	10,000	--
MW-41M	12/07/21	N	6.9	9	<0.1 J	--	--	--	--	--	--	0.0024 J	27	--	<0.5	--	--	--	--	--	--	--	--	0.58	--	--	--
MW-41M	06/16/22	N	8.9	9.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-41S	12/17/20	N	5.5	5.2	<0.1	--	0.93	190	--	0.021	26 J	<0.0005	13	--	1.9	1,100 J	--	49	--	1,900	--	--	--	2.5	430	3,900	--
MW-41S	12/07/21	N	3.6	6.3	<0.1 J	--	--	--	--	--	--	0.0038 J	14	--	2.2	--	--	--	--	--	--	--	--	2.5	--	--	--
MW-41S	12/07/21	FD	3.7	5.1	<0.1 J	--	--	--	--	--	--	0.0033 J	14	--	1.9	--	--	--	--	--	--	--	--	2.5	--	--	--
MW-41S	06/16/22	N	4.8	5.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-030	12/16/20	N	<0.2	<1	2	--	--	--	--	--	--	0.11	27 J	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-42-030	11/30/21	N	<0.2	<1	0.72 J	160	--	--	--	0.76	--	0.14	17	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.8
MW-42-030	03/10/22	N	<0.2	--	2	110	--	--	--	0.57	--	0.13	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	1.8
MW-42-030	05/05/22	N	<0.2	<1	2.5	62	--	--	--	0.33	--	0.085	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	2.3
MW-42-055	06/18/20	N	<0.2	<1	12 J	--	--	--	--	--	--	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-055	12/16/20	N	<0.2	<1	16	--	0.1	87 J	--	0.53 J	23 J	0.3	3.9 J	--	<0.5	100 J	--	230	--	87	--	--	--	--	200	660	--
MW-42-055	04/27/21	N	<0.2	<1	11	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-055	11/30/21	N	<0.2	<1	13 J	150	--	--	--	0.24	--	0.21	3.9	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-42-055	03/10/22	N	<0.2	--	8.8	140	--	--	--	0.2	--	0.17	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-42-055	05/05/22	N	<0.2	<1	8.3	130	--	--	--	0.13	--	0.19	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-42-065	06/18/20	N	<0.2	<1	5.9 J	--	--	--	--	--	--	0.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-065	12/16/20	N	<0.2	<1	6	--	0.47	110 J	--	0.053 J	29 J	1.30	9.5 J	--	<0.5	560 J	--	320	--	750	--	--	--	--	350	2,100	--
MW-42-065	04/27/21	N	<0.2	<1	3.5	--	--	--	--	--	--	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-42-065	11/30/21	N	<0.2	<1	6.6 J	69	--	--	--	0.046	--	1.60	7.7	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-42-065	03/10/22	N	<0.2	--	3.1	83	--	--	--	0.092	--	1.60	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-42-065	05/05/22	N	<0.2	<1	1.4	98	--	--	--	0.13	--	2.20	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-43-025	12/08/20	N	<0.2	<1	32	--	0.56 J	140 J	--	5.40 J	55 J	0.36	6.7	--	<0.5	150 J	--	390	--	200	--	--	--	--	370	1,200	--
MW-43-025	11/30/21	N	<0.2	<1	31 J	75	--	--	--	4.40	--	0.36	5.3	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.2
MW-43-025	03/08/22	N	<0.2	--	21 J	100	--	--	--	4.50 J	--	0.44	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	1.3
MW-43-025	05/03/22	N	<0.2	<1	20	91	--	--	--	3.50 J	--	0.44	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	2.2
MW-43-075	12/08/20	N	<0.2	<1	13	--	1.3 J	170 J	--	4.50 J	160 J	0.58	16	--	<0.5	1,800 J	--	700	--	2,700	--	--	--	--	1,400	7,300	--
MW-43-075	11/30/21	N	<0.2	<1	8.7 J	42	--	--	--	3.70	--	0.54	15	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-43-075	03/08/22	N	<1	--	8.5 J	45	--	--	--	3.70 J	--	0.57	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-43-075	05/03/22	N	<1	<1	5.7	48	--	--	--	3.20 J	--	0.42	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-43-090	12/08/20	N	<1	<1	3.1	--	0.92 J	390 J	--	1.40 J	110 J	0.42	30	--	<0.5	3,600 J	--	170	--	5,700	--	--	--	--	950	12,000	--
MW-43-090	11/30/21	N	<1	<1	<0.1 J	55	--	--	--	1.20	--	0.52	29	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-43-090	03/08/22	N	<1	--	<0.1 J	55	--	--	--	1.20 J	--	0.63	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-43-090	05/03/22	N	<1	<1	<0.5	54	--	--	--	1.20 J	--	0.78	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<50
MW-44-070	06/23/20	N	<0.2	<1	1.8	--	--	--	--	--	--	0.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	12/11/20	N	<0.2	<1	2.7	--	0.2	72 J	--	0.41 J	18	0.19	8.8 J	--	<0.5	230	--	200	--	260	--	--	--	--	230	970	--
MW-44-070	04/28/21	N	<0.2	<1	1.3	--	--	--	--	--	--	0.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/10/21	FD	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	09/23/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	11/02/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-070	12/08/21	N	<0.2	<1	2.4	31	--	--	--	0.14	--	0.12	7.6	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-44-070	03/10/22	N	<0.2	--	1.7	43	--	--	--	0.45	--	0.28	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-44-070	05/06/22	N	<0.2	<1	1.6	46 J	--	--	--	0.63 J	--	0.44 J	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	<1
MW-44-115	02/21/20	N	4.8	5.9	2.1	--	--	--	--	--	--	0.0064	62	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-44-115	06/23/20	N	4	3.7	2.3	--	--	--	--	--	--	0.005	68	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-44-115	10/01/20	N	3.4	4.1	2.2	--	--	--	--	--	--	0.0065	55 J	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-44-115	10/01/20	FD	3.4	3.9	1.9	--	--	--	--	--	--	0.0059	84 J	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-44-115	12/11/20	N	2.7	4.4	5.7	20	1.5	80 J	--	0.23 J	11	0.006	71 J	--	<0.5	2,300	6.6	120	--	2,900	--	--	--	<0.05	910	6,300	--
MW-44-115	02/26/21	N	2.5	4.9	1.2	--	--	--	--	--	--	0.013	71	--	<0.5	--	--	--	--	--	--	--	--	0.055	--	--	--
MW-44-115	04/28/21	N	2.3	2.2	<0.1	--	--	--	--	--	--	0.0052	75	--	<0.5	--	--	--	--	--	--	--	--	0.05	--	--	--
MW-44-115	06/29/21	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/12/21	N	2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/27/21	N	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	07/27/21	FD	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	08/10/21	N	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	08/26/21	N	<1	<1	0.51 J	--	--	--	--	--	--	0.019	77	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-44-115	09/08/21	N	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	09/23/21	N	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	09/23/21	FD	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	10/06/21	N	0.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	10/20/21	N	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	11/02/21	N	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	11/19/21	N	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-115	12/08/21	N	1.8	2.2	0.86	19	--	--	--	<0.02	--	0.01	77	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-44-115	03/10/22	N	<1	--	0.64	22	--	--	--	<0.02	--	0.014	--	--	--	--	--	--	--	--	--	<0.1	--	--	--	--	<1
MW-44-115	05/06/22	N	<1	1.5	<0.1	20 J	--	--	--	0.037 J	--	0.04 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-44-115	06/17/22	N	<1	--	<0.1 J	19	--	--	--	<0.02 J	--	0.014 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	1,000	--	<50
MW-44-125	06/23/20	N	<0.2	1	2.6	--	--	--	--	--	--	0.33	13	--	<0.5	--	--	--	--	--	--	--	--	0.18	--	--	--
MW-44-125	12/11/20	N	<0.2	<1	2.5	--	0.32	65 J	--	0.31 J	17	0.17	27 J	--	<0.5	440	--	120	--	2,500	--	--	--	<0.05	600	5,000	--
MW-44-125	04/28/21	N	<0.2	<1	1.7	--	--	--	--	--	--	0.31	10	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-44-125	06/29/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	07/12/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	07/27/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	08/10/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	08/26/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	09/08/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	09/23/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	10/06/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	10/20/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	11/02/21	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	11/19/21	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-44-125	12/08/21	N	<1	1.9	<0.1	55	--	--	--	0.3	--	0.39	230	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-44-125	03/10/22	N	<1	--	1.1	52	--	--	--	0.27	--	0.41	--	--	--	--	--	--	--	--	--	0.1	--	--	--	--	<1
MW-44-125	05/06/22	N	<1	<1	<0.1	46 J	--	--	--	0.46 J	--	0.55 J	--	--	--	--	--	--	--	--	--	<0.25	--	<0.1	--	--	<1
MW-44-125	06/17/22	N	<1	--	<0.1 J	44	--	--	--	0.37 J	--	0.44 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	1,100	--	<1
MW-45-095a	12/01/21	N	<0.2	<1	<0.1	37	--	--	--	<0.02	--	0.26	14	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-45-095A	03/08/22	N	<0.2	--	<0.1 J	31	--	--	--	<0.02 J	--	0.18	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-45-095A	05/04/22	N	<0.2	<1	<0.1	24	--	--	--	<0.02	--	0.12	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-45-095A	06/17/22	N	<0.2	--	<0.1 J	29	--	--	--	<0.02 J	--	0.37 J	--	--	--	--	--	--	--	--	--	<0.25	--	--	480	--	<1
MW-46-175	02/21/20	N	9.1	17	--	--	--	--	--	--	--	--	190	--	<2.5	--	--	--	--	--	--	--	--	1	--	--	--
MW-46-175	06/23/20	N	5.3	23	--	--	--	--	--	--	--	--	180	--	0.55	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-46-175	10/01/20	N	5.1	5.5	--	--	--	--	--	--	--	--	190	--	1	--	--	--	--	--	--	--	--	0.92	--	--	--
MW-46-175	12/15/20	N	7.9	9	--	--	4.2	100 J	--	<0.1	3.5	0.015	190	--	<0.5	4,400	--	43	--	5,800	--	--	--	1	960	11,000	--
MW-46-175	02/25/21	N	5.1	7.6	--	--	--	--	--	--	--	--	180	--	0.62	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-46-175	04/29/21	N	6.6	7	--	--	--	--	--	--	--	--	210	--	0.56	--	--	--	--	--	--	--	--	1	--	--	--
MW-46-175	06/30/21	N	6.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	07/12/21	N	5.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	07/26/21	N	4.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	08/10/21	N	5.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	08/26/21	N	5.2	7.2	--	--	--	--	--	--	--	--	200	--	0.79	--	--	--	--	--	--	--	--	0.94	--	--	--
MW-46-175	09/09/21	N	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	09/23/21	N	4.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/06/21	N	6.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/20/21	N	3.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	10/20/21	FD	3.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	11/02/21	N	5.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	11/19/21	N	4.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-175	12/08/21	N	2.1	36	<0.1	31	--	--	--	0.2	--	0.021	200	--	0.56	--	--	--	--	--	--	--	--	0.9	--	--	<1
MW-46-175	03/03/22	N	5.4	--	<0.1	29	--	--	--	<0.1	--	0.013	--	--	--	--	--	--	--	--	--	0.76	--	--	--	--	<1
MW-46-175	05/05/22	N	6.9	6.7	<0.1 J	23 J	--	--	--	<0.02	--	0.0095 J	--	--	--	--	--	--	--	--	--	1	--	1	--	--	<1
MW-46-205	06/23/20	N	1.2	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-205	12/15/20	N	<1	3.6	--	--	5.2	93 J	--	<0.1	3.1	0.053	340	--	0.91	4,700	--	48	--	7,200	--	--	--	--	900	13,000 J	--
MW-46-205	04/29/21	N	1.6	1.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-46-205	12/08/21	N	<1	<1	<0.1	33	--	--	--	0.068	--	0.046	340	--	0.82	--	--	--	--	--	--	--	--	0.93	--	--	<1
MW-46-205	12/08/21	FD	<1	<1	<0.1	33	--	--	--	<0.1	--	0.042	340	--	0.86	--	--	--	--	--	--	--	--	0.96	--	--	<1
MW-46-205	03/03/22	N	<1	--	<0.1	34	--	--	--	<0.1	--	0.038	--	--	--	--	--	--	--	--	--	0.57	--	--	--	--	<1
MW-46-205	05/05/22	N	<1	10	<0.1 J	29 J	--	--	--	0.071	--	0.038 J	--	--	--	--	--	--	--	--	--	0.88	--	--	--	--	<1
MW-47-055	06/25/20	N	16	16	0.17	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	11/30/20	N	17	17	1.2	--	1.2 J	170 J	--	<0.02	41 J	0.00056	9.1	--	0.86	730 J	--	65	--	1,500	--	--	--	--	280	3,100	--
MW-47-055	04/28/21	N	14	15	<0.1	--	--	--	--	--	--	0.0014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-47-055	12/06/21	N	17	18 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	03/03/22	N	17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-055	06/07/22	N	16	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	06/25/20	N	24	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	11/30/20	N	18	18	--	--	1.5 J	270 J	--	<0.02	46 J	0.0032	24	--	0.95	2,800 J	--	59	--	4,400	--	--	--	--	800	8,700	--
MW-47-115	04/28/21	N	24	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	12/06/21	N	17	17 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	03/03/22	N	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-47-115	06/07/22	N	22	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-48	05/01/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-48	12/16/20	N	<1	<1	--	--	1	350 J	--	0.025 J	35 J	0.0044	9.4 J	--	<0.5	3,700 J	--	29	--	5,500	--	--	--	--	570	11,000	--
MW-48	05/28/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-48	12/15/21	N	<1	1.8	<0.1	--	--	--	--	--	--	0.034	9.9	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--	--
MW-48	06/10/22	N	<1	<1 J	--	--	--	--	--	--	--	--	9.6	--	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--	--	--
MW-48	06/10/22	FD	<1	<1 J	--	--	--	--	--	--	--	--	9.8	--	<0.5	--	--	--	--	--	--	<0.5	--	--	--	--	--	--
MW-49-135	12/04/20	N	8.6 J	11	<0.1	--	0.75 J	270	--	0.18 J	34 J	0.1	30	--	1.2	2,600	--	62	--	4,000	--	--	--	--	840	8,000	--
MW-49-135	12/02/21	N	6.1	7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	03/08/22	N	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-135	06/13/22	N	5	4.9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	12/04/20	N	<1	<1	--	--	2.8 J	230	--	<0.1 J	8.2 J	0.31	260	--	<0.5	5,900	--	36	--	7,700	--	--	--	--	1,300	14,000	--
MW-49-275	12/02/21	N	<1	2.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	03/08/22	N	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-275	06/13/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	12/04/20	N	<1	<1	--	--	3.5 J	380	--	0.18 J	16 J	0.064	200	--	<0.5	7,700	--	43	--	15,000	--	--	--	--	1,700	21,000	--
MW-49-365	12/02/21	N	<1	2.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	03/08/22	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-49-365	06/13/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	06/24/20	N	13	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	12/07/20	N	13	14 J	--	--	1 J	130 J	--	0.064 J	16 J	0.0083	17 J	--	0.76 J	910 J	--	52	--	1,800	--	--	--	--	300	3,600	--
MW-50-095	05/26/21	N	13	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	12/13/21	N	14	15	<0.1	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-095	06/17/22	N	14	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-200	06/24/20	N	3,600	3,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-200	12/07/20	N	2,300	2,100 J	3.8	44 J	2.1 J	550 J	--	0.11 J	49 J	<0.0005	44 J	--	1.6 J	3,800 J	3.7 J	35	--	6,700	--	--	--	--	810	13,000	--
MW-50-200	12/07/20	FD	2,300	2,100 J	3.8	45 J	3 J	430 J	--	<0.1 J	39 J	<0.0005	44 J	--	1.6 J	3,500 J	3.7 J	34	--	6,800	--	--	--	--	810	14,000	--
MW-50-200	05/26/21	N	3,300	3,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-50-200	12/13/21	N	1,900	1,900	3.4	--	--	--	--	--	--	<0.0005	38	--	1.5	--	--	--	--	--	--	--	--	--	1.9	--	--	--
MW-50-200	06/17/22	N	1,800	2,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-51	04/27/20	N	3,200	3,200	<0.1	--	--	--	--	--	--	<0.0005	40	--	19	--	--	--	--	--	--	--	--	--	9.2	--	--	--
MW-51	04/27/20	FD	3,300	3,200	<0.1	--	--	--	--	--	--	<0.0005	42	--	20	--	--	--	--	--	--	--	--	--	9.2	--	--	--
MW-51	12/03/20	N	3,300	3,500	<0.1	43 J	1.5	190	--	0.081 J	21	<0.0005	40	--	33 J	2,000	1.9	100	--	3,100	--	--	--	--	12	720	6,500	--
MW-51	12/03/20	FD	3,300	3,700	<0.1	43 J	1.6	200	--	0.023 J	21	<0.0005	40	--	32 J	2,000	1.8	100	--	3,100	--	--	--	--	12	720	6,800	--
MW-51	05/20/21	N	2,600	2,600	<0.1	--	--	--	--	--	--	<0.0005	46	--	12	--	--	--	--	--	--	--	--	--	6.4	--	--	--
MW-51	12/15/21	N	2,900	3,100	<0.1	43	--	--	--	0.025 J	--	0.0011	42	--	34 J	--	--	--	<0.2	--	--	--	<5	13	720	--	<1
MW-51	12/15/21	FD	2,900	3,000	<0.1	43	--	--	--	0.024 J	--	0.001	42	--	33 J	--	--	--	<0.2	--	--	--	<5	12	720	--	<1
MW-51	02/02/22	N	2,600	--	<0.1	47	--	--	--	0.15	--	0.0053	--	--	--	--	--	--	--	--	--	6.8	--	--	660	--	<1
MW-51	03/14/22	N	2,300	2,400	<0.1 J	37	--	--	--	<0.1	--	0.0063	49	--	17	--	--	--	<0.2	--	--	5.5	--	--	670	--	<1
MW-51	03/14/22	FD	2,300	2,300	<0.1 J	38	--	--	--	<0.1	--	0.0061	49	--	17	--	--	--	<0.2	--	--	5.5	--	--	680	--	<1
MW-51	04/13/22	N	1,800	--	<0.1	37	--	--	--	0.02 J	--	0.00082	--	--	--	--	--	--	--	--	--	4.7	--	--	630	--	<1
MW-51	05/20/22	N	870	--	<0.1 J	29 J	--	--	--	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	2.1	--	--	590	--	<1
MW-51	06/14/22	N	450	540	<0.1	27 J	--	--	--	<0.02	--	0.0017	76	--	2.6 J	--	--	--	<0.2	--	--	1.2	<5	--	580	--	<1
MW-52D	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52D	12/08/20	N	<1	<1	2.3	--	2.7 J	260 J	--	0.95 J	24 J	0.23	67	--	<0.5	4,500 J	--	62	--	7,100	--	--	--	--	960	12,000	--
MW-52D	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-52D	11/30/21	N	<1	<1	2 J	37	--	--	--	0.95	--	0.28	61	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<50
MW-52D	03/08/22	N	<1	--	2.1 J	39	--	--	--	0.53 J	--	0.21	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-52D	05/03/22	N	<1	<1	<0.1	33	--	--	--	0.74 J	--	0.22	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-52M	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52M	12/08/20	N	<1	<1	1.2	--	2.9 J	350 J	--	1.60 J	40 J	0.16	34	--	<0.5	3,100 J	--	85	--	5,300	--	--	--	--	630	10,000	--	--
MW-52M	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52M	11/30/21	N	<1	<1	<0.1 J	54	--	--	--	1.40	--	0.21	30	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-52M	03/08/22	N	<1	--	<0.1 J	56	--	--	--	1 J	--	0.18	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-52M	05/03/22	N	<1	<1	<0.1	58	--	--	--	0.62 J	--	0.23	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-52S	06/16/20	N	<0.2	<1	<0.1	--	--	--	--	--	--	1.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52S	12/08/20	N	<1	<1	1.7	--	2.8 J	730 J	--	27 J	860 J	1.20	25	--	1.9	2,900 J	--	1,500	--	3,100	--	--	--	--	4,500	12,000	--	--
MW-52S	04/27/21	N	<0.2	<1	<0.1	--	--	--	--	--	--	1.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-52S	11/30/21	N	<0.2	<1	<0.1 J	1,400	--	--	--	20	--	1.40	5.3	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	1.3
MW-52S	11/30/21	FD	<0.2	<1	<0.1 J	1,300	--	--	--	20	--	1.30	4.9	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	1.4
MW-52S	03/08/22	N	<1	--	<0.1 J	1,000	--	--	--	21 J	--	1.20	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	2.7
MW-52S	05/03/22	N	<1	<1	<0.1	400	--	--	--	26 J	--	1.40	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	2.4
MW-53D	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	1.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-53D	12/08/20	N	<1	<1	3.3	--	4.1 J	280 J	--	0.46 J	19 J	1.10	160	--	<0.5	5,500 J	--	36	--	8,800	--	--	--	--	1,200	15,000	--	--
MW-53D	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-53D	11/30/21	N	<1	<1	3.6 J	44	--	--	--	0.22	--	1.30	180	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-53D	03/08/22	N	<1	--	2.3 J	44	--	--	--	0.25 J	--	1	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-53D	05/03/22	N	<1	<1	<0.1	36	--	--	--	0.38 J	--	1.40	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-53M	06/16/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-53M	12/08/20	N	<1	<1	0.77	--	3.2 J	370 J	--	0.55 J	37 J	0.41	61	--	<0.5	4,400 J	--	46	--	6,700	--	--	--	--	740	12,000	--	--
MW-53M	04/27/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-53M	11/30/21	N	<1	<1	<0.1 J	58	--	--	--	0.38	--	0.42	54	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-53M	03/08/22	N	<1	--	<0.1 J	70	--	--	--	0.99 J	--	0.51	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<50
MW-53M	05/03/22	N	<1	<1	<0.1	55	--	--	--	0.27 J	--	0.4	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-53S	11/30/21	N	<0.2	<1	<0.1 J	200	--	--	--	5.40	--	1.20	1.6	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	<1
MW-53S	03/08/22	N	<0.2	--	<0.1 J	200	--	--	--	5.40 J	--	1.20	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	<1
MW-53S	05/03/22	N	<0.2	<1	<0.1	190	--	--	--	5 J	--	1.10	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	--	1.7
MW-54-085	06/19/20	N	<0.2	<1	5.19	--	--	--	--	--	--	0.472	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-085	12/09/20	N	<0.2	<10	<10	--	1.32	159	--	<0.0002	80.2	0.733	<100	--	<100	1,870	--	155	--	2,910	--	--	--	--	562	5,780	--	--
MW-54-085	06/08/21	N	<1	<10	<10	56.9	--	125	--	--	63.8	0.537	47.8	11	<10	1,670	<10	--	--	2,860	3	--	--	--	<0.2	439	5,640	--
MW-54-085	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.689	<100 J	--	<100 J	--	--	--	--	--	--	<0.5	--	--	--	--	--	--
MW-54-085	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-140	06/19/20	N	<1	<1	2.66	--	--	--	--	--	--	0.106	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-140	12/09/20	N	<1	<10	<10	--	1.86	144	--	<0.0002	15.3	<0.1	<100	--	<100	2,660	--	107	--	4,010	--	--	--	--	565	7,790	--	--
MW-54-140	06/08/21	N	<1	<10	<10	43	--	154	--	--	18.1	<0.1	44.3	20.9	<10	2,770	<10	--	--	4,740	2.57	--	--	0.646	565	6,980	--	--
MW-54-140	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	<0.1	<100 J	--	<100 J	--	--	--	--	--	--	0.605	--	--	--	--	--	--
MW-54-140	06/15/22	N	<1	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-195	06/19/20	N	<1	<1	<1	--	--	--	--	--	--	0.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-54-195	12/09/20	N	<1	<10	<10	--	2.93	127	--	<0.0002	4.77	0.331	107	--	<100	2,980	--	62.6	--	6,090	--	--	--	--	869	11,500	--	--
MW-54-195	06/08/21	N	<1	<10	<10	38	--	127	--	--	4.78	0.282	109	33.4	<10	4,420	<10	--	--	7,090	4.29	--	--	<0.5	884	11,400	--	--
MW-54-195	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.285	111 J	--	<100 J	--	--	--	--	--	--	<1	--	--	--	--	--	--
MW-54-195	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-045	06/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-045	12/09/20	N	<0.2	<10	--	--	0.565	32.9	--	<0.0002	7.4	0.789	<100	--	<100	231	--	155	--	258	--	--	--	--	76.4	751	--	--
MW-55-045	06/09/21	N	<0.2	<1	8.17 J	524	--	31.8	--	--	7.89	1 J	40.4	4.19	<1	231	1.19	--	--	274	6.01	--	--	<0.1	84.4	689	--	--
MW-55-045	12/14/21	N	<0.2	<1	6.35 J	--	--	--	--	--	--	0.625	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-045	06/14/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	06/19/20	N	7.94	9.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	06/19/20	FD	7.99	9.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	12/09/20	N	7.51	<10	--	--	1.65	62.9	--	<0.0002	1.33	<0.1	<100	--	<100	2,120	--	74.2	--	2,190	--	--	--	--	239	4,050	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-55-120	06/09/21	N	7.47	<10	<10	41.4	--	64.6	--	--	1.43	--	36.4	18	<10	1,410	<10	--	--	2,170	4.93	--	--	1.28	245	3,750	--
MW-55-120	12/14/21	N	7.96	<10	<10	--	--	--	--	--	--	<0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	12/14/21	FD	7.95	<10	<10	--	--	--	--	--	--	<0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-55-120	06/14/22	N	7.7	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56D	06/19/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56D	12/09/20	N	<1	<10	--	--	2.78	412	--	1.06	82.4	0.812	<100	--	<100	4,650	--	136	--	7,370	--	--	--	--	1,270	14,200	--
MW-56D	06/09/21	N	<1	<10	<10	40.6	--	421	--	--	85.3	0.809 J	37.1	37.9	<10	4,860	<10	--	--	7,880	1.83	--	--	<0.5	1,340	13,300	--
MW-56D	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.804	<100 J	--	<100 J	--	--	--	--	--	--	<1	--	--	--	--	--
MW-56D	06/14/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56M	06/19/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56M	12/09/20	N	<1	<10	--	--	1.82	377	--	2.97	99.6	0.675	<100	--	<100	2,920	--	437	--	4,860	--	--	--	--	835	9,310	--
MW-56M	12/09/20	FD	<1	<10	--	--	1.83	375	--	2.95	96.7	0.654	<100	--	<100	2,930	--	438	--	4,820	--	--	--	--	854	9,490	--
MW-56M	06/09/21	N	<1	<10	<10	48.9	--	374	--	--	99.3	0.657 J	<20	20.3	<10	2,920	<10	--	--	5,060	0.96	--	--	<0.2	876	9,050	--
MW-56M	06/09/21	FD	<1	<10	<10	48.3	--	382	--	--	99.8	0.689 J	<20	20.5	<10	2,900	<10	--	--	4,950	1.02	--	--	0.475	945	8,890	--
MW-56M	12/14/21	N	<1	<10	<10	--	--	--	--	--	--	0.784	<100 J	--	<100 J	--	--	--	--	--	--	<0.5	--	--	--	--	--
MW-56M	06/14/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56S	06/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-56S	12/09/20	N	<0.2	<10	--	--	1.99	144	--	4.92	50.3	0.754	<100	--	<100	1,200	--	640	--	1,300	--	--	--	--	585	3,980	--
MW-56S	06/09/21	N	<0.2	<10	<10	68.2	--	148	--	--	60.3	0.823 J	28.6	10.8	<10	1,230	<10	--	--	1,590	4.68	--	--	<0.2	650	3,840	--
MW-56S	12/14/21	N	<0.2	<10	<10	--	--	--	--	--	--	1.25	<100 J	--	<100 J	--	--	--	--	--	--	<0.2	--	--	--	--	--
MW-56S	06/14/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-57-070	06/22/20	N	610	530	1.3	--	--	--	--	--	--	0.0015	2.4	--	2.8	--	--	--	--	--	--	--	--	8.8	--	--	--
MW-57-070	12/04/20	N	630 J	660	1.3	--	0.4 J	250	--	<0.02 J	18 J	0.00098	2.6	--	3.2	75	--	110	--	550	--	--	--	8.5	110	1,300	--
MW-57-070	04/30/21	N	490	540	1.1	--	--	--	--	--	--	0.0034	3.5	--	3.6	--	--	--	--	--	--	--	--	9.3	--	--	--
MW-57-070	12/10/21	N	380	410	1.2	--	--	--	--	--	--	0.0011	4	--	3.7	--	--	--	--	--	--	--	--	11	--	--	--
MW-57-070	06/07/22	N	570	520	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-57-185	06/22/20	N	1.3	1.9	4.3	--	--	--	--	--	--	0.002	78	--	<0.5	--	--	--	--	--	--	--	--	0.14	--	--	--
MW-57-185	06/22/20	FD	1.4	2	4.1	--	--	--	--	--	--	0.0021	75	--	<0.5	--	--	--	--	--	--	--	--	0.12	--	--	--
MW-57-185	12/04/20	N	4.4 J	5	5.4	--	2.4 J	330	--	<0.1 J	<500 J	0.0014	83	--	<0.5	2,800	--	110	--	5,700	--	--	--	0.18	700	11,000	--
MW-57-185	04/30/21	N	4.2	4.3	<0.1	--	--	--	--	--	--	0.0011	83	--	<0.5	--	--	--	--	--	--	--	--	0.25	--	--	--
MW-57-185	12/10/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.0032	78	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-57-185	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-58BR	02/17/20	N	120	120	0.11	--	--	--	--	--	--	0.16	22	--	2.7	--	--	--	--	--	--	--	--	1.8	--	--	--
MW-58BR	05/01/20	N	43	41	1.9	--	--	--	--	--	--	0.14	24	--	1.9	--	--	--	--	--	--	--	--	0.77	--	--	--
MW-58BR	09/29/20	N	3.9	4.5	1	--	--	--	--	--	--	0.29	29	--	2	--	--	--	--	--	--	--	--	0.39	--	--	--
MW-58BR	11/30/20	N	5.2	5.7	2.4	--	1.3 J	320 J	--	<0.02	31 J	0.33	27	--	2.3	1,000 J	--	47	--	2,200	--	--	--	0.5	470	4,600	--
MW-58BR	02/15/21	N	4.2	5.2	2.1	--	--	--	--	--	--	0.32	26	--	2.1	--	--	--	--	--	--	--	--	0.46	--	--	--
MW-58BR	05/17/21	N	2.7	2.8	<0.1	--	--	--	--	--	--	0.31	28	--	1.7	--	--	--	--	--	--	--	--	0.46 J	--	--	--
MW-58BR	05/17/21	FD	2.3	2.2	<0.1	--	--	--	--	--	--	0.28	27	--	1.7	--	--	--	--	--	--	--	--	0.95 J	--	--	--
MW-58BR	08/26/21	N	16	17	<0.1 J	--	--	--	--	--	--	0.38	26	--	2.2	--	--	--	--	--	--	--	--	0.71	--	--	--
MW-58BR	12/09/21	N	6.4	7.3	<0.1 J	--	--	--	--	--	--	0.35	25	--	1.9	--	--	--	--	--	--	--	--	0.74	--	--	--
MW-58BR	06/21/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-59-100	06/22/20	N	2,100	2,200	<0.1	--	--	--	--	--	--	0.01	9	--	1.9	--	--	--	--	--	--	--	--	2.1	--	--	--
MW-59-100	12/08/20	N	2,700	2,900	2.2	69	1.5 J	550 J	--	0.042 J	25 J	0.0015	4.8	--	3.2 J	1,500 J	<1	110	--	3,100	--	--	--	3.4	570	6,700	--
MW-59-100	12/08/20	FD	2,700	2,800	2.2	70	3.4 J	670 J	--	0.27 J	27 J	0.0013	4.7	--	4.1 J	1,400 J	<1	110	--	3,100	--	--	--	3.5	580	7,200	--
MW-59-100	02/17/21	N	2,500	2,800	--	--	--	--	--	--	--	--	6.6	--	4.3	--	--	--	--	--	--	--	--	3.6	--	--	--
MW-59-100	06/07/21	N	1,800	1,900	<0.1 J	--	--	--	--	--	--	0.002 J	11	--	2	--	--	--	--	--	--	--	--	1.8	--	--	--
MW-59-100	12/15/21	N	2,000	2,000	<0.1	--	--	--	--	--	--	0.0097	8	--	2.1	--	--	--	--	--	--	--	--	2.3	--	--	--
MW-59-100	06/09/22	N	1,700	1,700 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60-125	06/24/20	N	660	630	<0.1	--	--	--	--	--	--	0.0047	17	--	5.2	--	--	--	--	--	--	--	--	3.8	--	--	--
MW-60-125	10/01/20	N	580	570	<0.1	--	0.82	450 J	--	<0.02	--	0.005	18	--	6.5	1,300	--	60	--	2,700	1.5	--	--	4.1	460	6,800	--
MW-60-125	05/27/21	N	390	390	<0.1 J	--	--	--	--	--	--	0.003	16	--	6.5	--	--	--	--	--	--	--	--	3.9	--	--	--
MW-60-125	12/16/21	N	480	480	<0.1	--	--	--	--	--	--	0.0061	19	--	5.8	--	--	--	--	--	--	--	--	3.8	--	--	--
MW-60-125	06/16/22	N	270	260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-60BR-245	02/20/20	N	52	44	6	--	--	--	--	--	--	0.007	57	--	3	--	--	--	--	--	--	--	--	--	0.22	--	--	--
MW-60BR-245	09/30/20	N	21	22	<0.1	--	--	--	--	--	--	0.002	63	--	3.4 J	--	--	--	--	--	--	--	--	--	0.18	--	--	--
MW-60BR-245	12/17/20	N	16	15	<0.1	--	2.4	390	--	<0.1	7 J	0.0016	65	--	2.9	3,600 J	--	24	--	5,600	--	--	--	0.18	780	11,000	--
MW-60BR-245	02/18/21	N	22	23 J	5.6	--	--	--	--	--	--	0.0015	70	--	3.1	--	--	--	--	--	--	--	--	0.25	--	--	--
MW-60BR-245	05/27/21	N	9.4	8.9	<0.1 J	--	--	--	--	--	--	<0.0005	64	--	2.5	--	--	--	--	--	--	--	--	0.21	--	--	--
MW-60BR-245	08/26/21	N	5.5	5.5	<0.1 J	--	--	--	--	--	--	<0.0005	64	--	3.8	--	--	--	--	--	--	--	--	0.12	--	--	--
MW-60BR-245	12/16/21	N	7.1	8.6	<0.1	--	--	--	--	--	--	0.0016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-60BR-245	06/16/22	N	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-61-110	12/04/20	N	430 J	440	<0.1	--	2.4 J	610	--	<0.1 J	26 J	0.24	22	--	1.3	2,700	--	46	--	5,400	--	--	--	0.8	720	11,000	--
MW-61-110	05/27/21	N	160	150	<0.1 J	--	--	--	--	--	--	0.3	23	--	0.83	--	--	--	--	--	--	--	--	0.38	--	--	--
MW-61-110	12/10/21	N	370	390	<0.1	--	--	--	--	--	--	0.35	22	--	1.1	--	--	--	--	--	--	--	--	0.63	--	--	--
MW-61-110	06/16/22	N	310	280	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62-065	02/19/20	N	480	460	0.13	--	--	--	--	--	--	0.0035	13	--	3.8	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-62-065	04/28/20	N	580	550	<0.1	--	--	--	--	--	--	0.0049	15	--	3.8	--	--	--	--	--	--	--	--	4.6	--	--	--
MW-62-065	09/30/20	N	590	610	<0.1	--	--	--	--	--	--	0.0033	13	--	4.7 J	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-62-065	12/04/20	N	620	570	<0.1	--	0.88 J	180	--	<0.02 J	30 J	<0.0005	12	--	3.5	870	--	110	--	1,800	--	--	--	4.6	430	3,800	--
MW-62-065	02/18/21	N	530	580 J	1.5	--	--	--	--	--	--	0.0034	14	--	3.8	--	--	--	--	--	--	--	--	4.8	--	--	--
MW-62-065	05/27/21	N	670	640	<0.1 J	--	--	--	--	--	--	0.0011	12	--	4.1	--	--	--	--	--	--	--	--	4.6	--	--	--
MW-62-065	08/27/21	N	590	660	<0.1 J	--	--	--	--	--	--	0.0017	13	--	3.9	--	--	--	--	--	--	--	--	5.2	--	--	--
MW-62-065	08/27/21	FD	600	610	<0.1 J	--	--	--	--	--	--	0.0022	13	--	3.6	--	--	--	--	--	--	--	--	4.9	--	--	--
MW-62-065	12/15/21	N	580	610	<0.1	--	--	--	--	--	--	<0.0005	11	--	3.4	--	--	--	--	--	--	--	--	5	--	--	--
MW-62-065	06/09/22	N	650	660 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62-110	02/18/20	N	<0.2	<1	5.7	--	--	--	--	--	--	0.15	49	--	<0.5	--	--	--	--	--	--	--	--	0.055	--	--	--
MW-62-110	04/29/20	N	<1	<1	2.9	--	--	--	--	--	--	0.13	71	--	<0.5	--	--	--	--	--	--	--	--	3.3	--	--	--
MW-62-110	09/30/20	N	<1	<1	<0.1	--	--	--	--	--	--	0.14	47	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-62-110	12/02/20	N	<0.2	<1	8.1	--	1.5	140	--	0.35	9.2	0.21	50	--	<0.5	1,600	--	83	--	2,900	--	--	--	<0.1	550	6,200	--
MW-62-110	02/16/21	N	<0.2	<1	4.5 J	--	--	--	--	--	--	0.13	50	--	<0.5	--	--	--	--	--	--	--	--	--	--	--	--
MW-62-110	06/08/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.16 J	64	--	<0.5	--	--	--	--	--	--	--	--	0.1	--	--	--
MW-62-110	08/27/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.15	56	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-62-110	12/01/21	N	<1	<1	5.2	--	--	--	--	--	--	0.18	38	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-62-110	06/22/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-62-190	04/29/20	N	<1	<1	<0.5	--	--	--	--	--	--	0.7	41	--	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-62-190	04/29/20	FD	<1	<1	<0.5	--	--	--	--	--	--	0.72	40	--	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-62-190	12/02/20	N	<1	<1	3.4	--	2.9	290	--	1.40	18	0.9	43	--	<0.5	2,800	--	57	--	6,000	--	--	--	<0.1	710	12,000	--
MW-62-190	06/08/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.71 J	46	--	<0.5	--	--	--	--	--	--	--	--	0.11	--	--	--
MW-62-190	12/01/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.57	29	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-62-190	06/22/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-63-065	02/19/20	N	1.2	2.5	<0.1	--	--	--	--	--	--	0.014	18	--	0.89	--	--	--	--	--	--	--	--	1	--	--	--
MW-63-065	02/19/20	FD	1.2	2.8	<0.1	--	--	--	--	--	--	0.017	18	--	0.86	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-63-065	06/24/20	N	1.3	2.6	<0.1	--	--	--	--	--	--	0.01	15	--	0.89	--	--	--	--	--	--	--	--	1.8	--	--	--
MW-63-065	09/30/20	N	1.3	2.3	<0.1	--	--	--	--	--	--	0.0017	17	--	1.3 J	--	--	--	--	--	--	--	--	2.4	--	--	--
MW-63-065	12/07/20	N	1.7	2.7 J	<0.1	--	0.77 J	150 J	--	0.034 J	23 J	0.0014	16 J	--	1.2 J	950 J	--	200	--	1,900	--	--	--	2	570	4,400	--
MW-63-065	02/18/21	N	1.2	3.1 J	1.6	--	--	--	--	--	--	0.006	17	--	0.93	--	--	--	--	--	--	--	--	1.4	--	--	--
MW-63-065	05/27/21	N	1.2	3.3	<0.1 J	--	--	--	--	--	--	0.028	17	--	0.99	--	--	--	--	--	--	--	--	1.3	--	--	--
MW-63-065	08/26/21	N	1.3	1.7	<0.1 J	--	--	--	--	--	--	0.0033	16	--	1.1	--	--	--	--	--	--	--	--	1.5	--	--	--
MW-63-065	12/16/21	N	1.4	1.3	<0.1	--	--	--	--	--	--	<0.0005	16	--	0.74	--	--	--	--	--	--	--	--	1.3	--	--	--
MW-63-065	06/09/22	N	1.1	2.2 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-64BR	02/21/20	N	<1	<1	3.2	--	--	--	--	--	--	0.91	61	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-64BR	05/01/20	N	<0.2	1.8	0.77	--	--	--	--	--	--	0.16	37	--	<0.5	--	--	--	--	--	--	--	--	0.056	--	--	--
MW-64BR	09/30/20	N	<1	<1	<0.1	--	--	--	--	--	--	1	66	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-64BR	11/30/20	N	<1	<1	2.3	--	2 J	260 J	--	0.71 J	22 J	1	68	--	<0.5	2,600 J	--	69	--	4,300	--	--	--	0.1	590	8,700	--
MW-64BR	02/18/21	N	<1	<1 J	1.9	--	--	--	--	--	--	1	65	--	<0.5	--	--	--	--	--	--	--	--	0.075	--	--	--
MW-64BR	05/27/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.96	61	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-64BR	08/26/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.97	60	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-64BR	12/16/21	N	<1	<1	<0.1	--	--	--	--	--	--	1	58	--	<0.5	--	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-64BR	06/22/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65-160	02/20/20	N	250	250	0.34	--	--	--	--	--	--	0.00052	28	--	9.2	--	--	--	--	--	--	--	--	--	14	--	--	--
MW-65-160	04/29/20	N	190	210	0.63	--	--	--	--	--	--	0.052	40	--	7.2	--	--	--	--	--	--	--	--	--	10	--	--	--
MW-65-160	09/29/20	N	240	240	0.35	--	--	--	--	--	--	0.029	26	--	9.7	--	--	--	--	--	--	--	--	--	13	--	--	--
MW-65-160	12/03/20	N	210	240	<0.1	--	1.1	280	--	0.62	50	0.051	27	--	9 J	460	--	130	--	990	--	--	--	--	11	540	2,600	--
MW-65-160	02/16/21	N	240	250 J	0.84 J	--	--	--	--	--	--	0.0054	25	--	11	--	--	--	--	--	--	--	--	--	15	--	--	--
MW-65-160	05/27/21	N	270	260	<0.1 J	--	--	--	--	--	--	<0.0005	26	--	10	--	--	--	--	--	--	--	--	--	15	--	--	--
MW-65-160	08/25/21	N	290	310	<0.1 J	--	--	--	--	--	--	0.00075	24	--	9.4	--	--	--	--	--	--	--	--	--	15	--	--	--
MW-65-160	12/08/21	N	300	310	<0.1	--	--	--	--	--	--	0.00097 J	23	--	10	--	--	--	--	--	--	--	--	--	16	--	--	--
MW-65-160	03/09/22	N	250	240	--	--	--	--	--	--	--	--	26	--	9.3	--	--	--	--	--	--	14	--	--	--	--	--	--
MW-65-160	06/21/22	N	270	330 J	--	--	--	--	--	--	--	--	25 J	--	9.4 J	--	--	--	--	--	--	13	--	--	--	--	--	--
MW-65-225	02/20/20	N	460	470	0.34	--	--	--	--	--	--	0.0044	27	--	6.9	--	--	--	--	--	--	--	--	--	10	--	--	--
MW-65-225	04/29/20	N	280	260	<0.1	--	--	--	--	--	--	0.092	43	--	3.7	--	--	--	--	--	--	--	--	--	4.9	--	--	--
MW-65-225	09/29/20	N	260	250	<0.1	--	--	--	--	--	--	0.045	43	--	3.7	--	--	--	--	--	--	--	--	--	4	--	--	--
MW-65-225	12/03/20	N	360	350	<0.1	--	1.7	270	--	0.098	21	0.026	32	--	5.2 J	1,800	--	88	--	3,200	--	--	--	--	6	690	6,600	--
MW-65-225	02/16/21	N	330	340 J	2.3 J	--	--	--	--	--	--	0.008	33	--	4.9	--	--	--	--	--	--	--	--	--	6.9	--	--	--
MW-65-225	05/27/21	N	460	430	<0.1 J	--	--	--	--	--	--	0.0007	22	--	6.7	--	--	--	--	--	--	--	--	--	8.3	--	--	--
MW-65-225	08/25/21	N	200	210	<0.1 J	--	--	--	--	--	--	0.0074	39	--	3	--	--	--	--	--	--	--	--	--	3.2	--	--	--
MW-65-225	12/08/21	N	83	80	<0.1	--	--	--	--	--	--	0.043 J	50	--	1.8	--	--	--	--	--	--	--	--	--	2	--	--	--
MW-65-225	12/08/21	FD	83	81	<0.1	--	--	--	--	--	--	0.05 J	50	--	1.7	--	--	--	--	--	--	--	--	--	1.9	--	--	--
MW-65-225	03/09/22	N	350	340	--	--	--	--	--	--	--	--	32	--	4.6	--	--	--	--	--	--	5.9	--	--	--	--	--	--
MW-65-225	03/09/22	FD	340	330	--	--	--	--	--	--	--	--	33	--	4.8	--	--	--	--	--	--	6	--	--	--	--	--	--
MW-65-225	06/21/22	N	390	530 J	--	--	--	--	--	--	--	--	31 J	--	4.7 J	--	--	--	--	--	--	6.4	--	--	--	--	--	--
MW-65-225	06/21/22	FD	390	460 J	--	--	--	--	--	--	--	--	30 J	--	4.6 J	--	--	--	--	--	--	6.4	--	--	--	--	--	--
MW-66-165	04/29/20	N	530	520	0.39	--	--	--	--	--	--	0.0077	6.2	--	29	--	--	--	--	--	--	--	--	--	29	--	--	--
MW-66-165	12/03/20	N	400	390	0.69 J	--	0.78	210	--	0.2 J	47 J	0.003	5.8	14 J	19	420 J	--	120	--	880	--	--	--	--	24	420	2,200	--
MW-66-165	12/03/20	FD	410	420	0.42	--	0.9	190	--	0.16	48	0.0031	5.5	--	19 J	390	--	110	--	870	--	--	--	--	23	420	2,200	--
MW-66-165	02/16/21	N	400	400 J	--	--	--	--	--	--	--	--	6.4	--	20	--	--	--	--	--	--	--	--	--	22 J	--	--	--
MW-66-165	05/05/21	N	520	500 J	<0.1	--	--	240	--	--	--	0.0022	5.8	20 J	24	530	--	--	--	940	--	--	--	--	24	450	2,300	--
MW-66-165	09/24/21	N	360	410	<0.1 J	--	--	230 J	--	--	37 J	0.0048	6.7	13	17	490	--	--	--	820	--	--	--	--	19	360	2,100	--
MW-66-165	12/07/21	N	350	350	0.49 J	--	--	--	--	--	--	<0.0005 J	5.4	--	11	--	--	--	--	--	--	--	--	--	19	--	--	--
MW-66-165	06/06/22	N	380	410	--	--	--	--	--	--	--	--	5.8 J	--	17	--	--	--	--	--	--	21	--	--	--	--	--	--
MW-66-230	04/29/20	N	6,700	6,300	8.4	--	--	--	--	--	--	0.0023	79	--	17	--	--	--	--	--	--	--	--	--	23	--	--	--
MW-66-230	04/29/20	FD	6,600	6,600	8.7	--	--	--	--	--	--	0.0023	81	--	17	--	--	--	--	--	--	--	--	--	23	--	--	--
MW-66-230	12/03/20	N	6,500	6,400	8 J	--	3	350	--	<0.1 J	7.1 J	0.0013	72	68 J	12	4,000 J	--	31	--	6,100	--	--	--	--	13	1,100	13,000	--
MW-66-230	12/03/20	FD	6,300	6,500	8 J	--	2.7	360	--	<0.1 J	7.1 J	0.0014	75	--	12	3,500 J	--	32	--	6,300	--	--	--	--	14	1,100	14,000	--
MW-66-230	02/16/21	N	6,000	6,500 J	--	--	--	--	--	--	--	--	75	--	16	--	--	--	--	--	--	--	--	--	23 J	--	--	--
MW-66-230	05/05/21	N	6,000	6,200 J	<0.1	--	--	96	--	--	--	0.012	74	57 J	7.6	5,300	--	--	--	6,600	--	--	--	--	11	1,000	12,000	--
MW-66-230	09/24/21	N	4,800	5,400	3.4 J	--	--	570 J	--	--	5.3 J	0.014	76	56	7.1	5,200	--	--	--	7,000	--	--	--	--	8.8	990	13,000	--
MW-66-230	12/07/21	N	5,000	5,200	8.9 J	--	--	--	--	--	--	0.0081 J	67	--	6.9	--	--	--	--	--	--	--	--	--	10	--	--	--
MW-66-230	06/06/22	N	6,100	5,600	--	--	--	--	--	--	--	--	89 J	--	12	--	--	--	--	--	--	13	--	--	--	--	--	--
MW-66BR-270	06/24/20	N	<1	<1	<0.1	--	--	--	--	--	--	6.70	1.1	--	<0.5	--	--	--	--	--	--	--	--	--	0.47	--	--	--
MW-66BR-270	12/16/20	N	<1	1.2	<0.1	--	3	320	--	30	33 J	2.70	3.1	--	<0.5	3,500 J	--	6.4	--	5,600	--	--	--	--	<0.05	250	12,000	--
MW-66BR-270	12/16/20	FD	<1	<1	<0.1	--	2.6	280	--	27 J	30 J	2.80	3	--	<0.5	3,600 J	--	5.3	--	5,600	--	--	--	--	<0.05	250	11,000	--
MW-66BR-270	02/26/21	N	<1	<1	--	--	--	--	--	--	--	--	3.9	--	<0.5	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-66BR-270	05/05/21	N	<1	<1 J	<0.1	--	--	370	--	--	--	1	1.9	52 J	<0.5	4,700	--	--	--	6,200	--	--	--	--	<0.05	290	10,000	--
MW-66BR-270	10/08/21	N	<1	<1	0.11	--	--	280	--	--	18 J	0.04	12	38 J	<0.5	3,600	--	--	--	5,600	--	--	--	--	<0.1	250	9,200	--
MW-66BR-270	12/16/21	N	<1	1.9	<0.1	--	--	--	--	--	--	0.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66BR-270	06/20/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67-185	04/30/20	N	2,000	2,000	<0.1	--	--	--	--	--	--	<0.0005	5.1	--	380	--	--	--	--	--	--	--	--	--	91	--	--	--
MW-67-185	10/06/20	N	2,000	2,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67-185	12/02/20	N	2,900	3,000	0.74	--	0.72	640	--	0.11	160	0.0027	14	--	330	420	--	80	--	1,900	--	--	--	--	89	640	4,900	--
MW-67-185	02/16/21	N	640	690 J	--	--	--	--	--	--	--	--	60	--	250	--	--	--	--	--	--	--	--	--	78 J	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-67-185	05/04/21	N	2,000	2,000	<0.1	--	--	820	--	--	--	<0.0005	5.6	20	430	920 J	--	--	--	2,300	--	--	--	100	590	5,300	--
MW-67-185	05/04/21	FD	2,000	1,900	<0.1	--	--	720	--	--	--	<0.0005	5.6	20	430	940 J	--	--	--	2,300	--	--	--	95	580	6,100	--
MW-67-185	09/23/21	N	<100	<5 J	2.2 J	--	--	190 J	--	--	29	1.60	89 J	18	54	330	--	--	--	910	--	--	--	0.12	360	2,100	--
MW-67-185	12/07/21	N	<100	<1	<0.1 J	--	--	--	--	--	--	2 J	47	--	26	--	--	--	--	--	--	--	--	8.5	--	--	--
MW-67-185	05/20/22	N	<40	<5 J	--	--	--	--	--	--	--	1.30	42 J	--	51	--	--	--	--	--	--	<10	--	--	--	--	--
MW-67-185	06/22/22	N	<40	<25 J	--	--	--	--	--	--	--	1.60 J	40 J	--	58	--	--	--	--	--	--	10	--	--	--	--	--
MW-67-185	06/22/22	FD	<40	<25 J	--	--	--	--	--	--	--	1.70 J	42 J	--	64	--	--	--	--	--	--	<10	--	--	--	--	--
MW-67-225	04/30/20	N	3,000	3,200	1.3	--	--	--	--	--	--	0.0052	48	--	87	--	--	--	--	--	--	--	--	27	--	--	--
MW-67-225	12/02/20	N	3,800	4,000	5	--	1.5	92	--	2.30	7.1	0.058	58	--	100	1,100	--	160	--	1,300	--	--	--	28	1,300	4,300	--
MW-67-225	02/16/21	N	4,100	3,500 J	--	--	--	--	--	--	--	--	88	--	92	--	--	--	--	--	--	--	--	26 J	--	--	--
MW-67-225	05/04/21	N	3,400	3,400	0.81	--	--	150	--	--	--	0.0053	54	17	89	1,600 J	--	--	--	1,500	--	--	--	26	1,100	4,700	--
MW-67-225	09/24/21	N	2,100	2,400	<0.1 J	--	--	140 J	--	--	6.3 J	0.032	72	16	72	1,400	--	--	--	1,300	--	--	--	32	990	4,000	--
MW-67-225	12/07/21	N	2,800	3,000	<0.1 J	--	--	--	--	--	--	0.0012 J	42	--	50	--	--	--	--	--	--	--	--	15	--	--	--
MW-67-225	06/21/22	N	3,400	3,100 J	--	--	--	--	--	--	--	--	65 J	--	50 J	--	--	--	--	--	--	16	--	--	--	--	--
MW-67-260	04/30/20	N	1,100	1,100	11	--	--	--	--	--	--	0.12	67	--	<2.5	--	--	--	--	--	--	--	--	0.62	--	--	--
MW-67-260	12/02/20	N	250	250	1.6	--	0.68	370	--	0.18	<500	0.0015	24	--	1.1	1,100	--	2,100	--	730	--	--	--	0.61	170	7,200	--
MW-67-260	02/19/21	N	350	380	--	--	--	--	--	--	--	--	35	--	1.1	--	--	--	--	--	--	--	--	0.71	--	--	--
MW-67-260	05/04/21	N	920	940	<0.1	--	--	340	--	--	--	0.00072	63	67	1.4	4,400 J	--	--	--	5,500	--	--	--	0.65	720	11,000	--
MW-67-260	09/24/21	N	770	840	<0.1 J	--	--	340 J	--	--	0.11 J	0.00057	70	77	1.4	4,500	--	--	--	5,300	--	--	--	0.61	690	11,000	--
MW-67-260	12/07/21	N	810	760	<0.1 J	--	--	--	--	--	--	0.0017 J	60	--	1.4	--	--	--	--	--	--	--	--	0.66	--	--	--
MW-67-260	06/21/22	N	490	450 J	--	--	--	--	--	--	--	--	67 J	--	1.1 J	--	--	--	--	--	--	0.3	--	--	--	--	--
MW-68-180	02/20/20	N	25,000	27,000	1.8	--	--	--	--	--	--	0.0061	63	--	15	--	--	--	--	--	--	--	--	29	--	--	--
MW-68-180	04/30/20	N	41,000	43,000	1.8	--	--	--	--	--	--	0.0096	53	--	21	--	--	--	--	--	--	--	--	36	--	--	--
MW-68-180	09/29/20	N	54,000	51,000	2.4	--	--	--	--	--	--	0.0069	57	--	28	--	--	--	--	--	--	--	--	35	--	--	--
MW-68-180	12/16/20	N	61,000	66,000	3.1	--	0.68	590	--	0.1 J	62 J	0.00079	53	17 J	22	740 J	--	110	--	840	--	--	--	24 J	1,700	4,200	--
MW-68-180	12/16/20	FD	61,000	63,000	3.1	--	<500	580	--	<0.1 J	60 J	0.0028	54	18 J	24	740	--	100	--	850	--	--	--	10 J	1,700	4,300	--
MW-68-180	02/19/21	N	63,000	66,000	3.2	--	--	--	--	--	--	<0.0005	53	--	23	--	--	--	--	--	--	--	--	23	--	--	--
MW-68-180	05/04/21	N	37,000	37,000	2	--	--	420	--	--	--	<0.0005	46	13	14	550 J	--	--	--	740	--	--	--	15	1,100	3,000	--
MW-68-180	06/28/21	N	62,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	07/27/21	N	65,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	08/16/21	N	47,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	09/09/21	N	48,000	60,000	1	--	--	--	--	--	--	0.0014	55	--	25	--	--	--	--	--	--	--	--	34	--	--	--
MW-68-180	09/23/21	N	46,000	56,000 J	1 J	--	--	680 J	--	--	65	<0.0005	58 J	18	25	680	--	--	--	1,100	--	--	--	34	1,400	4,300	--
MW-68-180	10/07/21	N	49,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	11/02/21	N	34,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	12/07/21	N	26,000	28,000	1.9 J	--	--	--	--	--	--	<0.0005 J	50	--	15	--	--	--	--	--	--	--	--	27	--	--	--
MW-68-180	03/09/22	N	34,000	37,000	--	--	--	--	--	--	--	--	53	--	17	--	--	--	--	--	--	25	--	--	--	--	--
MW-68-180	04/14/22	N	6,700	7,700 J	--	--	--	--	--	--	--	--	36 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	05/20/22	N	4,500	4,100 J	--	--	--	--	--	--	--	--	42 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68-180	06/14/22	N	3,300	4,000 J	--	--	--	--	--	--	--	--	46 J	--	5.9	--	--	--	--	--	--	10	--	--	--	--	--
MW-68-180	06/14/22	FD	3,300	3,800 J	--	--	--	--	--	--	--	--	46 J	--	5.5	--	--	--	--	--	--	10	--	--	--	--	--
MW-68-240	04/30/20	N	2,000	2,000	<0.5	--	--	--	--	--	--	0.017	22	--	3.7	--	--	--	--	--	--	--	--	4.1	--	--	--
MW-68-240	12/16/20	N	2,000	2,000	1.7	--	2.2	420	--	<0.02 J	21 J	0.02	24	46 J	3.8	2,400	--	62	--	4,900	--	--	--	3.7	890	12,000	--
MW-68-240	12/16/20	FD	2,000	1,900	1.9	--	2.3	440 J	--	<0.02 J	22 J	0.019	24	43 J	3.3	3,300	--	64	--	4,900	--	--	--	4	880	11,000	--
MW-68-240	02/19/21	N	1,900	2,000	--	--	--	--	--	--	--	--	24	--	5	--	--	--	--	--	--	--	--	4.6	--	--	--
MW-68-240	02/19/21	FD	1,900	2,000	--	--	--	--	--	--	--	--	24	--	4.2	--	--	--	--	--	--	--	--	4.4	--	--	--
MW-68-240	05/04/21	N	2,000	2,000	<0.1	--	--	590	--	--	--	0.023	24	38	4.1	4,200 J	--	--	--	5,400	--	--	--	4.2	880	11,000	--
MW-68-240	09/23/21	N	1,800	2,000 J	<0.1 J	--	--	660 J	--	--	19	0.018	28 J	43	4.4	4,300	--	--	--	5,400	--	--	--	4.8	890	11,000	--
MW-68-240	12/07/21	N	1,900	2,000	<0.1 J	--	--	--	--	--	--	0.012 J	25	--	3.9	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-68-240	12/07/21	FD	1,900	1,900	<0.1 J	--	--	--	--	--	--	0.012 J	24	--	3.4	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-68-240	06/14/22	N	2,100	2,400 J	--	--	--	--	--	--	--	--	22 J	--	4.1	--	--	--	--	--	--	4.2	--	--	--	--	--
MW-68BR-280	04/30/20	N	<1	<1	0.36	--	--	--	--	--	--	0.11	13	--	<2.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-68BR-280	12/16/20	N	<1	<1	0.35	--	2.2	370	--	0.03 J	3.4 J	0.059	17 J	51 J	<0.5	3,800 J	--	15	--	6,900	--	--	--	<0.1	680	13,000 J	--
MW-68BR-280	12/16/20	FD	<1	1.4	0.46	--	2.5	400	--	0.027 J	3.7 J	0.06	18 J	53 J	<0.5	4,700	--	15	--	6,700	--	--	--	<0.05	680	12,000	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-68BR-280	02/19/21	N	<1	<1	--	--	--	--	--	--	--	--	20	--	<0.5	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-68BR-280	05/04/21	N	<1	1.3	<0.1	--	--	410	--	--	--	0.055	24	44	<0.5	5,400 J	--	--	--	7,300	--	--	--	<0.05	690	13,000	--
MW-68BR-280	09/23/21	N	<1	<1 J	<0.1 J	--	--	340 J	--	--	2.7	0.068	27 J	47	<0.5	5,900	--	--	--	7,200	--	--	--	<0.1	670	13,000	--
MW-68BR-280	12/02/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-68BR-280	06/14/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-69-195	02/25/20	N	150	140	2	--	--	--	--	--	--	0.0065	68	--	7.9	--	--	--	--	--	--	--	--	--	11	--	--	--
MW-69-195	05/01/20	N	170	170	1.6	--	--	--	--	--	--	0.012 J	53	--	7	--	--	--	--	--	--	--	--	--	11	--	--	--
MW-69-195	05/01/20	FD	180	170	1.6	--	--	--	--	--	--	0.0092 J	52	--	7.2	--	--	--	--	--	--	--	--	--	9.6	--	--	--
MW-69-195	09/29/20	N	350	380	3.3	--	--	--	--	--	--	0.16	58	--	10	--	--	--	--	--	--	--	--	--	20	--	--	--
MW-69-195	12/03/20	N	6	9.4	1.7	--	1.1	79	--	0.49	12	0.023	70	--	6 J	360	--	190	--	410	--	--	--	5.5	430	1,500	--
MW-69-195	02/15/21	N	29	59	2.8	--	--	--	--	--	--	0.0068	67	--	8.3	--	--	--	--	--	--	--	--	4.7	--	--	--
MW-69-195	02/15/21	FD	27	59	2.8	--	--	--	--	--	--	0.007	68	--	7.8	--	--	--	--	--	--	--	--	4.9	--	--	--
MW-69-195	05/27/21	N	610	650	0.61 J	--	--	--	--	--	--	0.0014	66	--	12	--	--	--	--	--	--	--	--	16	--	--	--
MW-69-195	05/27/21	FD	610	630	0.73 J	--	--	--	--	--	--	0.0013	64	--	12	--	--	--	--	--	--	--	--	18	--	--	--
MW-69-195	08/26/21	N	480	460	1.2 J	--	--	--	--	--	--	0.0022	62	--	11	--	--	--	--	--	--	--	--	17	--	--	--
MW-69-195	12/08/21	N	410	390	0.86	--	--	--	--	--	--	0.0021 J	54	--	11	--	--	--	--	--	--	--	--	16	--	--	--
MW-69-195	03/09/22	N	430	450	--	--	--	--	--	--	--	--	59	--	12	--	--	--	--	--	--	18	--	--	--	--	--
MW-69-195	06/20/22	N	360	370 J	--	--	--	--	--	--	--	--	54 J	--	9.4 J	--	--	--	--	--	--	14	--	--	--	--	--
MW-69-195	06/20/22	FD	360	370 J	--	--	--	--	--	--	--	--	52 J	--	8.6 J	--	--	--	--	--	--	15	--	--	--	--	--
MW-70-105	11/30/20	N	150	150	4.3	--	0.95 J	72 J	--	<0.02	11 J	0.048	84	--	3.2	500 J	--	98	--	840	--	--	--	2.9	240	1,900	--
MW-70-105	02/15/21	N	140	150	--	--	--	--	--	--	--	--	79	--	3.3	--	--	--	--	--	--	--	--	2.5	--	--	--
MW-70-105	05/17/21	N	150	140	2.7	--	--	--	--	--	--	0.035	86	--	3.3	--	--	--	--	--	--	--	--	3.3	--	--	--
MW-70-105	12/09/21	N	210	220	3 J	--	--	--	--	--	--	0.0028	62	--	4.5	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-70-105	06/21/22	N	110	110 J	--	--	--	--	--	--	--	--	69 J	--	4 J	--	--	--	--	--	--	3.7	--	--	--	--	--
MW-70BR-225	11/30/20	N	1,300	1,300	1.7	--	1.8 J	600 J	--	<0.02	32 J	0.0071	19	--	2.2	2,000 J	--	47	--	3,900	--	--	--	3.2	720	8,300	--
MW-70BR-225	05/17/21	N	1,200	1,200	<0.1	--	--	--	--	--	--	0.014	21	--	2.3	--	--	--	--	--	--	--	--	3.2	--	--	--
MW-70BR-225	12/09/21	N	1,400	1,400	<0.1 J	--	--	--	--	--	--	0.014	19	--	2.2	--	--	--	--	--	--	--	--	3.4	--	--	--
MW-70BR-225	06/21/22	N	1,400	1,300 J	--	--	--	--	--	--	--	--	17 J	--	2.2 J	--	--	--	--	--	--	3	--	--	--	--	--
MW-70BR-287	07/24/20	N	<1	9.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	07/24/20	N	3.2	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	07/24/20	N	11	76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	08/21/20	N	350	330	<0.1	88	1.7	530	0.82	0.071	2.5	0.0039	59	43	1.2	3,300	3.3	50	<0.2	5,100	4.6	--	--	2	810	12,000	<1
MW-70BR-287	08/21/20	N	370	330	<0.1	83	1.8	520	0.54	<0.02	4.6	0.021	55	43	1.3	3,200	3	60	<0.2	5,100	4.3	--	--	1.9	820	12,000	<1
MW-70BR-287	08/21/20	N	330 J	310	<0.1	88	1.6	580	0.31	0.04	12	0.088	47	43	1.5	3,000	2.3	43	<0.2	5,100	4	--	--	2.1	810	12,000	<1
MW-70BR-287	09/28/20	N	290	290	2.3 J	94	2.6 J	470 J	1.40 J	0.2 J	0.73 J	0.0069	55	43	1.4	3,000	4	100	<0.2	5,100	10	--	--	1.8	790	11,000	<1 J
MW-70BR-287	11/18/20	N	240	200 J	<0.1	120	2.4	330 J	4.20	<0.02	7.9	0.015	54	47	1.2	3,200	1.4	74	<0.2	5,300	4.6	--	--	1.7	840	10,000	<1 J
MW-70BR-287	11/18/20	N	270	240 J	<0.1	80	2.5	330 J	0.46	<0.02	2.2	0.0021	53	48	1.1	3,300	2.1	52	<0.2	5,200	3.9	--	--	1.4	820	11,000	<1 J
MW-70BR-287	11/18/20	N	270	240 J	<0.1	86	2.5	350 J	0.3	<0.02	1.8	0.0031	52	48	1.1	3,300	2.2	65	<0.2	5,100	3.9	--	--	1.4	810	11,000	<1 J
MW-70BR-287	12/02/20	N	120	110	2.1	140	2.4 J	340 J	2	<0.02	11 J	0.047	56	43 J	1.1	2,700	<1	26	0.21	5,100	4.4	--	--	1.5	840	9,500	<1
MW-70BR-287	01/25/21	N	100	100	<0.1 J	100	1.9	360 J	0.41	0.05 J	6.5	0.0047	50	47 J	1.6	2,600 J	1.4	28	0.22	5,000	3.9	--	--	0.17	810	10,000	<1
MW-70BR-287	02/15/21	N	160	150	<0.1 J	93	1.7	310	0.12 J	0.03	3.5	0.0015 J	52 J	49 J	1.3	2,700	1.6	30	<0.22	5,000	4.3	--	--	0.59 J	800	10,000	<1 J
MW-70BR-287	02/15/21	FD	160	150	<0.1 J	85	1.6	350	0.15 J	0.082	3.8	0.0014 J	48 J	50 J	1.4	2,900	1.8	32	<0.22	5,000	4.4	--	--	1.5 J	810	11,000	<1 J
MW-70BR-287	05/17/21	N	220	200	<0.1	80	1.9	530	0.08	<0.02	0.56	0.0024	52	42 J	1.1	4,000 J	2.5	71	<0.2	5,200	4.5	--	--	0.99	800	11,000	<1
MW-70BR-287	08/19/21	N	280	310	<0.1	63 J	1.7	470 J	0.074 J	<0.02	2 J	0.0011	52	38	1	3,800 J	1.7	34	0.28	5,100	3.7	--	--	1.3	800	11,000	<1
MW-70BR-287	12/09/21	N	350	340	<0.1 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-70BR-287	06/21/22	N	380	430 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-71-035	05/01/20	N	<1	<1	2.2	--	--	--	--	--	--	0.066	15	--	<0.5	--	--	--	--	--	--	--	--	0.19	--	--	--
MW-71-035	12/15/20	N	<1	<1	1.3	--	3	790 J	--	<0.1	81	0.28	16	--	<0.5	3,000	--	190	--	5,300	--	--	--	0.092	1,200	12,000	--
MW-71-035	05/26/21	N	<1	<1	<0.1 J	--	--	--	--	--	--	0.2	15	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-71-035	12/16/21	N	<1	<1	<0.1	42	--	--	--	0.031 J	--	0.071	15	--	<0.5	--	--	--	<0.2	--	--	--	<5	<0.1	1,200	--	<1
MW-71-035	02/02/22	N	<1	--	<0.1	47	--	--	--	0.12	--	0.0057	--	--	--	--	--	--	--	--	--	<0.5	--	--	1,100	--	<1
MW-71-035	03/14/22	N	<1	<1	<0.1 J	47	--	--	--	0.036	--	0.02	13	--	<0.5	--	--	--	<0.23	--	--	<0.5	--	--	1,200	--	<1
MW-71-035	04/12/22	N	<1	--	<0.1 J	45	--	--	--	0.051	--	0.25	--	--	--	--	--	--	--	--	--	<0.5	--	--	1,200	--	<1
MW-71-035	04/12/22	FD	<1	--	<0.1 J	45	--	--	--	0.074	--	0.3	--	--	--	--	--	--	--	--	--	<0.5	--	--	1,200	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-71-035	05/18/22	N	<1	--	<0.1	41	--	--	--	0.058 J	--	0.045	--	--	--	--	--	--	--	--	--	<0.5	--	--	1,100	--	<1
MW-71-035	06/15/22	N	<1	<1	<0.1	58	--	--	--	0.15 J	--	1.40	21	--	0.51 J	--	--	--	<0.2	--	--	<0.5	<5	<0.1	1,200	--	<1
MW-71-035	06/15/22	FD	<1	<1	<0.1	61	--	--	--	0.21 J	--	1.50	22	--	<0.5 J	--	--	--	<0.2	--	--	<0.5	<5	<0.1	1,300	--	<1
MW-72-080	02/20/20	N	96	85	12	--	--	--	--	--	--	0.015	75	--	<2.5	--	--	--	--	--	--	--	--	0.63	--	--	--
MW-72-080	04/28/20	N	100	95	6.5	--	--	--	--	--	--	0.089	74	--	1.3	--	--	--	--	--	--	--	--	1	--	--	--
MW-72-080	09/29/20	N	79	75	6.8	--	--	--	--	--	--	0.086	81	--	1.4	--	--	--	--	--	--	--	--	0.59	--	--	--
MW-72-080	12/03/20	N	86	78	12 J	--	4.4	300	--	0.45 J	9.9 J	0.044	76	--	1.6	3,200 J	--	46	--	5,000	--	--	--	1.3	690	10,000	--
MW-72-080	02/18/21	N	70	72 J	11	--	--	--	--	--	--	0.12	82	--	1.8	--	--	--	--	--	--	--	--	1	--	--	--
MW-72-080	05/27/21	N	66	62	<0.1 J	--	--	--	--	--	--	0.05	81	--	1.3	--	--	--	--	--	--	--	--	0.85	--	--	--
MW-72-080	08/27/21	N	61	58	2.9 J	--	--	--	--	--	--	0.055	77	--	1.4	--	--	--	--	--	--	--	--	1.2	--	--	--
MW-72-080	12/09/21	N	71	66	4.4 J	--	--	--	--	--	--	0.031	72	--	1.5	--	--	--	--	--	--	--	--	1.2	--	--	--
MW-72-080	06/17/22	N	35	32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72BR-200	02/20/20	N	1.2	2.9	12	--	--	--	--	--	--	0.1	71	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-72BR-200	04/28/20	N	<1	2.1	6.5	--	--	--	--	--	--	0.2	73	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-72BR-200	09/29/20	N	<1	1.7	13	--	--	--	--	--	--	0.15	83	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-72BR-200	12/03/20	N	<1	<1	14 J	--	5	270	--	<0.1 J	4.3 J	0.12	77	--	<0.5	2,600 J	--	25	--	5,000	--	--	--	<0.1	700	9,400	--
MW-72BR-200	02/18/21	N	<1	<1 J	14	--	--	--	--	--	--	0.12	79	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-72BR-200	05/27/21	N	<1	<1	1.3 J	--	--	--	--	--	--	0.13	75	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-72BR-200	05/27/21	FD	<1	<1	3.8 J	--	--	--	--	--	--	0.13	77	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-72BR-200	08/27/21	N	<1	3	5.7 J	--	--	--	--	--	--	0.1	80	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-72BR-200	12/09/21	N	<1	1.5	7.6 J	--	--	--	--	--	--	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72BR-200	06/17/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-73-080	02/20/20	N	21	19	<0.1	--	--	--	--	--	--	0.0094	33	--	3.7	--	--	--	--	--	--	--	--	2.9	--	--	--
MW-73-080	04/28/20	N	26	24	<0.1	--	--	--	--	--	--	0.0045	36	--	4.2	--	--	--	--	--	--	--	--	3.9	--	--	--
MW-73-080	09/30/20	N	18	21	0.29	--	--	--	--	--	--	0.0083	47	--	4.6 J	--	--	--	--	--	--	--	--	4.5	--	--	--
MW-73-080	12/03/20	N	11	11	<0.1 J	--	1.2	290	--	0.025 J	33 J	0.0057	36	--	4.1	1,100 J	--	100	--	2,900	--	--	--	3.2	400	5,800	--
MW-73-080	02/18/21	N	11	12 J	2	--	--	--	--	--	--	0.0068	37	--	4.3	--	--	--	--	--	--	--	--	3.4	--	--	--
MW-73-080	05/27/21	N	24	23	<0.1 J	--	--	--	--	--	--	0.0091	35	--	3.8	--	--	--	--	--	--	--	--	3	--	--	--
MW-73-080	05/27/21	FD	25	23	<0.1 J	--	--	--	--	--	--	0.01	35	--	3.8	--	--	--	--	--	--	--	--	3.5	--	--	--
MW-73-080	08/27/21	N	19	22	<0.1 J	--	--	--	--	--	--	0.0028	35	--	4.5	--	--	--	--	--	--	--	--	3.5	--	--	--
MW-73-080	12/09/21	N	9.7	11	<0.1 J	--	--	--	--	--	--	0.018	35	--	3.8	--	--	--	--	--	--	--	--	3.5	--	--	--
MW-73-080	06/17/22	N	25	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-74-240	04/30/20	N	<0.2	1.5	11	--	--	--	--	--	--	0.017	20	--	<0.5	--	--	--	--	--	--	--	--	<0.05	--	--	--
MW-74-240	12/03/20	N	<0.2	<1	9.9 J	--	0.29	4.2	--	0.12 J	0.56 J	0.0043	26	--	<0.5	170 J	--	200	--	88	--	--	--	<0.1	61	480	--
MW-74-240	06/07/21	N	<0.2	<1	6.6 J	--	--	--	--	--	--	0.0055 J	44	--	<0.5	--	--	--	--	--	--	--	--	0.064	--	--	--
MW-74-240	06/07/21	FD	<0.2	<1	6.8 J	--	--	--	--	--	--	0.0055 J	43	--	<0.5	--	--	--	--	--	--	--	--	0.085	--	--	--
MW-74-240	12/08/21	N	<0.2	<1	6.5	--	--	--	--	--	--	0.0074 J	46	--	<0.5	--	--	--	--	--	--	--	--	0.27	--	--	--
MW-74-240	06/20/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	01/30/20	N	27	30	2.9	61	0.81	120	3.10	0.6	25	0.19	16	8.5	1.8	670	4.5	100	0.14	920	3.3	--	--	2	220	1,900	<1
MW-75-033	02/17/20	N	35	34	2.6	57 J	0.51	110	0.34 J	0.035	18	0.12	16	8.5	2	620	3.6	100	0.09 J	850	3.4	--	--	2.4	210	1,900	<10
MW-75-033	03/16/20	N	31	31	2.1	53 J	0.52	100	0.17 J	0.14 J	19	0.035	13	7.7	1.9	560	3.3	100	0.12	900	3.1	--	--	2.4 J	210	2,000	<1 J
MW-75-033	04/20/20	N	94	88	1.7	97	0.59	190	5.30	0.12 J	38	0.02	11	10	5.4	730	2.8	100	<0.1	1,300	2.4	--	--	2.4	290	3,200	<1
MW-75-033	05/18/20	N	54	51	1.1	86	0.56	190	0.57	0.05 J	39 J	0.002	11	11 J	7	810	2.8	100	<0.2	1,400	2.4	--	--	2.9	300	3,100	<1 J
MW-75-033	05/18/20	FD	54	50	1.1	83	0.55	190	0.56	0.044 J	40 J	0.0018	11	11 J	6.8	840	2.8	99	<0.2	1,300	2.5	--	--	2.9	290	3,100	<1 J
MW-75-033	06/15/20	N	19	20	0.85 J	87	0.65	200	1.40	0.049	42	0.0034	10	12 J	2.6	840	2.9	88	<0.2	1,500	2.3	--	--	1.7 J	260	3,300	<1
MW-75-033	07/21/20	N	22	24	0.85 J	91	0.6	170	0.61	<0.02 J	36	0.023	9.5	10 J	2.8	810	2.9	81	<0.2	1,400	2.6	--	--	2.1 J	260	3,100	<1
MW-75-033	08/17/20	N	30	29	0.78	80	1.4	230	4.90 J	3.80 J	40 J	0.018	9.8	10	2.6	780	3.2	82	<0.2	1,300	2.7	--	--	1.1	250	2,900	<1 J
MW-75-033	09/28/20	N	23	25	1.1 J	83	0.58 J	120 J	0.65 J	0.12 J	33 J	0.022	9.8	6.9	2.4	630	3.3	83	<0.2	1,400	2.8	--	--	2.1	250	3,100	<1 J
MW-75-033	10/19/20	N	28	64	7.3 J	170	0.59	150	5.70 J	4.10 J	31 J	0.9 J	8.1	11 J	2.3	760	24	78	<0.2	1,100	2.2	--	--	2.1	220	2,600	<1 J
MW-75-033	12/01/20	N	39	38	2.2	57	0.73 J	110 J	1.40	0.023 J	28 J	0.018	11	7.5 J	2.2	490	3.1	91	<0.2	1,100	3.1	--	--	2.5	230	2,300	<1
MW-75-033	12/01/20	FD	38	38	2.1	58	1 J	110 J	1.50	0.03 J	28 J	0.02	11	7.4 J	2.2	490	3.2	91	<0.2	1,100	3.1	--	--	2.7	230	2,300	<1
MW-75-033	02/16/21	N	34	35	0.88 J	51	0.6	90 J	0.24 J	0.031	20 J	0.018	12 J	6.9 J	1.9	510 J	3.7	93	<0.2	1,000	3.1	--	--	2	220	2,100	<10
MW-75-033	05/17/21	N	33	32	0.7	89	0.59	200	0.39	<0.02	38	0.017	9.4	9.2 J	1.8	560 J	3.1	81	<0.2	1,400	2.7	--	--	2.2	250	3,000	<1
MW-75-033	08/17/21	N	29	28	<0.1	64	0.57	160	0.22 J	<0.02	31 J	0.011	8.1	9.3 J	1.9	730 J	2.8	83	<0.2	1,300	2.5	--	--	2.2	240	3,000	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-75-033	11/29/21	N	42	39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	03/02/22	N	39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	03/02/22	FD	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-033	06/07/22	N	27	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	01/30/20	N	5.1	5.4	<0.5	73	1	340	0.078	0.02	87	0.38	31	19	<2.5	3,000	1.1	73	0.09 J	4,200	3.2	--	--	2.1	640	8,500	<1
MW-75-117	02/17/20	N	4.8	4.8	1.2	77 J	0.9	300	0.4 J	0.036	67	0.39	31	19	1.2	2,900	1.7	76	0.11	4,000	3.3	--	--	2.2	610	8,400	<1
MW-75-117	03/16/20	N	5.3	4.7	<0.1	67 J	0.81	240	0.092 J	0.088 J	61	0.36	32	18	1.2	2,400	1.1	74	0.11	3,700	3.3	--	--	1.8 J	570	8,200	<1 J
MW-75-117	03/16/20	FD	5.3	5.1	<0.1	67 J	0.8	240	0.059 J	0.042 J	60	0.38	34	18	1.2	2,300	1.2	75	<0.1	3,800	3.4	--	--	1.8 J	580	8,300	<1 J
MW-75-117	04/20/20	N	8	7.7	<0.1	67	0.8	200	0.29	0.081 J	49	0.36	36	18	1.5	2,400	1.4	75	<0.1	3,500	3.1	--	--	2.3	580	7,500	<1
MW-75-117	05/18/20	N	5.4	7.4	<0.1	66	0.8	190	0.58	0.15 J	47 J	0.3	38	18 J	1.4	2,600	1.6	72	<0.2	3,400	3.5	--	--	2.6	580	7,200	<1 J
MW-75-117	06/15/20	N	4.9	5.8	<0.1 J	62	0.85	180	0.48	0.12	43	0.26	39	17 J	1.4	2,300	1.6	73	--	3,300	3.5	--	--	2.5 J	550	7,300	<20
MW-75-117	07/20/20	N	8.4	8.6	<0.1 J	69	0.82	160	0.17	<0.02	42 J	0.3 J	41	15 J	1.3	2,700	1.4	70	<0.2	3,400	3.2	--	--	2.5	540	7,400	<1 J
MW-75-117	08/17/20	N	1.6	3	<0.1	70	1.5	220	0.46 J	<0.02 J	54 J	0.34	40	18	1.5	2,400	1.6	70	<0.2	3,600	3.4	--	--	2.4	520	7,800	<10 J
MW-75-117	09/28/20	N	2.1	2.8	<0.1 J	83	0.93 J	230 J	0.28 J	<0.02 J	50 J	0.33	39	14	2	1,900	1.5	72	<0.2	3,700	3.8	--	--	2.8	530	7,800	<1 J
MW-75-117	10/20/20	N	5.6	5.5	1.3 J	73	1	210	0.7 J	<0.02	58 J	0.29	33	31 J	1.3	2,100	1.4	72	<0.2	3,800 J	3.3	--	--	2.2	550	7,800	<1
MW-75-117	12/01/20	N	7.8	8.2	1.1	68	1.1 J	180 J	0.37	<0.02	75 J	0.19	33	20 J	1.4	2,200	1.1	75	<0.2	3,800	3.5	--	--	2.5	610	8,400	<1
MW-75-117	02/16/21	N	6.5	6.7	<0.1 J	61	0.77	170 J	0.15 J	0.022	62 J	0.087	35 J	27 J	1.3	2,100 J	1.6	73	<0.22	3,800	3.6	--	--	1.8	570	7,600	<1
MW-75-117	05/17/21	N	13	13	<0.1	60	0.83	190	0.098	<0.02	42	0.059	42	14 J	1.2	2,100 J	1.9	74	<0.2	3,200	3.6	--	--	2.6	530	7,000	<1
MW-75-117	08/17/21	N	7.4	7	<0.1	64	0.88	240	0.033 J	<0.02	55 J	0.15	33	24 J	1.4	2,800 J	1.8	73	<0.2	3,700	3.1	--	--	2.3	540	7,500	<1
MW-75-117	11/29/21	N	10	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	03/02/22	N	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-117	06/07/22	N	7.4	6.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	01/30/20	N	<1	<5	<0.5	93	1.5	480	<0.1	0.025	60	1.90	58	23	<2.5	4,300	<5	50	0.15	5,800	3.2	--	--	0.82	1,200	12,000	<1
MW-75-202	02/17/20	N	<1	<1	2.7	98 J	1.1	430	<0.1	0.046	49	2	61	22	<0.5	4,100	<1	52	0.09 J	5,500	3.7	--	--	0.62	1,100	12,000	<1
MW-75-202	03/17/20	N	<1	<1	3.1	82 J	1.1	470	0.34 J	0.21 J	51	2.10	59	25	<0.5	3,800	<1	57	0.07 J	5,700	2.9	--	--	0.44 J	1,100	13,000	<1 J
MW-75-202	04/21/20	N	<1	<1	4.2	98	1.1	440	0.17	0.2	41	2.60	62	23	<0.5	3,900	<1	61	0.06 J	5,800	2.9	--	--	<0.05	1,200	13,000	<1
MW-75-202	05/18/20	N	<1	2.2	3.7	93	1	400	0.16	0.19 J	52 J	2.70	61	25 J	<0.5	3,800	<1	61	0.24	5,800	2.8	--	--	0.25	1,100	12,000	<1 J
MW-75-202	06/16/20	N	<1	<1	<0.1 J	100	1.1	380	0.21 J	0.21	62	2.50	67	25 J	<0.5	4,300	<1	67	--	5,400	3.6	--	--	0.14	960	11,000	<50
MW-75-202	07/20/20	N	<1	1.1	2.5 J	81	1	380	0.077	0.036	51 J	2.20 J	59	21 J	<0.5	4,500	<1	57	<0.2	5,600	2.9	--	--	0.72	1,100	12,000	<20 J
MW-75-202	08/17/20	N	<1	<1	2.5	77	1.2	68	<0.02 J	<0.02 J	11 J	2	59	23	0.59	3,800	<1	58	0.29	6,000	3.2	--	--	0.56	1,100	12,000	<1 J
MW-75-202	09/28/20	N	<1	<1	1.8 J	76	1 J	440 J	<0.1 J	<0.1 J	59 J	1.80	54	21	<0.5	3,200	<1	58	0.2	5,600	4	--	--	1.1	1,100	12,000	<1 J
MW-75-202	10/19/20	N	<1	<1	1.8 J	72	1.2	400	<0.02	<0.02	56 J	1.50 J	48	56 J	<0.5	4,700	<1	56	<0.2	5,700	3.7	--	--	0.98	1,100	13,000	<1 J
MW-75-202	12/01/20	N	<1	<1	1.8	71	1.2 J	340 J	0.33	<0.02	70 J	1.50	47	29 J	<0.5	3,200	<1	62	<0.2	5,600	3.5	--	--	1.1	1,100	12,000	<1
MW-75-202	02/16/21	N	<1	<1	<0.1 J	66	0.98	320 J	0.059 J	0.022	44 J	0.98	62 J	37 J	<0.5	3,300 J	1.2	51	<0.22	5,700	3.7	--	--	0.64	1,100	12,000	<1
MW-75-202	05/17/21	N	<1	<1	<0.1	64	1.1	550	0.038	0.043	49	1.50	52	20 J	<0.5	4,300 J	<1	62	<0.2	5,500	3.6	--	--	0.81	1,100	12,000	<1
MW-75-202	08/17/21	N	<1	<1	<0.1	61	0.97	750	0.032 J	0.022	54 J	1.50	45	30 J	<0.5	3,800 J	1.4	65	<0.2	5,600	3.1	--	--	0.9	1,000	13,000	<1
MW-75-202	08/17/21	FD	<1	<1	<0.1	59	0.98	620	0.032 J	0.025	54 J	1.50	44	27 J	<0.5	3,900 J	1.2	65	<0.2	5,600	3.5	--	--	0.89	1,100	12,000	<1
MW-75-202	11/29/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	11/29/21	FD	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-202	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	01/30/20	N	<1	<5	<0.5	79	2.5	350	<0.1	<0.1	17	0.93	120	61	<2.5	6,100	<5	33	0.11	8,300	4.9	--	--	0.39	1,300	15,000	<1
MW-75-267	01/30/20	FD	<1	<5	<0.5	81	2.6	380	0.11	<0.1	18	0.95	120	66	3.1	6,300	<5	34	0.11	8,500	5.2	--	--	0.45	1,300	15,000	<1
MW-75-267	02/18/20	N	<1	<1	<0.5	82 J	1.8	330	0.19 J	0.11	13	0.9	130	62	<2.5	6,400	<1	37	0.19	8,400	4	--	--	0.2	1,300	15,000 J	<20 J
MW-75-267	03/17/20	N	<1	<1	2.4	79 J	2.3	350	0.95 J	0.26 J	14	1.10	120	73	<0.5	5,700	<1	49	0.1	7,500	3.4	--	--	--	1,200	15,000	<1 J
MW-75-267	04/21/20	N	<1	<1	3.8	82	1.8	360	0.25	0.23	14	1.40	98	60	<2.5	6,700	<1	58	0.15	7,700	3.7	--	--	0.077	1,300	14,000	<1
MW-75-267	05/18/20	N	<1	<1	3.7	94	2.2	380	0.47	0.36 J	19 J	1.80	90	67 J	<2.5	7,500	<1	49	0.35	7,500	3.4	--	--	<0.05	1,200	15,000	<20 J
MW-75-267	06/16/20	N	<1	<1	<0.1 J	93	2	360	0.59 J	0.45	19	2.20	71	63 J	<0.5	6,500	<1	55	0.22	7,500	3.3	--	--	0.073	1,200	14,000	<1
MW-75-267	06/16/20	FD	<1	<1	<0.1 J	92	2.2	390	0.57 J	0.49	21	2.10	71	69 J	<0.5	6,800	<1	56	0.23	7,600	3.3	--	--	<0.05	1,200	14,000	<1
MW-75-267	07/21/20	N	<1	<1	4.7 J	93	1.9	340	0.48	0.47 J	17	2.30	74	57 J	<0.5	6,600	<1	60	0.24	7,300	3.5	--	--	0.25 J	1,200	14,000	<1
MW-75-267	08/17/20	N	<1	<1	4	72	2.9	370	0.49 J	0.38 J	27 J	1.80	83	580	0.65	5,200	<1	54	0.39	8,300	4.4	--	--	0.074	1,400	14,000	<1 J
MW-75-267	09/28/20	N	<1	<1	3.9 J	71	2.7 J	310 J	0.4 J	<0.1 J	21 J	1.40	90	69	<0.5	5,500	<1	52	0.28	7,600	4.9	--	--	<0.05	1,200	14,000	<1 J
MW-75-267	10/19/20	N	<1	<1	3.2 J	71	2.4	290	0.37 J	0.25 J	15 J	1.20 J	90	97 J	<0.5	6,700	<1	48	0.26	7,900	4.5	--	--	0.068	1,200	15,000	<50 J
MW-75-267	12/01/20	N	<1	<1	2.3	67	3 J	270 J	0.28	0.22 J	18 J	1.10	110	86 J	<0.5	4,900	<1	39	0.23	7,900	4.8	--	--	0.22	1,300	14,000	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-75-267	02/16/21	N	<1	<1	<0.1 J	62	3.4	240 J	0.14 J	0.065	11 J	0.78	130 J	79 J	<0.5	6,500 J	<1	35	<0.22	7,900	4.2	--	--	0.14	1,200	16,000	<1
MW-75-267	05/17/21	N	<1	<1	<0.1	68	2.1	400	0.27	0.19	13	1.40	100	53 J	<0.5	6,600 J	<1	43	0.26	7,700	3.9	--	--	0.18	1,200	14,000	<1
MW-75-267	05/17/21	FD	<1	<1	<0.1	68	2	400	0.19	0.18	13	1.40	100	53 J	<0.5	6,000 J	<1	43	0.2	7,600	4.4	--	--	0.12	1,200	14,000	<1
MW-75-267	08/17/21	N	<1	<1	<0.1	59	1.7	350	0.54 J	0.25	15 J	1.50	67	54 J	<0.5	4,200 J	<1	46	0.22	7,500	3.8	--	--	<0.1	1,200	14,000	<1
MW-75-267	11/29/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-267	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	01/30/20	N	<1	<5	<0.5	65	0.63	260	1	0.5	14	0.87	190	72	3.2	8,300	<5	74	0.17	10,000	7.7	--	--	0.066	1,600	19,000 J	<1
MW-75-337	02/17/20	N	<1	1.1	<0.5	67 J	2.1	210	0.5 J	0.42	9.2	0.87	190	62	<2.5	7,500	<1	66	0.14	9,700	6.9	--	--	<0.05	1,600	18,000 J	<1
MW-75-337	03/16/20	N	<1	<1	4.6	65 J	2.6	250	6 J	0.58 J	8	0.95	200	74	<0.5	6,800	<1	68	0.17	9,900	6.8	--	--	--	1,600	19,000 J	<1 J
MW-75-337	04/20/20	N	<1	<1	<0.5	64	2.2	250	1.50 J	0.57 J	6	0.83	200	68	<2.5	7,100	<1	60	<0.1	10,000	4.8	--	--	<0.05	1,600	18,000	<1
MW-75-337	04/20/20	FD	<1	<1	<0.5	63	2.3	260	1.10 J	0.53 J	6.1	0.82	210	68	<2.5	7,200	<1	60	<0.1	9,700	5	--	--	<0.05	1,700	18,000	<1
MW-75-337	05/18/20	N	<1	<1	<0.5	65	2.5	240	0.79	0.51 J	6.5 J	0.8	210	72 J	<2.5	8,000	<1	53	0.35	10,000	5.3	--	--	<0.05	1,700	20,000 J	<1 J
MW-75-337	06/15/20	N	<1	<1	<0.1 J	59	3.1	230	0.77	0.44	8	0.69	230	68 J	<0.5	8,600	<1	49	0.45	10,000	4.9	--	--	1.8 J	1,600	18,000 J	<1
MW-75-337	07/21/20	N	<1	<1	4.4 J	62	2.2	210	0.35	0.28 J	5	0.61	220	66 J	<0.5	9,400	<1	46	0.23	9,900	5.6	--	--	1.9 J	1,600	18,000 J	<1
MW-75-337	07/21/20	FD	<1	<1	4.3 J	62	2.9	230	0.74	0.35 J	7.1	0.62	230	70 J	<0.5	10,000	<1	46	0.23	9,700	5.7	--	--	0.071	1,700	18,000 J	<1
MW-75-337	08/17/20	N	<1	1.1	4.7	60	3.9	220	0.6 J	0.48 J	8 J	0.59	230	65	1.2	7,700	<1	50	0.23	11,000	5	--	--	<0.05	1,700	19,000	<1 J
MW-75-337	08/17/20	FD	<1	1.1	4.5	58	3.4	240	1.10 J	0.49 J	9.1 J	0.59	220	66	1.2	7,300	<1	50	0.24	9,900	6.4	--	--	<0.05	1,600	19,000	<1 J
MW-75-337	09/28/20	N	<1	<1	4.7 J	58	4.9 J	220 J	0.58 J	0.28 J	8.7 J	0.59	230	85	0.53	7,800	<1	48	0.23	9,400	6.4	--	--	<0.05	1,600	18,000 J	<20 J
MW-75-337	10/20/20	N	<1	<1	4.6 J	66	2.3	140	1.60 J	0.84 J	5 J	0.58	200	100 J	<0.5	8,200	<1	61	2.1	9,500 J	6.5	--	--	<0.05	1,600	18,000	<1
MW-75-337	12/01/20	N	<1	<1	5	54	3.7 J	180 J	0.77	0.4 J	8.1 J	0.6	220	98 J	<0.5	6,000	<1	49	0.23	9,800	7	--	--	<0.1	1,700	17,000 J	<1
MW-75-337	02/16/21	N	<1	<1	6 J	57	4	160 J	1.10 J	0.35	5.8 J	0.66	230 J	66 J	<0.5	8,500 J	<1	54	<0.22	9,600	6.1	--	--	<0.05	1,600	22,000	<1
MW-75-337	05/17/21	N	<1	<1	3.9	55	2.5	260	0.42	0.26	4.4	0.46	240	58 J	0.6	8,600 J	<1	44	<0.2	9,600	5.9	--	--	<0.05	1,600	18,000 J	<1
MW-75-337	08/17/21	N	<1	1.4	<0.1	51	2.1	240	0.45 J	0.26	4.4 J	0.47	230	69 J	0.52 J	8,000 J	<1	44	0.2	10,000	4.4	--	--	<0.1	1,600	18,000	<1
MW-75-337	11/29/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-75-337	06/07/22	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-76-039	01/29/20	N	44	43	0.38	69	0.66	160	0.63 J	0.05	26 J	0.003	15	8.3	1.7	550	1.7	85	<0.1	890	2.8	--	--	2.3	190	2,000	<1
MW-76-039	01/29/20	FD	44	45	0.21	71	0.65	170	0.95 J	0.053	26 J	0.003	16	8.8	1.9	570	1.7	86	<0.1	900	2.8	--	--	2.6	190	2,000	<1
MW-76-039	02/20/20	N	18	28 J	0.6 J	78	0.57	180	0.46 J	2 J	23	0.15 J	16	9.9	1.6	550	4.2 J	86	0.05 J	870	2.5	--	--	2.7 J	190	2,000	<1
MW-76-039	02/20/20	FD	16	15 J	0.2 J	65	0.55	160	0.26 J	0.17 J	20	0.076 J	17	8	1.6	480	1.9 J	91	0.05 J	870	2.6	--	--	2.6 J	190	2,000	<1
MW-76-039	03/17/20	N	120	110	0.31	57 J	0.45	130	0.1 J	0.086 J	19	0.0022	19	8	2.5	480	2.4	94	0.11	850	3.1	--	--	2.9 J	190	1,900	<1 J
MW-76-039	04/21/20	N	35	34	<0.1	72	0.48	170	0.25	0.11	23	0.0048	14	9.3	1.7	540	2.3	79	0.11	1,000	2.5	--	--	2.4	210	2,300	<1
MW-76-039	05/26/20	N	26	24	<0.1 J	75	0.44	170	0.78 J	0.042 J	23 J	0.013	12 J	10 J	1.4	510	2	75	<0.2	1,100	2.1	--	--	2.2	210	2,600	<1
MW-76-039	06/16/20	N	<1	<1	<0.1 J	79	1.2	340	0.21 J	0.073	37	0.16	32	26 J	0.98	4,000	2.4	64	<0.2	5,100	2.8	--	--	0.6	780	11,000	<1
MW-76-039	07/21/20	N	26	29	<0.1 J	94	0.56	180	0.071	<0.02 J	26	0.0036	17	10 J	1.7	640	2	90	<0.2	1,200	2.8	--	--	2 J	230	2,700	<10
MW-76-039	08/18/20	N	57	55	<0.1	74	0.49	170	0.11 J	0.044 J	25 J	0.004	18	9.7	2	630	3.5	91	<0.2	1,100	3.1	--	--	2.3	220	2,600	<10
MW-76-039	09/29/20	N	72	<1	<0.1	58	0.8 J	120 J	0.24 J	<0.1 J	21 J	0.22	34	5 J	0.99	410 J	3.6	92	<0.2	990	3.1	--	--	2.4	210	2,400	<1 J
MW-76-039	10/21/20	N	86	86	1.3	65	0.59	120 J	0.41	0.15	20	0.0097	21	12	2.3	580	2.3	95	<0.2	920	3.5	--	--	2.5	200	2,100	<1 J
MW-76-039	12/02/20	N	110	110	1.1	55	0.67	110 J	<0.02	<0.02	20	0.013	21	6.9	2.4	460	2.7	95	2.6	870	3.6	--	--	2.8	190	1,800	<10
MW-76-039	02/17/21	N	36	37	<0.1	61	0.39	110	0.27 J	<0.02 J	20	0.011	16	11 J	1.8	460	2.5	78	<0.22	950	2.8	--	--	2.8	190	2,000	<1
MW-76-039	02/17/21	FD	36	37	<0.1	54	0.39	110	0.27 J	0.033 J	20	0.011	15	9.8 J	1.8	490	2.4	83	<0.22	940	2.8	--	--	2.6	190	1,900	<1
MW-76-039	05/21/21	N	27	26	<0.1 J	77	0.51	240 J	0.12 J	0.063 J	28 J	0.0076	13	11 J	1.5	560 J	2.3	79	0.29	1,200	2.8	--	--	2 J	230	2,600	<1
MW-76-039	08/18/21	N	3.2	3.3	<0.1 J	49	1.4	420 J	0.069 J	0.023 J	25 J	0.11	28	25	1	3,800 J	4.3	49	<0.2	5,200	2.2	--	--	1.8	770	11,000	<20
MW-76-039	12/02/21	N	130	140	<0.1 J	39	--	--	--	<0.02 J	--	0.01	27	--	2.8	--	--	--	<0.2	--	--	--	<2.5	2.8	190	--	<1
MW-76-039	01/31/22	N	36	--	<0.1	59	--	--	--	0.28	--	0.034	--	--	--	--	--	--	--	--	--	2.5	--	--	200	--	<1
MW-76-039	03/07/22	N	41	39	<0.1 J	62 J	--	--	--	<0.1	--	0.011	15	--	1.8	--	--	--	<0.2	--	--	2.4	--	--	190	--	<1
MW-76-039	03/07/22	FD	40	41	<0.1 J	62 J	--	--	--	<0.1	--	0.011	16	--	1.8	--	--	--	<0.2	--	--	2.5	--	--	200	--	<1
MW-76-039	04/11/22	N	33	--	<0.1 J	61	--	--	--	0.034	--	0.005	--	--	--	--	--	--	--	--	--	2.1	--	--	210	--	<1
MW-76-039	05/16/22	N	44	--	<0.1 J	70	--	--	--	<0.02	--	0.0014	--	--	--	--	--	--	--	--	--	2.2	--	--	230	--	<10
MW-76-039	06/13/22	N	88	77 J	<0.1 J	66	--	--	--	<0.02 J	--	<0.0005	20	--	3	--	--	--	0.078 J	--	--	2.5	<2.5	--	230	--	<1
MW-76-039	06/13/22	FD	86	76 J	<0.1 J	63	--	--	--	<0.02 J	--	0.0007	19	--	2.7	--	--	--	<0.22	--	--	2.5	<2.5	--	230	--	<1
MW-76-156	01/29/20	N	1.8	2	<0.5	68	1.5	480	<0.1	<0.1	69 J	0.22	31	27	<2.5	4,300	2.9	51	<0.1	5,300	2.8	--	--	1.6	840	11,000	<1
MW-76-156	02/20/20	N	1	2	2.3	62	1.6	440	<0.1	<0.1	44	0.22	31	25	0.83	3,200	2.9	47	0.09 J	5,100	3.6	--	--	1.3 J	840	11,000	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-76-156	03/17/20	N	3.3	3.8	2.1	59 J	1.1	390	<0.02	<0.02	39	0.23	29	27	0.86	3,200	2.6	51	0.09 J	5,200	2.8	--	--	1.6 J	820	11,000	<10 J
MW-76-156	04/21/20	N	<1	1.7	2.5	65	1.2	450	0.71	0.17	41	0.25	30	26	0.85	3,500	2.8	53	0.06 J	5,500	2.6	--	--	1.3	870	12,000	<1
MW-76-156	05/26/20	N	<1	1.5	2.2 J	59	1.1	370	0.13 J	<0.02	35 J	0.26	29 J	31 J	0.81	4,300	2.7	51 J	<0.2	5,500	3.3	--	--	1.2	800	12,000	<1
MW-76-156	05/26/20	FD	<1	1.6	2.2 J	59	1.2	390	0.083 J	0.024 J	37 J	0.28	30 J	29 J	0.8	4,400	2.7	34 J	<0.2	5,400	3.1	--	--	1.2	820	12,000	<1
MW-76-156	06/16/20	N	<1	<1	<0.1 J	68	1.3	380	0.091 J	0.025	39	0.28	29	29 J	0.7	4,100	2.7	51	<0.2	5,400	2.9	--	--	1.2	770	11,000	<1
MW-76-156	07/21/20	N	1.7	2.4	<0.1 J	64	1.3	360	0.055	0.044 J	37	0.22	33	25 J	0.97	4,300	3.3	50	<0.2	5,200	2.9	--	--	1.7 J	800	11,000	<1
MW-76-156	08/18/20	N	1.4	1.5	2.3	57	2.6	390	<0.1	<0.1 J	45 J	0.18	33	24	1.1	3,200	3.8	51	<0.2	5,700	3.1	--	--	1.8	780	11,000	<1
MW-76-156	09/29/20	N	<1	69	0.3	69	2 J	350 J	0.24 J	<0.02 J	41 J	0.015	18	24 J	2.3	3,300 J	2.1	55	<0.2	5,000	3	--	--	1.5	760	11,000	<1 J
MW-76-156	10/21/20	N	2.5	3.6	2.3	56	1.5	310 J	0.12	0.052	39	0.14	31	45	1.1	4,600	3.8	51	<0.2	5,200	3.4	--	--	1.7	810	12,000	<1 J
MW-76-156	10/21/20	FD	2.9	3.5	2.4	55	1.6	320 J	0.17	0.041	41	0.14	30	42	1	4,100	3.8	51	<0.2	5,100	3.4	--	--	1.7	800	11,000	<1 J
MW-76-156	12/02/20	N	4.2	4.6	2.2	53	2.8 J	360 J	<0.1	<0.1	55 J	0.12	31	25 J	1.2	2,600	3.6	53	<0.2	5,100	3.6	--	--	1.9	810	11,000	<1
MW-76-156	02/17/21	N	2.9	3.3	<0.1	46	1	280	0.042 J	0.023 J	40	0.094	32	26 J	0.93	3,900	3.8	52	<0.22	5,200	3.3	--	--	2	820	11,000	<1
MW-76-156	05/21/21	N	<1	1.1	<0.1 J	56	1.3	490	0.11 J	0.047 J	36 J	0.16	31	32 J	0.79	4,000	3.8	52	<0.2	5,100	3.2	--	--	1.3 J	760	11,000	<50
MW-76-156	08/18/21	N	2.3	2.6	<0.1 J	47	1.4	410 J	<0.02 J	<0.02 J	27 J	0.11	28	25	1	4,800 J	4.6	51	<0.2	5,100	3.1	--	--	1.8	770	11,000	<1
MW-76-156	12/02/21	N	4	4.5	<0.1 J	47	--	--	--	0.058 J	--	0.092	31	--	1.1	--	--	--	<0.2	--	--	--	<5	2	780	--	<1
MW-76-156	01/31/22	N	<1	--	<0.1	60	--	--	--	<0.1	--	0.13	--	--	--	--	--	--	--	--	--	1.3	--	--	870	--	<1
MW-76-156	03/07/22	N	2	2.5	<0.1 J	70 J	--	--	--	<0.1	--	0.16	25	--	0.93	--	--	--	<0.2	--	--	1.5	--	--	870	--	<1
MW-76-156	04/11/22	N	15	--	<0.1 J	55	--	--	--	<0.02	--	0.11	--	--	--	--	--	--	--	--	--	1.7	--	--	860	--	<1
MW-76-156	05/16/22	N	5.5	--	<0.1 J	43	--	--	--	<0.1	--	0.071	--	--	--	--	--	--	--	--	--	1.5	--	--	730	--	<1
MW-76-156	05/16/22	FD	5.5	--	<0.1 J	44	--	--	--	0.023	--	0.07	--	--	--	--	--	--	--	--	--	1.5	--	--	740	--	<1
MW-76-156	06/13/22	N	13	12 J	<0.1 J	43	--	--	--	<0.02 J	--	0.033	28	--	0.8	--	--	--	<0.2	--	--	1.9	<5	--	740	--	<1
MW-76-181	01/29/20	N	890	860	<0.5	91	1.5	570	<0.1	<0.1	96 J	0.93	33	28	<2.5	4,400	1.1	71	<0.1	6,600	2.8	--	--	2.2	950	14,000	<1
MW-76-181	02/20/20	N	1,000	970	1.6	91	1.6	580	<0.1	<0.1	79	0.86	34	29	1.6	3,900	1.4	71	0.07 J	6,300	3.2	--	--	4.4 J	930	12,000	<1
MW-76-181	03/17/20	N	1,100	1,100	1.5	78 J	1.1	580	0.1 J	0.025 J	84	0.7	33	32	1.7	4,000	1.2	70	0.07 J	6,400	2.1	--	--	2.2 J	910	14,000	<1 J
MW-76-181	04/21/20	N	720	700	1.6	100	1	550	0.48	0.08	74	0.79	35	28	<2.5	3,900	1.1	69	0.05 J	6,500	2.7	--	--	1.6	920	14,000	<1
MW-76-181	05/26/20	N	1,200	1,100	1.7 J	70	0.95	540	0.31 J	<0.02	73 J	0.54	31 J	32 J	1.9	4,400	1.3	71	<0.2	6,500	3	--	--	2.6	940	14,000	<1
MW-76-181	06/16/20	N	710	660	<0.1 J	76	1.1	560	0.037 J	0.033	84	0.55	34	30 J	1.5	4,700	1.3	67	<0.2	6,700	2.3	--	--	1.7	910	14,000	<1
MW-76-181	07/21/20	N	1,100	1,100	<0.1 J	76	1.1	530	<0.02	<0.02	77	0.5	35	29 J	2	5,200	1.4	67	1.6	6,400	2.8	--	--	2.2	900	15,000	<1
MW-76-181	08/18/20	N	800	760	1.7	70	2.8	570	<0.1	<0.1 J	99 J	0.5	34	29	1.8	4,300	1.7	69	<0.2	6,900	2.9	--	--	2	910	14,000	<1
MW-76-181	09/29/20	N	840	810	1.6	75	1.6 J	370 J	<0.1 J	<0.02 J	85 J	0.48	34	29 J	2	5,300 J	1.4	72	<0.2	6,400	2.6	--	--	2.1	930	15,000	<1 J
MW-76-181	10/21/20	N	1,300	1,200	1.5	73	1.4	450 J	<0.02	<0.02	83	0.39	30	63	2.1	5,800	1.5	68	<0.2	6,400	3.3	--	--	2.3	900	13,000	<1 J
MW-76-181	12/02/20	N	1,500	1,500	1.5	67	2.7	450 J	0.18 J	<0.1	90	0.31	29	32	2	4,500	1.3	70	<0.2	6,400	3.4	--	--	2.5	890	13,000	<1
MW-76-181	12/02/20	FD	1,500	1,600	1.4	68	1.7	580 J	0.31	<0.1	110	0.31	30	32	2	4,500	1.4	69	<0.2	6,500	3.2	--	--	2.5	920	13,000	<1
MW-76-181	02/17/21	N	1,500	1,600	<0.1	60	0.85	410	0.14 J	0.041 J	78	0.35	30	31 J	1.7	4,400	1.5	71	<0.22	7,000	3	--	--	2.8	940	13,000	<1
MW-76-181	05/21/21	N	1,500	1,500	<0.1 J	64	1.1	480 J	0.096 J	<0.02 J	76 J	0.2	29	34 J	2.2	4,000 J	1.8	70	<0.2	6,600	2.9	--	--	2.5 J	940	13,000	<1
MW-76-181	08/18/21	N	1,500	1,400	<0.1 J	65	1.3	570 J	0.097 J	<0.02 J	63 J	0.12	25	30	1.8	5,100 J	2	64	<0.2	6,500	2.7	--	--	2.3	870	14,000	<1
MW-76-181	12/02/21	N	1,500	1,500	1.5 J	67	--	--	--	0.052 J	--	0.089	27	--	1.7	--	--	--	<0.2	--	--	--	<5	2.3	870	--	<1
MW-76-181	01/31/22	N	1,500	--	<0.1	71	--	--	--	<0.02	--	0.064	--	--	--	--	--	--	--	--	--	2.1	--	--	850	--	<1
MW-76-181	03/07/22	N	1,600	1,500	<0.1 J	75 J	--	--	--	<0.1	--	0.15	27	--	1.9	--	--	--	<0.2	--	--	2.2	--	--	880	--	<1
MW-76-181	04/11/22	N	2,200	--	<0.1 J	58	--	--	--	<0.02	--	0.068	--	--	--	--	--	--	--	--	--	3	--	--	930	--	<1
MW-76-181	05/16/22	N	2,000	--	<0.1 J	56	--	--	--	<0.1	--	0.016	--	--	--	--	--	--	--	--	--	2.7	--	--	910	--	<1
MW-76-181	06/13/22	N	2,000	2,200	<0.1 J	58	--	--	--	<0.02	--	0.029	29	--	2.4	--	--	--	<0.2	--	--	3	<5	--	970	--	<1
MW-76-218	01/29/20	N	8.4	9.6	<0.5	95	2.5	290	<0.1	0.024	6.5 J	0.27	94	45	<2.5	5,400	1.3	40	<0.1	7,300	5	--	--	0.28	920	14,000	<1
MW-76-218	02/20/20	N	2.8	4.7	4.4	86	2.9	260	0.1	0.18	7.1	0.25	90	51	0.6	5,200	1.6	37	0.17	7,100	5.1	--	--	0.52 J	900	14,000	<1
MW-76-218	03/17/20	N	51	45	4.2	79 J	1.9	250	0.39 J	0.049 J	8.1	0.26	81	52	<0.5	5,000	1.2	39	0.07 J	7,300	4.3	--	--	0.46 J	920	14,000	<1 J
MW-76-218	04/21/20	N	2.1	4.2	4.6	87	2.1	260	0.3	0.12	6.1	0.25	87	46	<2.5	5,000	1.4	39	0.05 J	7,700	4.5	--	--	0.54	920	14,000	<1
MW-76-218	05/26/20	N	<1	<1	5.1 J	84	1.8	240	0.047 J	<0.02	7.9 J	0.32	78 J	60 J	<0.5	5,500	<1	43	<0.2	7,300	4.9	--	--	<0.05	960	13,000	<1
MW-76-218	06/16/20	N	4.8	5.5	<0.1 J	100	2	290	0.039 J	<0.02	14	0.36	70	56 J	0.57	3,900 J	1.4	56	0.24	6,800	4.6	--	--	0.15	900	14,000	<1
MW-76-218	06/16/20	FD	5.5	5.6	<0.1 J	100	1.9	280	0.24 J	<0.02	14	0.36	70	53 J	0.7	5,800 J	1.3	66	0.22	6,600	3.9	--	--	0.14	870	14,000	<1
MW-76-218	07/21/20	N	23	27	4.7 J	94	2	230	0.039	<0.02 J	8.8	0.34	87	45 J	0.57	6,200	1.1	46	<0.2	7,200	4	--	--	0.33 J	900	13,000	<1
MW-76-218	08/18/20	N	5.5	6.2	4.5	89	3.6	280	<0.1	<0.1 J	14 J	0.31	81	48	0.69	5,300	1.4	54	0.22	7,300	4.6	--	--	0.19	870	13,000	<1
MW-76-218	09/29/20	N	17	16	4.5	77	2.8 J	230 J	<0.1 J	<0.1 J	12 J	0.27	88	51 J	0.63	4,200 J	1.4	40	<0.2	7,100	4.6	--	--	0.77	900	14,000	<1 J
MW-76-218	09/29/20	FD	17	16	4.5	80	2.7 J	220 J	<0.1 J	<0.1 J	11 J	0.26	87	50 J	0.58	6,000 J	1.4	39	<0.2	7,100	5	--	--	0.68	910	15,000 J	<1 J
MW-76-218	10/21/20	N	46	44	4.5	76	2.5	150 J	0.11	<0.1	6.6	0.25	90	82	0.71	6,700	1.8	39	<0.2	7,200	4.3	--	--	0.72	890	13,000 J	<1 J

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-76-218	12/02/20	N	81	71	4.2	67	3.2	300 J	<0.1	<0.1	14	0.24	86	57	0.63	6,200	1.8	40	0.2	7,300	4.5	--	--	0.73	930	13,000	<1
MW-76-218	02/17/21	N	26	25	<0.1	61	1.8	170	0.1 J	0.03 J	6.2	0.2	93	57 J	0.65	5,900	2	36	<0.22	7,400	4.1	--	--	0.79	920	14,000	<1
MW-76-218	05/21/21	N	27	26	<0.1 J	76	1.9	380 J	0.05 J	0.044 J	13 J	0.37	61	70 J	0.89	5,100 J	1.8	48	<0.2	6,900	4.1	--	--	0.67 J	900	11,000 J	<1
MW-76-218	08/18/21	N	320	310	<0.1 J	70	2	390 J	0.023 J	<0.02 J	15 J	0.38	47	45	1.3	5,600 J	3.2	43	<0.2	6,900	4	--	--	1.5	890	13,000	<1
MW-76-218	08/18/21	FD	290	310	<0.1 J	73	1.9	370 J	0.034 J	<0.02 J	15 J	0.39	48	45	1.2	5,600 J	2.9	42	<0.2	7,100	4	--	--	1.5	920	13,000 J	<1
MW-76-218	12/02/21	N	270	280	3.9 J	66	--	--	--	<0.02 J	--	0.28	68	--	1	--	--	--	<0.2	--	--	--	<10	0.85	880	--	<50
MW-76-218	01/31/22	N	370	--	<0.1	74	--	--	--	<0.1	--	0.35	--	--	--	--	--	--	--	--	--	1.3	--	--	870	--	<1
MW-76-218	03/07/22	N	670	700	3.5 J	79 J	--	--	--	<0.1	--	0.27	54	--	1.5	--	--	--	<0.2	--	--	1.6	--	--	890	--	<1
MW-76-218	03/07/22	FD	680	620	3 J	73 J	--	--	--	<0.1	--	0.25	47	--	1.2	--	--	--	<0.2	--	--	1.6	--	--	890	--	<50
MW-76-218	04/11/22	N	460	--	<0.1 J	63	--	--	--	<0.02	--	0.15	--	--	--	--	--	--	--	--	--	1.5	--	--	910	--	<1
MW-76-218	05/16/22	N	120	--	3.6 J	54	--	--	--	<0.1	--	0.14	--	--	--	--	--	--	--	--	--	1.1	--	--	940	--	<1
MW-76-218	06/13/22	N	60	53 J	<0.5 J	46 J	--	--	--	<0.02 J	--	0.098 J	77 J	--	0.98	--	--	--	<0.2	--	--	1.2	<50	--	940	--	<100
MW-77-046	01/30/20	N	1.1	3.3	1.4	39	2	130	2.10	0.43	150	0.24	93	35	4	2,300	3.2	640	2.3	2,400	5.1	--	--	0.082	980	6,500	1
MW-77-046	02/18/20	N	0.9	1.8	0.56	38 J	1.8	120	0.24 J	0.17	120	0.19	100	31	4.2	2,000	2.7	650	2.2	2,400	4.8	--	--	0.06	970	6,300	1.1 J
MW-77-046	05/26/20	N	0.48	<1	2.8 J	51	0.99	85	0.22 J	0.049 J	46 J	0.35	120 J	14 J	<0.5	1,600	8.5	250	0.56	1,600	5.9	--	--	<0.05	390	3,600	<1
MW-77-046	08/19/20	N	<0.2 J	<1	2.5	72	1.4	86 J	0.78	0.23 J	69	0.46	140	16	<0.5	1,500	7.1	310	0.8	1,800	6.6	--	--	0.063 J	500	4,300	<10
MW-77-046	12/02/20	N	<1	<1	3.6	95	2.9	140 J	0.69 J	0.37	180	0.44	93	45	1.9	2,400	2.7	850	2.9	3,000	5.5	--	--	<0.1	1,300	8,100	1.5
MW-77-046	02/17/21	N	<0.2	<1	0.8	41	1.1	58	0.49 J	0.28 J	76	0.2	130	22 J	0.58	1,200	1.7	390	1.5	1,900	5.8	--	--	0.11	610	4,400	<1
MW-77-046	05/18/21	N	<0.2	<1	2.1 J	49	1	87	6.10 J	0.33 J	45 J	0.39	140	11 J	<0.5	1,100 J	6	280	0.41	1,500	6.7	--	--	<0.05	370	3,500	<1
MW-77-046	05/18/21	FD	<0.2	<1	2.1 J	49	0.99	87	6.70 J	0.43 J	44 J	0.38	140	11 J	<0.5	1,100 J	6.3	280	0.4	1,500	6.7	--	--	<0.05	370	3,400	<1
MW-77-046	08/18/21	N	<0.2	<1	1.7 J	58	1.3	100 J	4.80 J	0.22 J	58 J	0.44	120	17	<0.5	1,500 J	4.1	320	0.78	1,700	6.1	--	--	<0.1	510	3,900	<1
MW-77-046	12/02/21	N	<1	<1	<0.1 J	95	--	--	--	0.94 J	--	0.42	95	--	3	--	--	--	--	--	--	--	--	<0.1	--	--	1.5
MW-77-046	03/01/22	N	<0.2	--	0.89	43	--	--	--	1.50	--	0.27	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-77-046	05/02/22	N	<0.2	<1	0.89	50	--	--	--	0.54 J	--	0.31	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	<1
MW-77-046	06/15/22	N	0.5	--	<0.1 J	54	--	--	--	0.13	--	0.43	--	--	--	--	--	--	--	--	--	<0.5	--	--	370	--	<1
MW-77-046	06/15/22	FD	0.53	--	0.69 J	54	--	--	--	0.13	--	0.45	--	--	--	--	--	--	--	--	--	<0.5	--	--	370	--	<1
MW-77-102	02/18/20	N	0.57	<1	<0.1	51 J	1.4	290	0.14 J	0.032	37	0.064	4.1	17	<0.5	1,700	5	160	0.11	2,300	3.4	--	--	0.54	580	4,900	<1 J
MW-77-102	05/26/20	N	0.62	1.1	<0.1 J	40	1	210	0.028 J	<0.02	29 J	0.04	3.8 J	17 J	<0.5	1,900	5	150	<0.2	2,300	2.8	--	--	0.49	540	4,800	<1
MW-77-102	08/19/20	N	0.61 J	1	<0.1	45	1.2	190 J	0.14	0.082 J	35	0.039	4.4	16	<0.5	1,600	5.8	150	<0.2	2,200	3.2	--	--	0.63 J	520	5,000	<1
MW-77-102	12/02/20	N	1.6	1.6	1.3	45	1.4	200 J	0.089	<0.02	42	0.017	3.9	15	<0.5	1,500	5.9	170	<0.2	2,300	3.8	--	--	0.61	570	4,700	<1
MW-77-102	02/17/21	N	0.61	1.5	<0.1	41	0.98	180	0.059 J	0.021 J	36	0.016	4.5	16 J	<0.5	1,300	5.9	160	<0.22	2,300	3.2	--	--	0.71	590	5,200	<1
MW-77-102	05/18/21	N	1.1 J	1.9	<0.1 J	40	1.1	230	0.16 J	0.033 J	29 J	0.022	4.4	14 J	<0.5	1,400 J	5.7	150	<0.2	2,100	3.5	--	--	0.5	540	4,700	<1
MW-77-102	08/18/21	N	0.55	<1	<0.1 J	39	1.2	58 J	0.029 J	<0.02 J	9 J	0.028	4.2	15	<0.5	1,600 J	5.6	150	<0.2	2,200	3.1	--	--	0.52	550	4,700	<1
MW-77-102	12/02/21	N	0.67	<1	<0.1 J	40	--	--	--	0.039 J	--	0.02	4.4	--	<0.5	--	--	--	--	--	--	--	--	0.59	--	--	<1
MW-77-102	03/01/22	N	<0.2	--	<0.1	48	--	--	--	<0.1	--	0.029	--	--	--	--	--	--	--	--	--	0.93	--	--	--	--	<1
MW-77-102	05/02/22	N	0.59	<1	<0.1	44	--	--	--	<0.02	--	0.047	--	--	--	--	--	--	--	--	--	0.63	--	--	--	--	<1
MW-77-102	06/15/22	N	<1	--	<0.1	50	--	--	--	0.067	--	0.078	--	--	--	--	--	--	--	--	--	0.91	--	--	700	--	<1
MW-77-158	02/18/20	N	7.3	7	3.2	54 J	1.3	500	<0.1	<0.1	48	0.087	34	41	<2.5	4,700	3.4	49	0.07 J	6,100	2.8	--	--	1.5	1,200	13,000	<1 J
MW-77-158	05/26/20	N	8.1	7	2.7 J	44	1.1	470	0.025 J	<0.02	45 J	0.076	29 J	50 J	0.51	6,200	2.7	45	<0.2	6,200	3.1	--	--	1.5	1,100	14,000	<50
MW-77-158	08/19/20	N	8.3	8.1	3	48	<0.5	100 J	<0.1	<0.1	12	0.08	31	40	0.56	4,400	3.1	49	<0.2	6,200	2.9	--	--	1.6 J	1,200	14,000	<1
MW-77-158	12/02/20	N	10	10	2.8	45	2.3	540 J	<0.1	<0.1	72	0.04	33	47	0.6	4,800	3	52	0.22	6,100	3.6	--	--	1.5	1,200	13,000	<1
MW-77-158	02/17/21	N	7.7	7.9	<0.1	43	1	340	0.066 J	0.04 J	49	0.036	32	45 J	<0.5	4,400	3.1	54	<0.2	6,400	3.3	--	--	1.6	1,200	14,000	<1
MW-77-158	05/18/21	N	10 J	9.8	<0.1 J	44	1.2	640	0.11 J	0.044 J	47 J	0.029	28	40 J	0.62	4,100 J	2.8	54	<0.2	6,000	3.2	--	--	1.4	1,200	13,000	<1
MW-77-158	08/18/21	N	1.8	3.1	<0.1 J	46	2.6	580 J	0.1 J	0.026 J	31 J	0.079	34	38	<0.5	4,900 J	3.4	55	<0.2	6,400	3.4	--	--	0.82	1,100	13,000	<1
MW-77-158	12/02/21	N	7.1	7.7	<0.1 J	43	--	--	--	0.048 J	--	0.06	32	--	0.53	--	--	--	--	--	--	--	--	1.5	--	--	<1
MW-77-158	12/02/21	FD	6.9	7.9	<0.1 J	44	--	--	--	<0.02 J	--	0.062	33	--	0.78	--	--	--	--	--	--	--	--	1.5	--	--	<1
MW-77-158	03/01/22	N	52	--	<0.1	49	--	--	--	<0.1	--	0.068	--	--	--	--	--	--	--	--	--	1.6	--	--	--	--	<50
MW-77-158	05/02/22	N	7.1	8.4	<0.1	47	--	--	--	0.024 J	--	0.018	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-77-158	06/15/22	N	2.4	--	<0.1	36	--	--	--	<0.02	--	0.01	--	--	--	--	--	--	--	--	--	<0.5	--	--	570	--	<1
MW-77-187	02/18/20	N	1.6	2.2	3.9	53 J	2.5	130	<0.1	<0.1	3.5	0.076	260	46	<2.5	6,600	3.9	46	0.14	7,400	7.3	--	--	1.1	930	13,000	<1 J
MW-77-187	05/26/20	N	<1	<1	4.3 J	50	2.4	120	1.20 J	<0.02	3.3 J	0.11	250 J	48 J	0.62	6,500	3.1	46	<0.2	7,500	7.5	--	--	0.75	930	13,000 J	<1
MW-77-187	08/19/20	N	<1	1.2	4.4	47	0.66	24 J	<0.1	<0.1	1.1	0.08	260	41	0.67	5,800	3.4	46	<0.2	7,300	7.4	--	--	1 J	940	13,000 J	<1
MW-77-187	12/02/20	N	4.1	4.8	3.2	40	4	130 J	<0.1	<0.1	4.7	0.048	250	53	0.72	6,300	3.1	56	<0.2	7,300	8.2	--	--	1.2	980	13,000 J	<1
MW-77-187	02/17/21	N	2.3	2.7	<0.1	40	2.1	84	0.034 J	0.03 J	3.3	0.042	260	47 J	0.76	6,200	3.2	48	<0.22	7,600	7.7	--	--	1.3	960	14,000	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-77-187	02/17/21	FD	2.4	2.9	<0.1	42	2.1	81	0.04 J	0.028 J	3	0.043	260	46 J	0.8	5,900	3.2	47	<0.22	7,600	7.8	--	--	1.3	950	14,000	<1
MW-77-187	05/18/21	N	<1	<1	<0.1 J	43	3.4	130	0.044 J	0.037 J	3 J	0.062	260	41 J	0.87	5,400 J	3.2	48	<0.2	7,200	7.7	--	--	1.1	930	12,000	<1
MW-77-187	08/18/21	N	1.1	3	<0.1 J	42	4	180 J	<0.1 J	<0.1 J	6.6 J	0.065	210	41	0.81	6,300 J	3.5	43	<0.2	6,700	6.6	--	--	1.4	920	12,000	<1
MW-77-187	12/02/21	N	2.5	3.1	<0.1 J	40	--	--	--	0.05 J	--	0.05	250	--	0.81	--	--	--	--	--	--	--	--	1.2	--	--	<1
MW-77-187	03/01/22	N	10	--	4.4	44	--	--	--	<0.5	--	0.035	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	<1
MW-77-187	05/02/22	N	9.6	9.3	<0.1	41	--	--	--	<0.1	--	0.039	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	<1
MW-77-187	06/15/22	N	33	--	<0.1	33	--	--	--	<0.02	--	0.017	--	--	--	--	--	--	--	--	--	1.2	--	--	940	--	<50
MW-78-070	02/19/20	N	3,100	3,300	0.96	35	0.9 J	120 J	0.35	0.072 J	21 J	0.0016	7.4	8.1 J	8.3	340	5.7	110	0.12	450	1.5	--	--	10	300	1,400	<1 J
MW-78-070	05/21/20	N	3,100	3,100	0.84	34	0.64	91 J	0.76 J	0.1	21	0.003	6.4	10 J	8	320	6.7	110	<0.2	470	1.3	--	--	9.5	290	1,400	<1 J
MW-78-070	08/18/20	N	3,100	3,200	0.81	32	1	100	2.10 J	0.063 J	20 J	0.0054	6.7	8.6	8.2	350	7.1	110	<0.2	460	1.6	--	--	9.5	290	1,400	<1
MW-78-070	12/03/20	N	3,100	3,300	1.3	32	0.88	93 J	0.14 J	<0.02	21	<0.0005	7.2	8.8	8.2	320	6.4	120	<0.2	440	1.7	--	--	9.1	300	1,300	<10
MW-78-070	12/03/20	FD	3,100	3,400	1.4	33	0.9	92 J	0.13 J	<0.02	21	<0.0005	7.2	8.4	7.9	310	6.5	120	<0.2	440	1.7	--	--	9.4	300	1,400	<1
MW-78-070	02/18/21	N	2,300	2,600	0.82	32	0.68	82 J	0.4 J	<0.02	18	0.0036	6.1	6.9	7.4	280	6.5	120	<0.22	450	1.6	--	--	9.1	280	1,300	<1
MW-78-070	05/20/21	N	1,700 J	1,700	0.82	33	0.72	100	0.077 J	0.021	18 J	<0.0005	5.3	7.8 J	6.4	300 J	6.6	130	<0.2	430	1.7	--	--	7.6	250	1,200	<1
MW-78-070	08/19/21	N	3,500	4,300	0.71	35 J	0.65	110 J	0.058 J	<0.02	22 J	<0.0005	8.7	8	8.8	340 J	6.1	100	<0.2	460	1.6	--	--	11	320	1,400	<1
MW-78-070	12/15/21	N	4,400	4,500	0.85	40	--	--	--	<0.02 J	--	0.00063	13	--	9.2 J	--	--	--	<0.2	--	--	--	<2.5	12	370	--	<1
MW-78-070	02/01/22	N	2,600	--	0.54	42	--	--	--	<0.02	--	0.003 J	--	--	--	--	--	--	--	--	--	7.1	--	--	310	--	<1
MW-78-070	02/01/22	FD	2,700	--	0.56	42	--	--	--	<0.02	--	0.0032 J	--	--	--	--	--	--	--	--	--	7.2	--	--	300	--	<1
MW-78-070	03/10/22	N	1,800	1,800	0.7	57	--	--	--	0.049	--	0.29	13	--	4.4	--	--	--	<0.2	--	--	4.8	--	--	270	--	<5
MW-78-070	04/13/22	N	1,900	--	<0.1	76	--	--	--	0.02 J	--	0.18	--	--	--	--	--	--	--	--	--	4.7	--	--	320	--	<1
MW-78-070	05/19/22	N	660	--	<0.1	120	--	--	--	<0.02 J	--	0.47	--	--	--	--	--	--	--	--	--	1.6	--	--	360	--	<1
MW-78-070	06/14/22	N	790	820	<0.1	160 J	--	--	--	<0.02	--	0.5	8.3	--	1.7 J	--	--	--	<0.2	--	--	1.6	<5	--	430	--	<1
MW-78-070	06/14/22	FD	810	900	<0.1	140 J	--	--	--	<0.02	--	0.48	7.3	--	1.6 J	--	--	--	<0.2	--	--	1.5	<5	--	430	--	<1
MW-78-142	02/19/20	N	6,800	7,000	0.7	32	2.4 J	330 J	0.43	0.062 J	19 J	0.02	21	33 J	22	2,600	1.8	93	0.12	3,800	3.3	--	--	8.8	930	8,400	<10 J
MW-78-142	05/21/20	N	6,100	6,400	<0.1	36	2.2	200 J	2.50 J	0.13	18	0.025	22	38 J	32	2,900	1.9	110	<0.2	3,500	3.2	--	--	8.8	870	8,200	<1 J
MW-78-142	08/18/20	N	5,700	5,800	<0.1	35	0.59	29	0.7 J	<0.02 J	2.1 J	0.013	24	31	36	2,300	2.3	110	<0.2	3,200	3.2	--	--	9.9	850	7,700	<1
MW-78-142	12/03/20	N	5,700	5,600	4	28	2.5	190 J	0.84 J	<0.02	19	0.0059	22	29	28	2,800	1.7	100	<0.2	3,400	3.5	--	--	8.7	860	7,600	<1
MW-78-142	02/18/21	N	5,400	5,800	4.3	30	1.8	200 J	1.30 J	0.11	18	0.0071	22	30	27	2,200	1.8	93	<0.22	3,600	2.9	--	--	9	880	8,000	<1
MW-78-142	05/20/21	N	5,600 J	5,400	<0.1	27	2.2	290	0.33 J	<0.02	16 J	0.0038	21	32 J	37	2,300 J	2.1	99	<0.2	3,400	3.5	--	--	9.1	880	7,600	<1
MW-78-142	05/20/21	FD	5,600 J	5,500	<0.1	28	2	290	0.35 J	0.035	16 J	0.0037	22	34 J	38	2,400 J	2.1	98	<0.2	3,400	3.2	--	--	9.3	870	7,300	<1
MW-78-142	08/19/21	N	5,200	6,400	<0.1	29 J	2	290 J	1.20 J	0.026	18 J	0.0082	21	28	38	2,700 J	1.9	98	<0.2	3,500	3.2	--	--	10	870	7,700	<20
MW-78-142	12/15/21	N	5,500	5,400	<0.1	31	--	--	--	0.031 J	--	0.0042	21	--	33 J	--	--	--	<0.2	--	--	--	<5	9.9	900	--	<1
MW-78-142	02/01/22	N	5,800	--	<0.1	32	--	--	--	0.072	--	0.0064 J	--	--	--	--	--	--	--	--	--	8.6	--	--	890	--	<1
MW-78-142	03/10/22	N	5,700	5,600	<0.1	29	--	--	--	0.052	--	0.0045	22	--	36	--	--	--	<0.2	--	--	9.1	--	--	860	--	<1
MW-78-142	03/10/22	FD	5,700	5,500	<0.1	29	--	--	--	0.045	--	0.0041	22	--	37	--	--	--	<0.2	--	--	9.1	--	--	880	--	<1
MW-78-142	04/13/22	N	4,900	--	<0.1	27	--	--	--	0.34 J	--	0.0062	--	--	--	--	--	--	--	--	--	9.8	--	--	910	--	<1
MW-78-142	05/19/22	N	5,200	--	<0.1	26	--	--	--	<0.02 J	--	0.0016	--	--	--	--	--	--	--	--	--	9.6	--	--	910	--	<1
MW-78-142	06/14/22	N	5,500	6,100	<0.1	27 J	--	--	--	<0.02	--	0.0012	22	--	36 J	--	--	--	0.43	--	--	9.3	<5	--	870	--	<1
MW-79-058	02/21/20	N	1,800 J	980 J	2.5 J	260 J	0.77	210 J	2.90 J	2.60 J	42 J	0.24 J	5.9	16 J	11	400	7.4 J	93	0.03 J	690	<1	--	--	10	380	1,900	<1
MW-79-058	02/21/20	FD	620 J	1,700 J	1.1 J	190 J	0.76	210 J	1.40 J	0.48 J	41 J	0.11 J	6.2	14 J	10	380	1.3 J	91	0.05 J	690	<1	--	--	10	380	2,000	<1
MW-79-058	05/29/20	N	540	580	1.1	260	0.34	170	0.5	0.12	35	0.47	7.8	14	5.4	240	3.1	85	<0.2	510	<1	--	--	4.6	270	1,600	<1
MW-79-058	05/29/20	FD	540	580	0.95	260	0.37	180	0.45	0.093	36	0.45	7.5	14	5.6	290	3	83	<0.2	520	<1	--	--	4.5	270	1,500	<10
MW-79-058	08/18/20	N	2,000	2,000	0.68	180	0.78	200	0.12 J	0.025 J	42 J	0.11	7.5	16	10	400	4.1	82	<0.2	690	<1	--	--	10	380	2,100	<1
MW-79-058	08/18/20	FD	2,000	2,000	0.74	180	0.71	180	0.14 J	<0.02 J	44 J	0.11	7.8	16	9.5	380	4	82	<0.2	690	<1	--	--	10	390	2,100	<1
MW-79-058	12/03/20	N	2,700	2,900	1.3	130	0.95	170 J	0.084 J	<0.02	41	0.0087	7.8	14	11	370	3.7	86	<0.2	700	1	--	--	10	410	1,900	<1
MW-79-058	02/18/21	N	2,700	2,800	1.3	100	0.63	160 J	0.085 J	0.021	40	0.0022	6.8	12	10	340	3.7	89	<0.22	710	<1	--	--	10	400	1,900	<10
MW-79-058	05/20/21	N	2,600 J	2,700	0.62	92	0.69	210	0.05 J	<0.02	40 J	0.0038	5.8	14 J	8.3	370 J	3.7	99	<0.2	670	<1	--	--	10	400	1,800	<1
MW-79-058	08/19/21	N	2,600	2,700	<0.1	98 J	0.64	200 J	0.11 J	<0.02	45 J	<0.0005	10	13	10	350 J	3.7	190	<0.2	700	<1	--	--	10	410	2,000	<1
MW-79-058	12/15/21	N	3,200	3,400	0.3	93	--	--	--	<0.02 J	--	0.00056	10	--	9.4 J	--	--	--	<0.2	--	--	--	<5	11	410	--	<5
MW-79-058	02/01/22	N	2,900	--	0.7	96	--	--	--	<0.02	--	<0.0005 J	--	--	--	--	--	--	--	--	--	9.3	--	--	400	--	<1
MW-79-058	03/14/22	N	2,900	3,000	0.34 J	84	--	--	--	0.077	--	0.0021	8.6	--	8.8	--	--	--	<0.2	--	--	9.7	--	--	400	--	<1
MW-79-058	04/13/22	N	2,800	--	0.27	80	--	--	--	0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	10	--	--	400	--	<5
MW-79-058	05/19/22	N	2,900	--	<0.1	76	--	--	--	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	11	--	--	410	--	<1
MW-79-058	06/14/22	N	2,800	3,200	<0.1	91 J	--	--	--	<0.02	--	<0.0005	8	--	11 J	--	--	--	<0.2	--	--	11	<5	--	410	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-79-058	06/14/22	FD	2,900	2,900	<0.1	79 J	--	--	--	<0.02	--	<0.0005	7.1	--	9.4 J	--	--	--	<0.2	--	--	11	<5	--	410	--	<1
MW-79-102	02/21/20	N	3,400	3,300	2.3	44	2.1	170 J	0.064	0.065 J	18 J	0.0059	28	19 J	74	1,800	2.8	110	0.04 J	2,100	2.3	--	--	15	870	5,400	<1
MW-79-102	05/29/20	N	3,000	3,000	1.4	72	1.8	160	0.55	<0.1	22	0.054	28	20	70	1,700	3.1	130	<0.2	2,200	2.2	--	--	6.9	880	5,300	<1
MW-79-102	08/18/20	N	3,500 J	3,600	2	52	2.1	150	0.091 J	<0.02 J	19 J	0.021	31	18	79	1,800	3.5	130	<0.2	2,100	2.9	--	--	17	870	5,400	<1
MW-79-102	12/03/20	N	3,400	3,600	4.6	41	2.3	120 J	0.056 J	<0.02	20	0.0041	28	22	74	1,700	2.9	130	<0.2	2,200	2.9	--	--	16	880	5,400	<1
MW-79-102	02/18/21	N	3,200	3,400	4.8	37	1.6	110 J	0.033 J	<0.02	19	0.0016	28	17	72	1,500	2.9	130	<0.22	2,200	2.3	--	--	17	900	5,300	<1
MW-79-102	05/20/21	N	3,500 J	3,500	1.2	36	1.6	190	0.034 J	<0.02	18 J	0.00052	30	20 J	75	1,900 J	3.2	130	<0.2	2,100	2.9	--	--	17	870	5,200	<1
MW-79-102	08/19/21	N	2,400	2,500	1.3	32 J	1.6	140 J	0.12 J	<0.02	17 J	0.017	28	16	67	1,900 J	3.4	170	<0.2	1,800	2.7	--	--	15	860	4,400	<1
MW-79-102	12/15/21	N	2,800	2,800	1.5	37	--	--	--	<0.02 J	--	0.0052	29	--	57 J	--	--	--	<0.2	--	--	--	<5	16	870	--	<1
MW-79-102	02/01/22	N	3,500	--	0.94	41	--	--	--	0.39	--	0.0031 J	--	--	--	--	--	--	--	--	--	16	--	--	890	--	<1
MW-79-102	03/14/22	N	3,600	3,500	0.78 J	38	--	--	--	0.07	--	0.0042	29	--	65	--	--	--	<0.2	--	--	15	--	--	880	--	<1
MW-79-102	03/14/22	FD	3,600	3,600	0.75 J	38	--	--	--	0.073	--	0.0041	29	--	64	--	--	--	<0.2	--	--	15	--	--	850	--	<1
MW-79-102	04/13/22	N	2,400	--	0.9	33	--	--	--	0.051 J	--	0.0014	--	--	--	--	--	--	--	--	--	12	--	--	810	--	<1
MW-79-102	05/19/22	N	2,300	--	<0.1	40	--	--	--	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	7.5	--	--	690	--	<1
MW-79-102	05/19/22	FD	2,200	--	<0.1	39	--	--	--	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	7.5	--	--	700	--	<1
MW-79-102	06/14/22	N	2,200	2,400	<0.1	38 J	--	--	--	<0.02	--	<0.0005	26	--	13 J	--	--	--	<0.2	--	--	5	<5	--	660	--	<1
MW-80-057	02/24/20	N	750	770	2	41	1	100	0.3 J	0.079 J	12	0.0028	33	11 J	30	1,100	4.3	120	0.12	1,200	3.5	--	--	16	480	3,200	<1
MW-80-057	05/21/20	N	800	780	1.1	79	0.84	96 J	0.26 J	0.11	17	0.005	32	16 J	28	1,200	4.1	120	<0.2	1,400	2.8	--	--	22	490	3,400	<1 J
MW-80-057	08/18/20	N	690	700	1.9	63	1.1	97	0.066 J	<0.02 J	15 J	0.08	33	11	34	1,000	3.5	130	0.99	1,300	3.1	--	--	17	490	3,200	<1
MW-80-057	12/03/20	N	780	780	3.2	51	1.2	75 J	0.08 J	<0.02	14	0.013	29	10	32	940	4.3	130	<0.2	1,300	3.2	--	--	16	510	3,100	<1
MW-80-057	12/03/20	FD	770	790	3.3	51	1.2	77 J	0.052 J	<0.02	14	0.013	29	10	33	940	4.3	120	<0.2	1,300	3.2	--	--	16	500	3,100	<1
MW-80-057	02/18/21	N	680	740	1.6	46	0.72	73 J	0.033 J	<0.02	13	0.0073	30	8.5	34	870	4.5	120	<0.22	1,300	2.9	--	--	17	490	3,200	<1
MW-80-057	05/20/21	N	840 J	800	1.5	47	0.83	120	0.15 J	<0.02	14 J	0.0017	30	11 J	36	910 J	4.4	110	<0.2	1,300	3	--	--	17	520	3,300	<1
MW-80-057	08/19/21	N	680	760	1.2	50 J	0.82	95 J	0.058 J	<0.02	13 J	0.0018	34	9.5	41	1,300 J	4.3	110	<0.2	1,300	3.3	--	--	16	490	3,200	<1
MW-80-057	12/15/21	N	710	710	1.3	51	--	--	--	<0.02 J	--	0.0047	36	--	31 J	--	--	--	<0.2	--	--	--	<5	17	520	--	<1
MW-80-057	02/01/22	N	780	--	1	54	--	--	--	<0.02	--	0.0028 J	--	--	--	--	--	--	--	--	--	16	--	--	510	--	<1
MW-80-057	03/14/22	N	690	680	1 J	53	--	--	--	0.034	--	0.0041	46	--	26	--	--	--	<0.2	--	--	11	--	--	490	--	<1
MW-80-057	04/12/22	N	840	--	0.4 J	44	--	--	--	<0.02	--	0.0013	--	--	--	--	--	--	--	--	--	15	--	--	500	--	<1
MW-80-057	05/18/22	N	1,000	--	<0.1	61	--	--	--	0.05 J	--	0.0059	--	--	--	--	--	--	--	--	--	11	--	--	520	--	<10
MW-80-057	06/14/22	N	950	1,000	<0.1	51 J	--	--	--	<0.02	--	0.002	31	--	24 J	--	--	--	<0.2	--	--	13	<5	--	490	--	<1
MW-80-057	06/14/22	FD	950	1,000	<0.1	51 J	--	--	--	<0.02	--	0.0022	31	--	25 J	--	--	--	<0.2	--	--	13	<5	--	500	--	<1
MW-80-082	02/24/20	N	1,900	1,900	1.7	41	1.3	230	0.091 J	0.059 J	19	0.00065	18	25 J	12	1,900	1.2	100	0.13	2,500	2.5	--	--	10	520	5,800	<1
MW-80-082	02/24/20	FD	1,900	1,800	1.6	39	1.3	230	0.056 J	0.037 J	20	0.00061	17	25 J	12	1,800	1.2	99	0.08 J	2,500	2.5	--	--	9.8	530	5,600	<1
MW-80-082	05/21/20	N	1,600	1,600	1.2	43	1	180 J	1.10 J	<0.02	22	0.0043	17	27 J	8.2	2,000	1.2	96	<0.2	2,500	2.3	--	--	8.2	480	5,200	<1 J
MW-80-082	05/21/20	FD	1,600	1,600	1.2	43	0.96	170 J	1 J	0.038	21	0.0044	17	27 J	7.8	2,000	1.2	97	<0.2	2,600	2.2	--	--	8.3	480	5,400	<1 J
MW-80-082	08/18/20	N	1,600	1,600	1.4	37	1.6	210	0.037 J	<0.02 J	23 J	0.01	20	21	15	1,600	1.2	100	<0.2	2,400	2.7	--	--	11	500	5,400	<1
MW-80-082	12/03/20	N	1,600	1,700	3.6	40	1.4	180 J	0.049 J	<0.02	23	0.00092	16	36	11	1,600	1	110	<0.2	2,500	2.3	--	--	8.8	520	5,300	<1
MW-80-082	02/18/21	N	1,800	1,900	4.2	39	0.93	160 J	0.034 J	<0.02	22	0.00074	16	21	12	1,500	<1	100	<0.2	2,600	2.4	--	--	11	530	5,800	<1
MW-80-082	02/18/21	FD	1,800	2,000	4.2	40	1	170 J	0.048 J	0.022	23	0.00092	17	21	13	1,400	<1	98	<0.22	2,600	2.3	--	--	9.9	540	5,800	<1
MW-80-082	05/20/21	N	2,100 J	2,100	0.76	38	1	260	0.02 J	<0.02	20 J	<0.0005	18	25 J	11	1,800 J	1.2	95	<0.2	2,600	2.5	--	--	9.9	540	5,600	<1
MW-80-082	08/19/21	N	1,300	1,600	<0.1	32 J	1	180 J	0.064 J	<0.02	18 J	<0.0005	24	19	29	1,800 J	1.5	110	<0.2	2,200	2.7	--	--	14	530	4,800	<1
MW-80-082	12/15/21	N	1,200	1,200	1.5	33	--	--	--	<0.02 J	--	0.00087	26	--	24 J	--	--	--	<0.2	--	--	--	<5	13	570	--	<1
MW-80-082	02/01/22	N	2,000	--	0.54	44	--	--	--	<0.02	--	0.00071 J	--	--	--	--	--	--	--	--	--	10	--	--	550	--	<1
MW-80-082	02/01/22	FD	2,000	--	0.58	44	--	--	--	<0.02	--	0.00071 J	--	--	--	--	--	--	--	--	--	10	--	--	550	--	<1
MW-80-082	03/14/22	N	2,200	2,300	0.22 J	42	--	--	--	<0.02	--	0.00078	19	--	12	--	--	--	<0.2	--	--	9.4	--	--	580	--	<1
MW-80-082	03/14/22	FD	2,300	2,300	0.31 J	43	--	--	--	<0.02	--	0.00089	19	--	12	--	--	--	<0.2	--	--	9.3	--	--	580	--	<1
MW-80-082	04/12/22	N	1,700	--	<0.1 J	39	--	--	--	<0.02	--	0.0018	--	--	--	--	--	--	--	--	--	5.9	--	--	550	--	<1
MW-80-082	04/12/22	FD	1,700	--	1.1 J	39	--	--	--	<0.02	--	0.0014	--	--	--	--	--	--	--	--	--	6.2	--	--	550	--	<1
MW-80-082	05/18/22	N	470	--	<0.1	42	--	--	--	<0.02 J	--	0.004	--	--	--	--	--	--	--	--	--	1.9	--	--	560	--	<1
MW-80-082	06/14/22	N	980	1,100	<0.1	40 J	--	--	--	0.1	--	0.0015	29	--	4.2 J	--	--	--	<0.2	--	--	4.4	<5	--	560	--	<1
MW-81-043	01/08/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-81-043	01/28/20	N	1.8	3.8	1.9 J	320 J	0.9	170 B	1	0.6 J	46 J	0.6 J	24 J	11 J	1.8	1,200	4.7	120	0.08 J	1,800	4	--	--	0.74	360	3,800	<1 J
MW-81-043	02/18/20	N	4.4	6.9	2.9	250 J	0.83	210	0.36 J	0.38	46	0.35	26	14	1.9	1,200	6.1	130	0.07 J	1,700	<1	--	--	0.68	340	3,600	<1 J
MW-81-043	03/18/20	N	2.1	3.7	2.9	220	0.89	180	2.20	0.16 J	44 J	0.32	25	12 J	2.1	1,200	4.8	410	0.13	1,700	3.7	--	--	0.64	350	3,800	<1 J

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-81-043	04/21/20	N	7.4	10	0.85	160	0.94	230	0.49	0.28	46	0.21	21	13	1.6	1,300	7.5	130	0.11	1,900	3.7	--	--	0.85	440	4,300	<10
MW-81-043	05/21/20	N	2.4	4.9	1.4	190	0.96	180 J	1.80 J	0.38	59	0.32	27	16 J	1.3	1,500	7.3	160	<0.2	2,000	4	--	--	0.62	430	4,600	<1 J
MW-81-043	08/18/20	N	1.5	4.3	2.6	180	1.5	220	2.20 J	0.48 J	61 J	0.36	30	14	1.5	1,300	5.7	170	<0.2	1,900	4.5	--	--	0.53	440	4,500	<1
MW-81-043	12/03/20	N	7.8	8.7	3.4	120	1.1	170 J	3.20 J	0.028	58	0.22	29	18	3.2	1,100	8.6	150	<0.2	1,900	4.9	--	--	0.62	450	4,100	<1
MW-81-043	02/24/21	N	13	13	2	100 J	1.1	220	1.80 J	0.022	54	0.11	28	11 J	2.1	1,200 J	14	120	<0.2	1,800	4.8	--	--	0.63	390	3,600	<1
MW-81-043	05/18/21	N	8.8 J	9.5	1.1 J	95	0.94	210	0.16 J	0.16 J	49 J	0.14	26	11 J	1.2	1,100 J	12	170	<0.2	1,900	4.1	--	--	0.57	450	4,000	<1
MW-81-043	08/17/21	N	7.3	7.7	0.73	93	0.99	230	0.35 J	0.079	52 J	0.18	21	15 J	1.3	1,300 J	10	180	<0.2	2,000	3.8	--	--	0.53	480	4,400	<1
MW-81-043	12/13/21	N	8.7	9.2	0.75	110	--	--	--	<0.02 J	--	0.16	24	--	2.6	--	--	--	--	--	--	--	--	0.48	--	--	<1
MW-81-043	03/01/22	N	17	--	<0.1	110	--	--	--	<0.02	--	0.15	--	--	--	--	--	--	--	--	--	0.99	--	--	--	--	<1
MW-81-043	05/06/22	N	12	14	<0.1	86 J	--	--	--	0.12 J	--	0.088 J	--	--	--	--	--	--	--	--	--	0.98	--	--	--	--	<1
MW-81-043	06/16/22	N	4.4	--	<0.1	78 J	--	--	--	0.093 J	--	0.064	--	--	--	--	--	--	--	--	--	0.98	--	--	380	--	<1
MW-81-098	01/28/20	N	<0.2	<1	<0.1 J	93 J	1.2	250 B	0.47	0.21 J	44 J	0.45 J	3.9 J	15 J	<0.5	1,800	1.7	160	0.06 J	2,500	2.4	--	--	0.22	590	5,300	<1 J
MW-81-098	02/18/20	N	<0.2	<1	<0.1	87 J	1.1	280	0.17 J	0.092	40	0.28	3.6	15	<0.5	1,600	2.8	160	0.08 J	2,400	3	--	--	0.33	580	5,200	<1 J
MW-81-098	03/18/20	N	0.31	<1	<0.1	69	1.2	270	0.13	0.075 J	37 J	0.23	3.1	16 J	<0.5	1,800	2.4	170	0.14	2,300	1.7	--	--	0.4	590	5,200	<1 J
MW-81-098	04/21/20	N	<0.2	<1	<0.1	75	1.2	280	1.20	0.15	38	0.25	3.6	15	<0.5	1,500	2.8	180	0.06 J	2,500	2.3	--	--	0.25	600	5,200	<1
MW-81-098	05/21/20	N	0.29	<1	<0.1	74	1.1	200 J	7.30 J	0.15	41	0.23	3.7	17 J	<0.5	1,900	2.8	170	<0.2	2,300	2.3	--	--	0.31	570	5,200	<1 J
MW-81-098	08/18/20	N	<1	<1	<0.1	73	1.8	260	1.20 J	0.023 J	45 J	0.16	3.8	15	<0.5	1,600	4.1	180	<0.2	2,200	2.5	--	--	0.38	560	5,300	<1
MW-81-098	08/18/20	FD	<1	1	<0.1	71	1.7	260	1.40 J	0.037 J	45 J	0.16	3.5	15	<0.5	1,500	3.7	170	<0.2	2,300	2.8	--	--	0.36	550	5,200	<1
MW-81-098	12/03/20	N	1.2	1.5	1	72	1.4	210 J	0.42 J	<0.02	45	0.12	3.1	18	<0.5	1,500	4.3	180	<0.2	2,300	2.5	--	--	0.48	580	5,100	<1
MW-81-098	02/24/21	N	1.4	1.5	<0.1	72 J	1.3	310	0.22 J	<0.02	42	0.11	3.2	18 J	<0.5	1,700 J	4.8	170	<0.2	2,300	2.9	--	--	0.51	570	5,200	<20
MW-81-098	05/18/21	N	2 J	2.3	<0.1 J	67	1.1	240	0.086 J	0.092 J	33 J	0.1	3.6	11 J	<0.5	1,600 J	4.5	180	<0.22	2,300	2.5	--	--	0.53	570	5,000	<20
MW-81-098	08/17/21	N	0.56	<1	<0.1	65	1.2	270	0.32 J	0.025	39 J	0.11	3.8	18 J	<0.5	1,500 J	4.4	170	<0.2	2,300	2.4	--	--	0.53	580	5,000	<1
MW-81-098	08/17/21	FD	0.59	<1	<0.1	63	1.1	250	0.27 J	0.036	36 J	0.11	3.5	15 J	<0.5	1,500 J	4.1	180	<0.2	2,300	2.6	--	--	0.45	570	5,200	<1
MW-81-098	12/13/21	N	1.2	1.7	<0.1	70	--	--	--	0.041 J	--	0.14	3.4	--	<0.5	--	--	--	--	--	--	--	--	0.58	--	--	<1
MW-81-098	03/01/22	N	<1	--	<0.1	100	--	--	--	<0.1	--	0.12	--	--	--	--	--	--	--	--	--	0.94	--	--	--	--	<1
MW-81-098	05/06/22	N	<1	<1	<0.1	51 J	--	--	--	<0.02 J	--	0.16 J	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-81-098	06/16/22	N	1.8	--	<0.1	68 J	--	--	--	0.059 J	--	0.24	--	--	--	--	--	--	--	--	--	0.94	--	--	660	--	<1
MW-82-046	02/27/20	N	<1	1	16	76 J	2.2	210	4.40 J	3.80 J	260	0.18	30	24	0.67	3,800	2.5	1,300	7.7	3,400	2.4	--	--	<0.1	1,900	11,000	<10
MW-82-046	05/28/20	N	<1	1.2	32	68	2.2	160	7.70	6.60	210	0.48	67	23 J	0.72	3,100	2.1	1,200	6.2	3,100	4.4 J	--	--	0.058 J	1,500	9,400	2.3 J
MW-82-046	08/25/20	N	<1	1.1	15	64	1.4	120 J	4.50	4	240	0.27	21 J	20 J	1.5	2,000	2.3	1,300	6.8	2,600	2.1	--	--	0.19	1,600	8,300	3.5
MW-82-046	12/01/20	N	<0.2	1.2	15	57	1.9 J	140 J	3.80	3 J	230 J	0.17	12	20 J	4.7	1,700	1.3	980	5.3	2,000	2.3	--	--	<0.1	1,500	7,200	2.1
MW-82-046	02/25/21	N	<1	<1	13	73	2	220	4.90 J	3.30	260	0.17	22	21 J	1.2	2,700 J	2.6	1,200	8.2	3,100	2.3	--	--	0.29	1,900	9,600	2.1
MW-82-046	05/18/21	N	<1	<1	21 J	64	1.9	170	6.40 J	5.40 J	200 J	0.27	55	17 J	1.9	2,700 J	1.9	1,200	5.4	2,800	4.1	--	--	0.15	1,500	8,400	2
MW-82-046	08/17/21	N	<0.2	<1	13	53	1.3	140	3.70 J	3	190 J	0.16	15	18 J	1.7	2,000 J	1.8	1,100	6.5	2,300	2.6	--	--	<0.1	1,500	7,100	<20
MW-82-046	12/16/21	N	<0.2	<1	15	61	--	--	--	2.90 J	--	0.17	11	--	2	--	--	--	--	--	--	--	--	<0.1	--	--	1.8
MW-82-046	12/16/21	FD	<0.2	<1	15	59	--	--	--	3.20 J	--	0.17	11	--	1.8	--	--	--	--	--	--	--	--	<0.1	--	--	1.8
MW-82-046	03/01/22	N	<1	--	13	68	--	--	--	6.60	--	0.21	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	3.4
MW-82-046	05/02/22	N	<1	<5	27	66	--	--	--	6.40 J	--	0.32	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	2.8
MW-82-046	05/02/22	FD	<1	<5	25	56	--	--	--	6.20 J	--	0.27	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	2.7
MW-82-046	06/16/22	N	<0.2	--	17	56 J	--	--	--	5.80 J	--	0.26	--	--	--	--	--	--	--	--	--	<0.5	--	--	1,200	--	1.8
MW-82-112	02/27/20	N	0.2 J	<1	<0.1	36 J	1.4	210	0.23 J	0.059 J	17	0.053	10	14	<0.5	2,100	5.6	82	0.12	2,400	3	--	--	0.63	660	5,300	<1
MW-82-112	05/28/20	N	<0.2	<1	<0.1	35	1.5	180	0.54	0.073	18	0.072	7.6	16 J	<0.5	1,700	4.8	120	<0.2	2,300	2.5 J	--	--	0.29 J	550	4,900	<1
MW-82-112	08/25/20	N	<1	1.3	<0.1	35	1.4	130 J	0.089	0.042	17	0.053	9.6 J	18 J	<0.5	2,000	6.8	100	<0.2	2,300	3.2	--	--	0.68	580	5,200	<1
MW-82-112	12/01/20	N	0.44	1.1	2	34	1.7 J	160 J	0.28	<0.02	22 J	0.027	9.3	16 J	<0.5	1,400	6.5	93	<0.2	2,400	3.3	--	--	0.74	610	5,700	<20
MW-82-112	02/25/21	N	0.37	1.2	<0.1	34	1.5	220	0.098 J	0.021	19	0.024	9.1	15 J	<0.5	1,500 J	7.3	89	<0.2	2,400	3.4	--	--	0.76	630	5,200	<20
MW-82-112	05/18/21	N	<0.2	1.3	<0.1 J	30	1.2	160	0.27 J	0.11 J	15 J	0.031	6.7	12 J	<0.5	1,300 J	6.3	130	<0.2	2,100	2.5	--	--	0.51	530	4,500	<1
MW-82-112	08/17/21	N	0.28	<1	<0.1	29	1.4	180	0.051 J	<0.02	15 J	0.023	8.3	15 J	<0.5	1,600 J	6.6	100	<0.2	2,300	2.8	--	--	0.62	590	4,900	<1
MW-82-112	12/16/21	N	0.88	2	<0.1	35	--	--	--	<0.02	--	0.027	8.7	--	<0.5	--	--	--	--	--	--	--	--	0.72	--	--	<1
MW-82-112	03/01/22	N	<0.2	--	<0.1	38	--	--	--	0.11 J	--	0.058	--	--	--	--	--	--	--	--	--	0.6	--	--	--	--	<1
MW-82-112	05/02/22	N	<0.2	<1	<0.1	36	--	--	--	<0.02	--	0.054	--	--	--	--	--	--	--	--	--	0.58	--	--	--	--	<1
MW-82-112	06/16/22	N	<1	--	<0.1	52 J	--	--	--	0.061 J	--	0.12	--	--	--	--	--	--	--	--	--	1.1	--	--	710	--	<1
MW-82-168	02/27/20	N	1.2 J	2.6	1.7	49 J	1.5	580	0.12 J	<0.1 J	84	0.25	18	37	<0.5	4,900	1.9	63	0.13	6,000	2.8	--	--	1.4	1,200	13,000	<1
MW-82-168	05/28/20	N	1.9	3.9	1.9	57	1.1	480	0.12	0.048	79	0.31	20	46 J	0.74	4,300	2	64	<0.2	6,200	2.5 J	--	--	1.5 J	1,100	14,000	<1
MW-82-168	08/25/20	N	2.9	6.1	1.9	53	0.72	350 J	0.21	0.079	77	0.26	19 J	47 J	0.83	4,200	2.1	66	<0.2	6,100	2.8	--	--	1.9	1,100	14,000	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-82-168	12/01/20	N	4.7	6.5	1.7	49	1.4 J	440 J	2	0.094 J	100 J	0.16	17	48 J	0.74	3,100	1.5	65	<0.2	6,200	3	--	--	1.6	1,200	12,000	<1
MW-82-168	02/25/21	N	3.5	5.9	<0.1	49	1.5	740	0.23 J	<0.1	100	0.13	17	33 J	0.63	5,000 J	2.2	63	<0.22	6,300	2.7	--	--	1.5	1,100	12,000	<1
MW-82-168	05/18/21	N	3.1 J	5	<0.1 J	49	0.99	640	0.2 J	0.035 J	68 J	0.16	19	32 J	0.65	4,000 J	1.9	67	<0.2	6,100	3.1	--	--	1.4	1,100	14,000 J	<1
MW-82-168	08/17/21	N	<1	<1	<0.1	49	1	700	0.27 J	0.028	67 J	0.32	18	37 J	<0.5	4,200 J	2	78	<0.2	6,000	2.7	--	--	0.77	990	13,000	<1
MW-82-168	12/16/21	N	7	7.5	<0.1	48	--	--	--	0.031 J	--	0.14	15	--	<0.5	--	--	--	--	--	--	--	--	1.6	--	--	<1
MW-82-168	03/01/22	N	1.2	--	1.9	50	--	--	--	<0.1	--	0.2	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	<1
MW-82-168	05/02/22	N	<1	2.7	<0.1	47	--	--	--	<0.1	--	0.14	--	--	--	--	--	--	--	--	--	1.1	--	--	--	--	<1
MW-82-168	06/16/22	N	1.2	--	<0.1	42 J	--	--	--	0.027 J	--	0.029	--	--	--	--	--	--	--	--	--	<0.5	--	--	570	--	<1
MW-82-198	02/27/20	N	<1	3.5	3.2	41 J	2.4	110	0.11 J	0.068 J	3	0.079	150	41	<0.5	6,700	2.5	43	0.09 J	6,700	5.8	--	--	1	1,100	13,000 J	<1
MW-82-198	05/21/20	N	<1	9	3.9	46	1.8	93 J	1.90 J	0.19	4.8	0.23	81	61 J	0.69	5,800	2	55	0.28	6,200	4.6	--	--	0.63	1,000	13,000	<1 J
MW-82-198	08/25/20	N	<1	2.7	3.2	39	1.6	71 J	0.2	<0.1	3.4	0.1	120 J	57 J	0.91	5,600	3.1	39	<0.2	6,700	5.2	--	--	1.3	1,100	12,000 J	<1
MW-82-198	12/01/20	N	<1	<1	2.3	35	3 J	90 J	0.33	<0.1	3.6 J	0.07	160	63 J	0.79	5,500	2.4	45	0.36	6,900	6.6	--	--	1.2	1,100	12,000 J	<1
MW-82-198	02/25/21	N	<1	3.3	<0.1	40	2.6	130	4.80 J	0.27	3.4	0.059	160	47 J	0.58	6,700 J	3.1	42	<0.2	7,100	6.1	--	--	1.2	1,100	14,000	<1
MW-82-198	05/18/21	N	<1	1	<0.1 J	36	1.9	130	0.4 J	0.038 J	2.7 J	0.11	74	45 J	0.77	5,300 J	2.9	34	<0.2	6,500	3.9	--	--	1.4	1,100	13,000	<1
MW-82-198	08/17/21	N	<1	<1	<0.1	42	1.6	150	0.23 J	0.02	4.8 J	0.21	75	41 J	0.87	5,200 J	2.7	48	<0.2	6,100	4	--	--	1.1	1,000	12,000	<1
MW-82-198	12/16/21	N	<1	2.9	<0.1	34	--	--	--	0.12 J	--	0.057	140	--	<0.5	--	--	--	--	--	--	--	--	1.2	--	--	<1
MW-82-198	03/01/22	N	2.9	--	3.1	52	--	--	--	<0.5	--	0.16	--	--	--	--	--	--	--	--	--	1.7	--	--	--	--	<1
MW-82-198	05/02/22	N	1.2	2	<0.5	47	--	--	--	<0.1	--	0.098	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	<50
MW-82-198	06/16/22	N	4.1	--	<0.1	44 J	--	--	--	0.048 J	--	0.11	--	--	--	--	--	--	--	--	--	1.5	--	--	1,100	--	<1
MW-83-090	02/19/20	N	49	47	0.26	77	0.35 J	150 J	0.14	0.046 J	24 J	<0.0005	3.2	8.9 J	3.6	230	2.8	100	0.05 J	500	1.6	--	--	4.9	160	1,300	<1 J
MW-83-090	05/28/20	N	44	43	<0.1	84	0.31	150	0.29 J	0.12 J	28	0.002	3	9.5 J	2.7	230	2.6	91	<0.2	580	1.5 J	--	--	3.8 J	150	1,700	<1
MW-83-090	05/28/20	FD	44	43	0.21	84	0.3	140	0.63 J	0.05 J	27	0.001	3	9.4 J	2.9	220	2.6	89	<0.2	580	1.4 J	--	--	3.7 J	150	1,700	<1
MW-83-090	08/26/20	N	49	48	<0.1	89	0.41 J	140	0.14 J	<0.02	31 J	<0.0005	3.5	9.1 J	3.1	300 J	3	88	<0.2	600	1.7	--	--	3.9 J	150	1,700	<1 J
MW-83-090	12/09/20	N	54	50	<0.1	82	0.43	150	0.075	<0.02	28	<0.0005	3.2	11	2.8	250	2.6	88	<0.2	560	1.4	--	--	4.4	160	1,300	<1
MW-83-090	12/09/20	FD	53	51	0.19	82	0.42	140	0.078	<0.02	27	<0.0005	3.2	10	2.8	260	2.7	89	<0.2	560	1.5	--	--	4.5	160	1,300	<1
MW-83-090	02/23/21	N	49	49	<0.1	80	0.5	210 J	0.36	<0.1	39 J	0.00099	3.5	9.4 J	3.5	260	2.8	84	<0.2	560	1.8	--	--	4.9	150	1,200	<1
MW-83-090	05/25/21	N	44	44	<0.1 J	93	0.29	170 J	0.69 J	0.094 J	29 J	0.0049 J	3.5	12 J	2.7	230 J	2.9	88	<0.2	580	1.5	--	--	3.9	150	1,400	<1
MW-83-090	05/25/21	FD	44	44	<0.1 J	90	0.28	170 J	0.79 J	0.078 J	29 J	0.0039 J	3.2	11 J	2.7	240 J	2.8	83	<0.2	580	1.4	--	--	4	150	1,400	<1
MW-83-090	08/23/21	N	52	55	<0.1	78	0.28	140	0.42 J	0.032 J	25 J	<0.0005	2.9	9.2 J	1.9	230	3	96	<0.2	550	1.3	--	--	4.5	150	1,600	<1
MW-83-090	12/16/21	N	67	65	0.3	--	--	--	--	--	--	0.0035	4	--	3.1	--	--	--	--	--	--	--	--	5	--	--	--
MW-83-090	06/22/22	N	38	34 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-83-180	01/29/20	N	7.7	7.8	1.3	49	1.7	330	0.14	0.022	24 J	0.0011	33	19	0.72	2,400	8.7	39	<0.1	3,500	4.6	--	--	0.51	480	7,500	<1
MW-83-180	02/19/20	N	8.4	8.3	1.4	50	1.6 J	280 J	0.042	0.043 J	20 J	0.00085	34	18 J	0.63	2,200	9	41	0.05 J	3,400	4.8	--	--	0.5	490	7,200	<1 J
MW-83-180	03/17/20	N	8.8	7.7	0.7	47 J	1.4	280	0.035 J	0.033 J	20	<0.0005	31	22	0.59	2,300	8.1	39	0.06 J	3,500	3.9	--	--	0.58 J	490	7,600	<1 J
MW-83-180	04/23/20	N	7.9	8.1	1.1	56	1.7	280	0.4	0.34 J	20	0.0077	34	19	0.58	2,200	8.7	34	0.05 J	3,700	4.3	--	--	0.53	500	7,500	<1
MW-83-180	05/28/20	N	9.1	9.4	4.6	50	1.4	240	0.055	<0.02	19	0.0011	35	21 J	0.7	2,300	9.4	38	<0.2	3,700	5.2 J	--	--	0.55 J	500	7,800	<1
MW-83-180	06/15/20	N	6	5.6	<0.1 J	45	1.2	210	0.48	<0.02	17	0.0025	30	18 J	0.7	2,000	8.9	44	<0.2	3,300	4.4	--	--	0.68 J	460	7,100	<1
MW-83-180	07/22/20	N	8.5	8.8	0.5	51	1.5	250	0.033	<0.02	19 J	0.00094	35	20 J	0.59	2,800	9.3	36	<0.2	3,500	5	--	--	0.64	500	7,800	<1
MW-83-180	08/26/20	N	8.4	8.8	1.2	52	1.5 J	200	0.1 J	0.052 J	21 J	0.00057	37	23 J	0.65	2,300 J	9.8	36	<0.2	3,500	4.4	--	--	0.6	500	8,200	<10 J
MW-83-180	09/29/20	N	9.4	9.3	1.2	52	1.1 J	230 J	0.061 J	<0.02 J	18 J	0.0036	37	17 J	0.6	2,200 J	8.8	40	<0.2	3,400	4.4	--	--	0.66	480	7,400	<1 J
MW-83-180	10/21/20	N	9.8	10	4.7	52	1.7	210 J	0.035	<0.02	20	0.0012	34	28	0.64	2,900	9.7	37	<0.2	3,500	4.5	--	--	0.54	500	7,900	<20 J
MW-83-180	12/09/20	N	9.6	8.6	0.84	51	1.2	220	0.023	<0.02	21	<0.0005	36	19	0.61	1,900	9.5	34	<0.2	3,600	4.7	--	--	0.61	500	6,800	<1
MW-83-180	02/23/21	N	4.7	6.8	<0.1	47	1.9	370 J	0.46	<0.1	26 J	<0.0005	34	20 J	0.68	2,600	8.8	36	<0.2	3,700	4.6	--	--	0.66	490	7,300	<1
MW-83-180	05/25/21	N	5.1	5.4	<0.1 J	46	1.2	290 J	1.20 J	<0.02 J	18 J	0.00077	31	24 J	0.67	1,900 J	9.2	41	<0.2	3,400	4.6	--	--	0.69	470	6,900	<1
MW-83-180	08/23/21	N	3.9	7.3	<0.1	47	1.2	270	0.38 J	0.09 J	16 J	<0.0005	30	30 J	0.66	2,200	9.9	37	<0.2	3,600	4.1	--	--	0.6	490	7,400	<1
MW-83-180	12/16/21	N	6.2	8.4	<0.1	--	--	--	--	--	--	0.0011	33	--	0.54	--	--	--	--	--	--	--	--	0.55	--	--	--
MW-83-180	06/22/22	N	3.7	4.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-83-225	02/19/20	N	450	450	4.3	44	2.2 J	390 J	0.62	<0.02 J	22 J	0.0042	49	29 J	0.57	3,400	5.5	34	0.04 J	5,100	5	--	--	0.62	700	11,000	<1 J
MW-83-225	05/28/20	N	510	490	3.9	43	1.7	320	0.59	<0.02	21	0.0044	49	30 J	0.67	3,400	6	31	<0.2	5,300	4.7 J	--	--	0.68 J	680	11,000	<1
MW-83-225	08/26/20	N	460	420	3.8	46	1.8 J	250	0.49 J	0.44 J	22 J	0.0042	55	31 J	0.58	4,400 J	6.6	31	<0.2	5,000	4.5	--	--	0.64	670	11,000	<1 J
MW-83-225	12/09/20	N	420	360	<0.1	40	1.7	290	0.27	<0.02	22	0.0029	50	30	0.6	2,600	5.7	30	<0.2	5,100	4.4	--	--	0.57	680	9,900	<1
MW-83-225	02/23/21	N	400	390	<0.1	37	3.1	530 J	0.54	<0.1	33 J	0.0019	51	26 J	0.57	4,700 J	5.8	33	<0.2	5,200	4.6	--	--	0.75	690	10,000	<1
MW-83-225	02/23/21	FD	390	380	<0.1	36	2.4	410 J	0.58	<0.1	26 J	0.0019	49	25 J	0.73	3,400 J	5.6	32	<0.2	5,100	4.5	--	--	0.73	700	11,000	<1
MW-83-225	05/25/21	N	400	390	<0.1 J	42	2.2	300 J	1 J	0.25 J	23 J	0.0032	51	32 J	0.61	3,100 J	6.3	31	<0.2	5,100	4.2	--	--	0.7	690	10,000	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-83-225	08/23/21	N	370	420	<0.1	38	1.5	350	1.10 J	0.082 J	15 J	0.0038	45	28 J	1.6	3,400	6.6	35	<0.2	5,100	4.2	--	--	0.72	710	10,000	<1
MW-83-225	12/16/21	N	250	220	<0.1	--	--	--	--	--	--	0.0053	47	--	<0.5	--	--	--	--	--	--	--	--	0.55	--	--	--
MW-83-225	06/22/22	N	47	42 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-83-245	02/19/20	N	1.7	2.3	5.5	120	2.5 J	390 J	0.024	0.024 J	13 J	0.088	63	43 J	<0.5	4,200	2.1	30	0.04 J	6,400	4.9	--	--	0.13	670	12,000	<1 J
MW-83-245	05/22/20	N	4.5	4.9	<0.1	96	1.9	340	3.40 J	0.025 J	12 J	0.064	65	55 J	<0.5	5,800 J	2.3	25	<0.2	6,700	5	--	--	0.12	670	14,000	<1
MW-83-245	08/26/20	N	9.2	10	5.7	110	3.9 J	310	<0.1 J	<0.1	15 J	0.073	73	60 J	<0.5	5,700 J	2.2	24	<0.2	6,500	3.9	--	--	0.099	670	15,000 J	<1 J
MW-83-245	12/09/20	N	19	16	<0.1	100	1.7	290	0.025	<0.02	11	0.068	68	58	<0.5	3,400	3.1	23	<0.2	6,600	4.1	--	--	0.18	660	12,000 J	<1
MW-83-245	02/23/21	N	23	21	<0.1	85	3	490 J	<0.1	<0.1	19 J	0.08	64	42 J	<0.5	4,600	2.6	29	<0.22	6,700	4.3	--	--	0.29	690	13,000	<1
MW-83-245	05/25/21	N	14	13	<0.1 J	150	1.9	460 J	<0.1	<0.1 J	4.5 J	<0.0005	68	140 J	0.67	4,100 J	6.1	210	0.28	6,200	4.5	--	--	0.22	630	12,000	<1
MW-83-245	08/23/21	N	17	17	<0.1	110	1.7	370	0.11 J	0.021 J	3.1 J	0.0019	60	87 J	<0.5	4,400	5.1	89	0.21	6,200	4	--	--	<0.1	630	12,000	<1
MW-83-245	12/16/21	N	3.6	4.1	<0.1	--	--	--	--	--	--	0.042	64	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	--
MW-83-245	06/22/22	N	2,600	2,600 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-057	01/27/20	N	31	29	1.2	44	0.53	68	0.87 J	0.05 J	12	0.0022	19	6.4	5.2	240 J	6.7	86	0.11	360	1.9	--	--	9.9	210	1,100	<1 J
MW-84-057	02/19/20	N	32	31	1.4	46	0.51 J	90 J	0.55	0.093 J	15 J	0.0034	20	7.8 J	5.3	280	7.7	89	0.04 J	340	1.7	--	--	11	210	1,100	<1 J
MW-84-057	03/18/20	N	29	29	1.2	45 J	0.43	80	0.22 J	0.13 J	14	0.0029	19	7.4	5	260	7.4	84	<0.1	360	1.7	--	--	11 J	200	1,100	<10 J
MW-84-057	03/18/20	FD	29	29	1.2	44 J	0.43	82	0.37 J	0.12 J	14	0.0033	18	7.8	4.8	270	7.4	85	<0.1	360	1.8	--	--	11 J	200	1,100	<1 J
MW-84-057	04/22/20	N	30	30	1.3	47	0.38	78	0.23 J	0.089 J	13	0.0034 J	19	8.1	5.2	280	7.7	80	<0.1	390	1.7	--	--	10	210	1,100	<1
MW-84-057	04/22/20	FD	30	30	1.2	45	0.37	76	0.3 J	0.055 J	13	0.0026 J	18	8	5.1	270	7.5	81	<0.1	370	1.9	--	--	9.5	200	1,100	<1
MW-84-057	05/28/20	N	27	28	1.2	49	0.43	83	0.42	0.048	15	0.0089	18	8 J	4.2	310	7.7	77	<0.2	410	2.3 J	--	--	8.2 J	190	1,100	<1
MW-84-057	06/17/20	N	26	26	1.2 J	52	0.44	83	0.37	0.076	15	0.0032	17	7.9	4	280	7.8	82	<0.2	430	1.9	--	--	7.6 J	180	1,200	<1
MW-84-057	07/22/20	N	24	27	1.2	53	0.48	82	0.81	0.026	15 J	<0.0005	18	7.8 J	4	290	7.7	78	<0.2	440	2	--	--	8.2	180	1,100	<10
MW-84-057	08/21/20	N	28	28	1.2	54	0.23	80	1.60	0.075	17	0.0023	19	9	4.1	300	8.7	79	<0.2	430	2.1	--	--	8.7	170	1,200	<1
MW-84-057	09/29/20	N	0.42	<1	<0.1	220	0.44 J	290 J	0.045 J	<0.02 J	65 J	0.06	7.3	11 J	0.9	630 J	4.1	51	<0.2	1,700	3	--	--	1.2	230	4,000	<1 J
MW-84-057	10/20/20	N	28	27	1.2 J	49	0.42	73	0.42 J	<0.02	13 J	<0.0005	17	7.9 J	4.2	230	7.5	81	<0.2	390 J	2.1	--	--	9.1	180	1,100	<1
MW-84-057	12/10/20	N	31	32	1.2	45	0.32	72 J	0.57 J	0.046 J	15	0.00082	18	8.6	5	250	8.9	82	<0.2	480	2	--	--	11	260	1,000	<10
MW-84-057	02/19/21	N	32	34	1.6	47	0.42	64 J	0.5	<0.02	14	0.0021	19	6.1	4.8	200	8.2	90	<0.22	360	2.1	--	--	11	210	1,100	<1
MW-84-057	05/24/21	N	27	28	0.67 J	56	0.39	96 J	0.73 J	0.11 J	16 J	0.0047	17	8.5 J	3.9	240 J	8.6	80	<0.2	450	2.3	--	--	7.6	180	1,100	<1
MW-84-057	08/20/21	N	23	26	1.1	56	0.37	97	0.076 J	0.02 J	16 J	<0.0005	12	8 J	3.4	300 J	8.6	77	<0.2	510	2	--	--	7.4	170	1,200	<1
MW-84-057	11/29/21	N	27	27	0.9	--	--	--	--	--	--	0.0018	12	--	3.7	--	--	--	--	--	--	--	--	8.7	--	--	--
MW-84-057	06/06/22	N	24	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-095	01/27/20	N	1.2	1.3	<0.1	220	0.55	250	0.25 J	0.055 J	48	0.06	6.3	12	0.88	640 J	3.7	54	0.15	1,700	3.1	--	--	1.1	230	3,800	<1 J
MW-84-095	02/19/20	N	0.53	<1	0.3	220	0.82 J	120 J	0.25	<0.1 J	21 J	0.052	7.1	19 J	0.8	780	3.8	55	0.1	1,700	2.9	--	--	0.98	230	3,600	<10
MW-84-095	03/18/20	N	1.5	1.2	<0.1	220 J	0.44	330	0.78 J	0.053 J	58	0.02	6.3	14	0.87	760	4.1	56	<0.1	1,700	2.9	--	--	1.1 J	240	3,700	<1 J
MW-84-095	04/22/20	N	2.1	2.6	<0.1	220	0.43	320	0.52	0.059 J	55	0.021	5.9	13	1	830	4.5	52	<0.1	1,800	2.5	--	--	2.1	250	3,900	<1
MW-84-095	05/28/20	N	2.1	2.2	<0.1	220	0.47	310	2	0.028	61	0.028	6.5	15 J	0.88	730	4.7	49	<0.2	1,800	2.8 J	--	--	1.1 J	250	4,400	<1
MW-84-095	05/28/20	FD	2.1	2.2	<0.1	230	0.49	300	2	0.066	59	0.027	6.8	13 J	0.95	690	4.7	54	<0.2	1,800	3.1 J	--	--	1.3 J	250	4,600	<1
MW-84-095	06/17/20	N	1.7	1.7	<0.1 J	240	0.51	300	2.60	0.055	57	0.048	7	13	0.91	790	4.7	55	<0.2	1,800	2.9	--	--	1.1 J	250	4,600	<1
MW-84-095	07/22/20	N	2.7	3.1	<0.1	220	0.59	290	1.20	0.048	58 J	0.023	6.4	13 J	0.92	780	4.9	50	<0.2	1,700	3.2	--	--	1.3	250	4,300	<1
MW-84-095	08/20/20	N	2.9	2.8	<0.1	220	0.72 J	310	1.20	0.83 J	67	0.018	6.5	15	0.98	860	5.2	52	<0.2	1,700	2.6	--	--	1.4	240	4,500	<1
MW-84-095	08/20/20	FD	3 J	2.7	<0.1	200	0.47 J	320	1.20	0.25 J	67	0.018	6.4	15	1	860	5	52	<0.2	1,800	2.4	--	--	1.2	240	4,400	<1
MW-84-095	09/29/20	N	2.9	3.6	<0.1	230	0.52 J	240 J	1.60 J	0.12 J	58 J	0.024	6.2	11 J	0.95	690 J	4.8	54	<0.2	1,700	3	--	--	1.2	230	4,000	<1 J
MW-84-095	10/20/20	N	3.3	3.1	<0.1 J	210	0.5	300	0.31 J	<0.02	56 J	0.026	5.2	16 J	1	730	4.5	53	<0.2	1,800 J	2.6	--	--	1.2	240	4,200	<1
MW-84-095	12/10/20	N	3.4	3.7	<0.1	220	0.38	270 J	1.90 J	0.084 J	64	0.028	5.3	14	0.91	750	5.2	50	<0.2	1,700	3.3	--	--	1.4	240	3,500	<1
MW-84-095	12/10/20	FD	3.4	3.6	<0.1	210	0.36	270 J	2.20 J	0.074 J	63	0.027	5	14	0.9	750	5	49	<0.2	1,700	3	--	--	1.3	240	3,600	<1
MW-84-095	02/19/21	N	3.3	3.7	1.1	230	0.43	260 J	0.6	<0.02	64	0.034	5.3	12	1.1	740	4.8	54	<0.2	1,800	2.9	--	--	1.3	240	3,400	<1
MW-84-095	05/24/21	N	3.3	3.5	<0.1 J	250	0.45	460 J	1.30 J	0.19 J	69 J	0.017	5.3	17 J	0.86	760 J	7.4	50	<0.2	1,900	3.1	--	--	1.1	250	4,100	<1
MW-84-095	08/20/21	N	2.6	3.5	<0.1	180	0.41	320	0.76 J	<0.02 J	54 J	<0.0005	5.4	16 J	0.9	600 J	5.1	52	<0.2	1,700	2.8	--	--	1.3	230	3,900	<1
MW-84-095	11/29/21	N	3.4	4.2	<0.1	--	--	--	--	--	--	0.0058	5.4	--	0.86	--	--	--	--	--	--	--	--	1.3	--	--	--
MW-84-095	06/06/22	N	2.1	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-132	01/27/20	N	<0.2	<1	<0.1	100	1.3	240	0.16 J	0.12 J	24	0.12	29	21	0.76	1,800 J	4.2	53	0.15	3,000	4.2	--	--	0.39	370	6,000	<10 J
MW-84-132	02/19/20	N	0.26	<1	0.46	99	1.4 J	290 J	0.061	0.079 J	27 J	0.079	29	19 J	0.73	1,700	4.8	57	0.05 J	2,700	3.9	--	--	0.47	350	5,600	<1 J
MW-84-132	03/18/20	N	0.5	<1	<0.1	80 J	0.97	280	0.044 J	0.043 J	30	0.054	24	20	0.76	1,600	4.9	52	<0.1	2,600	3.1	--	--	0.59 J	340	5,400	<1 J
MW-84-132	04/22/20	N	0.57	<1	<0.1	92	1.1	270	0.66	0.064 J	25	0.041	29	19	0.95	1,700	6.1	39	<0.1	3,000	3.7	--	--	0.72	380	5,700	<1
MW-84-132	05/28/20	N	0.44	1	0.32	88	1	240	0.95	0.06	28	0.035	26	22 J	0.82	1,700	6	51	<0.2	2,700	3.5 J	--	--	0.8 J	340	5,800	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-84-132	06/17/20	N	0.53	<1	0.43 J	92	1.1	260	0.054	<0.02	30	0.037	24	18	0.88	1,500	5.7	51	<0.2	2,600	3.7	--	--	0.77 J	320	5,700	<1
MW-84-132	07/22/20	N	0.79	1	<0.1	90	1.2	250	0.029	<0.02	29 J	0.022	28	19 J	0.88	2,000	6.2	50	<0.2	2,700	3.4	--	--	0.84	340	5,700	<1
MW-84-132	08/21/20	N	1.1	2.1	<0.1	88	0.96	230	0.035	0.034	33	0.019	29	21	0.95	1,700	6.5	50	<0.2	2,700	3.8	--	--	0.74	340	6,100	<1
MW-84-132	09/29/20	N	1.2	1.3	<0.1	84	0.88 J	250 J	0.08 J	<0.02 J	33 J	0.011	28	16 J	1.1	1,300 J	6.6	52	<0.2	2,500	3.5	--	--	1	310	5,400	<1 J
MW-84-132	10/20/20	N	1.4	1.5	<0.1 J	79	1.1	250	0.33 J	<0.02	29 J	0.013	23	23 J	1	1,600	6	51	<0.2	2,700 J	4	--	--	0.83	340	5,700	<1
MW-84-132	12/10/20	N	2	2.1	<0.1	74	1.1	200 J	0.22 J	0.17 J	26	0.0046	28	20	1.1	1,800	7.4	48	<0.2	3,700	3.6	--	--	0.94	480	5,500	<1
MW-84-132	02/19/21	N	2.3	2.8	2.4	70	1	200 J	0.053	0.025	31	0.0046	27	19	1.1	1,500	7.6	49	<0.22	2,800	3.9	--	--	1	360	5,800	<1
MW-84-132	05/24/21	N	2.2	3	<0.1 J	73	0.94	320 J	3.10 J	0.095 J	32 J	0.0067	23	22 J	1.2	1,500 J	7.5	51	<0.2	2,600	3.7	--	--	0.91	320	5,100	<1
MW-84-132	08/20/21	N	2.6	3.6	<0.1	76	0.83	300	0.047 J	0.026 J	33 J	<0.0005	18	18 J	0.84	1,500 J	8.2	51	<0.2	2,600	3.4	--	--	1.1	330	5,600	<1
MW-84-132	11/29/21	N	2.4	2.6	<0.1	--	--	--	--	--	--	0.00074	16	--	1.1	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-84-132	06/06/22	N	1.8	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-84-193	01/27/20	N	43	39	4.9	58	1.8	180	0.16 J	0.037 J	11	0.037	46	32	<2.5	3,200 J	6.7	46	0.07 J	4,100	4.7	--	--	1	530	8,000	<1 J
MW-84-193	02/19/20	N	63	56	1.5	54	1.9 J	210 J	0.16	0.031 J	11 J	0.019	47	30 J	1	2,700	7.5	44	0.03 J	4,000	4.4	--	--	1.1	550	8,400	<1 J
MW-84-193	03/18/20	N	51	43	0.78	50 J	1.7	210	0.12 J	0.044 J	12	0.019	45	32	0.89	2,600	6.8	47	<0.1	4,100	3.8	--	--	0.95 J	530	7,800	<1 J
MW-84-193	04/22/20	N	62	61	1.2	57	1.6	210	1.70	0.17 J	9.4	0.028	48	30	<2.5	2,700	8.1	46	<0.1	4,400	3.4	--	--	1.6	560	8,300	<1
MW-84-193	05/22/20	N	42	40	<0.1	55	1.4	160	0.56 J	0.11 J	9.6 J	0.016	50	30 J	0.98	3,400 J	8.2	43	<0.2	4,100	5	--	--	0.93	530	8,600	<1
MW-84-193	06/17/20	N	40	39	5.3 J	57	1.7	190	0.29	<0.02	10	0.0082	49	29	1.1	2,600	8.6	45	<0.2	4,100	4.2	--	--	0.99 J	520	8,200	<1
MW-84-193	07/22/20	N	52	54	1.1	56	1.8	190	0.084	<0.02	10 J	0.0065	55	30 J	0.93	3,400	8.8	43	<0.2	4,100	4.1	--	--	1	530	8,200	<1
MW-84-193	08/20/20	N	54 J	48	1.1	54	1.1	190	0.22	0.15 J	13	0.0051	54	32	1.1	2,700	9	44	<0.2	4,000	4	--	--	1.1	520	8,400	<1
MW-84-193	09/29/20	N	48	45	1.5	59	1.8 J	190 J	<0.1 J	<0.02 J	12 J	0.016	54	29 J	1	2,500 J	8.1	45	<0.2	3,900	4.2	--	--	0.89	490	8,200	<1 J
MW-84-193	10/20/20	N	51	45	2.7 J	49	1.9	190	0.29 J	<0.02	11 J	0.0026	47	41 J	0.98	3,400	8	43	<0.2	3,900 J	4.1	--	--	0.95	510	8,400	<1
MW-84-193	12/10/20	N	74	64	0.81	46	1.6	150 J	0.4 J	<0.02 J	12	0.0019	47	32	1.1	2,800	8.6	43	<0.2	5,500	4.3	--	--	1.1	740	7,900	<1
MW-84-193	02/19/21	N	86	87	5.8	47	1.5	150 J	0.093	<0.02	12	0.00085	50	30	1.2	2,400	8.7	44	<0.2	4,100	3.6	--	--	1.1	530	8,200	<1
MW-84-193	05/24/21	N	52	49	<0.1 J	49	1.6	230 J	0.05 J	0.07 J	9.7 J	0.0011	51	35 J	1.2	2,700 J	9.1	48	<0.2	4,000	4.4	--	--	0.97	510	8,000	<1
MW-84-193	08/20/21	N	23	25	<0.1	40	1.5	170	0.057 J	0.021 J	6.3 J	0.0012	50	28 J	0.95	2,400 J	11	47	<0.2	3,900	3.7	--	--	0.84	530	7,700	<1
MW-84-193	11/29/21	N	14	15	2.2	--	--	--	--	--	--	0.082	58	--	1.1	--	--	--	--	--	--	--	--	0.93	--	--	--
MW-84-193	06/06/22	N	3.9	4.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-85-129	02/18/20	N	150	150	0.79	72 J	0.6	130	0.37 J	0.1	27	0.0034	3.1	11	9.9	280	7.6	160	0.06 J	370	0.52	--	--	17	220	1,200	<1 J
MW-85-129	02/18/20	FD	150	150	0.81	72 J	0.59	140	0.41 J	0.084	27	0.0031	2.9	11	9.5	290	7.6	160	0.06 J	370	<0.5	--	--	18	220	1,200	<1 J
MW-85-129	05/20/20	N	130 J	120	0.51	64	0.42	110	0.34	0.069	27	0.0029	2.7	10 J	9.6	300	6.8	140	<0.2	380	0.62	--	--	18 J	220	1,300	<1 J
MW-85-129	08/21/20	N	140	140	0.76	70	0.19	130	0.17	<0.02	29	<0.0005	2.9	10	10	270	8.1	160	<0.2	380	0.67	--	--	22	220	1,300	<1
MW-85-129	12/09/20	N	140	130	0.56	69	0.47	120	0.1	<0.02	28	<0.0005	3	9.1	9.3	230	7.6	150	<0.2	400	0.71	--	--	22	230	1,200	<10
MW-85-129	02/22/21	N	130	130	0.62	65 J	0.39	120	0.12	0.025 J	24	<0.0005	2.7	8.9 J	11	290 J	7.3	150	<0.2	400	0.65	--	--	15	230	1,200	<1
MW-85-129	05/21/21	N	120	110	0.32 J	71	0.45	140 J	0.21 J	0.22 J	27 J	<0.0005	2.8	9.9 J	9.6	260 J	7.6	150	<0.2	390	0.62	--	--	18 J	230	1,300	<1
MW-85-129	08/20/21	N	130	130	0.41	56	0.43	110	0.16 J	0.035 J	21 J	<0.0005	4.2	10 J	8.2	250 J	7.5	130	<0.2	380	0.56	--	--	16	220	1,200	<5
MW-85-129	11/30/21	N	130	140	0.65	--	--	--	--	--	--	<0.0005	5	--	9.6	--	--	--	--	--	--	--	--	16	--	--	--
MW-85-129	06/10/22	N	110	110 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-85-217	02/18/20	N	1,100	1,100	6.5	29 J	2.2	260	0.46 J	0.2	11	0.045	93	31	6.5	3,500	7	55	0.05 J	3,600	4.8	--	--	6.9	1,000	8,200	<1 J
MW-85-217	05/20/20	N	870 J	850	1.1	29	1.9	160	1.90	0.025	11	0.032	97	33 J	4.8	3,300	6.2	54	<0.2	3,800	4.1	--	--	5.1 J	950	8,800	<1 J
MW-85-217	08/21/20	N	1,100	970	1.9	27	1.8	170	1.10	0.034	12	0.014	100	30	5.7	2,800	6.7	54	<0.2	3,700	4.8	--	--	7.3	950	8,600	<1
MW-85-217	12/09/20	N	1,000	930	1.6	27	1.8	170	0.24	<0.02	11	0.0051	100	30	5.4	2,200	6.5	54	<0.2	3,700	4.8	--	--	7.1	990	7,900	<1
MW-85-217	02/22/21	N	1,100	37	1.1	25 J	3	290	<0.1	<0.1	14	0.002	95	27 J	6.9	3,100 J	6.6	49	<0.2	3,800	4.7	--	--	5.7	990	8,100	<1
MW-85-217	05/21/21	N	900	850	<0.1 J	26	2	250 J	1.40 J	0.041 J	10 J	0.0054	95	32 J	5	2,500 J	6.7	53	<0.2	3,700	4.6	--	--	5.7 J	920	8,400	<1
MW-85-217	08/20/21	N	520	580	<0.1	25	1.7	230	1.10 J	0.032 J	8.7 J	0.0022	81	27 J	3.9	3,000 J	6.7	51	<0.2	4,000	4.3	--	--	4.5	830	7,800	<1
MW-85-217	11/30/21	N	490	500	<0.1	--	--	--	--	--	--	0.003	86	--	3.4	--	--	--	--	--	--	--	--	2	--	--	--
MW-85-217	06/10/22	N	520	590 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-85-237	02/18/20	N	2,100	1,900	5.5	55 J	2.5	460	0.031 J	0.045	15	0.044	77	38	2.8	4,200	4.1	44	0.05 J	5,700	5	--	--	3.6	870	11,000	<1 J
MW-85-237	05/20/20	N	1,300 J	1,300	<0.1	49	2.2	250	0.11	0.027	14	0.041	83	44 J	2.6	4,000	4.3	48	<0.2	5,100	3.8	--	--	3.4 J	850	11,000	<1 J
MW-85-237	08/21/20	N	2,300	2,200	6.2	50	2.6	340	<0.1	<0.1	19	0.023	86	42	2.8	3,500	4.3	43	<0.2	5,600	4.6	--	--	3.9	860	12,000 J	<1
MW-85-237	12/09/20	N	2,100	2,000	<0.1	47	1.9	280	0.058	<0.02	13	0.0099	86	43	2.8	3,000	3.8	43	<0.2	5,700	4.5	--	--	4	860	11,000	<1
MW-85-237	02/22/21	N	2,100	2,100	<0.1	47 J	3.4	520	0.31	<0.1	21	0.0093	80	39 J	2.8	3,800 J	4	41	<0.2	5,800	5.1	--	--	2.8	870	11,000	<1
MW-85-237	05/21/21	N	390	370	<0.1 J	43	2.1	290 J	1.20 J	0.055 J	10 J	0.046	98	36 J	2.7	2,500 J	6	54	<0.2	4,400	4.9	--	--	2.7 J	800	9,500	<1
MW-85-237	08/20/21	N	1,400	1,500	<0.1	44	1.9	350	0.097 J	0.036 J	10 J	0.015	76	34 J	3	3,900 J	5.3	44	<0.2	5,300	4.5	--	--	3	820	10,000	<1
MW-85-237	11/30/21	N	240	250	<0.1	--	--	--	--	--	--	0.012	85	--	2.4	--	--	--	--	--	--	--	--	1.6	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-85-237	06/10/22	N	1,700	2,200 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-86-030	02/27/20	N	<0.2	<1	5.5	140 J	0.33	83	1.80 J	1.40 J	25	0.31	8.7	5.1	<0.5	170	<1	310	1.1	160	1	--	--	<0.1	180	860	1.6
MW-86-030	05/28/20	N	<0.2	<1	7.8	92	0.36	42	4.10	0.96	14	0.15	18	4.3 J	<0.5	210	2.1	350	1.7	120	3.4 J	--	--	--	120	760	3.4
MW-86-030	08/25/20	N	<0.2	<1	2.5	98	0.14	83 J	1.70	<0.02	30	0.16	9.2 J	5.2 J	0.74	120	<1	230	0.29	130	1	--	--	0.17	300	910	1.2
MW-86-030	12/01/20	N	<0.2	<1	3	110	0.19 J	89 J	1.50	0.61 J	31 J	0.34	8.2	5.2 J	<0.5	120	<1	300	0.64	150	1.4	--	--	<0.1	270	900	1.5
MW-86-030	02/24/21	N	<0.2	<1	3.9	120 J	0.29	110	1.10 J	1	34	0.44	7.3	4.9 J	<0.5	180 J	<1	250	0.75	140	1.4	--	--	<0.05	260	880	1.3
MW-86-030	05/18/21	N	<0.2	<1	5.1 J	99	0.22	87	0.62 J	0.47 J	29 J	0.32	12	3.6 J	1.1	170 J	<1	300	0.59	130	1.8	--	--	<0.05	280	910	1.1
MW-86-030	08/18/21	N	<0.2	<1	1.6 J	87	0.28	84 J	0.15 J	0.042 J	29 J	0.063	10	4	1.1	220 J	<1	310	0.24	120	1.4	--	--	<0.1	240	870	1.9
MW-86-030	08/18/21	FD	<0.2	<1	1.7 J	87	0.28	89 J	0.059 J	0.045 J	30 J	0.072	10	4.1	0.69	190 J	<1	320	0.23	120	1.4	--	--	<0.1	250	860	2.1
MW-86-030	12/14/21	N	<0.2	<1	2.6	95	--	--	--	0.033 J	--	0.42	8	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.5
MW-86-030	03/07/22	N	<0.2	--	5.4 J	97	--	--	--	0.36	--	0.26	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	1.7
MW-86-030	05/04/22	N	<0.2	<1	8.6	83	--	--	--	0.57 J	--	0.32	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	3.7
MW-86-066	02/27/20	N	<0.2	<1	1.1	78 J	0.77	210	0.33 J	0.42 J	35	1.10	22	12	<0.5	1,500	<1	170	0.11	1,800	2.2	--	--	<0.1	400	4,200	<1
MW-86-066	05/28/20	N	<0.2	<1	1.1	80	0.75	230	0.39	0.39	49	0.76	26	13 J	<0.5	1,200	<1	150	0.24	2,000	2.3 J	--	--	--	420	4,400	<10
MW-86-066	08/25/20	N	<0.2	<1	0.63	79	0.62	150 J	0.62	0.4	43	0.72	31 J	12 J	<0.5	950	<1	160	0.21	1,900	2.2	--	--	0.11	390	4,300	<10
MW-86-066	12/01/20	N	<0.2	<1	2	100	1.1 J	190 J	0.25	0.23 J	57 J	1	21	14 J	<0.5	1,200	<1	160	<0.2	2,100	2.4	--	--	<0.1	460	4,300	<1
MW-86-066	02/24/21	N	<0.2	<1	<0.1	86 J	0.86	240	0.13 J	0.098	46	0.79	25	13 J	<0.5	1,000 J	1.3	150	0.33	1,900	2.4	--	--	<0.05	400	4,000	<1
MW-86-066	02/24/21	FD	<0.2	<1	<0.1	83 J	0.89	240	0.12 J	0.11	48	0.77	25	16 J	<0.5	1,100 J	1.3	150	0.3	1,900	2.3	--	--	<0.05	400	3,400	<1
MW-86-066	05/18/21	N	<0.2	<1	<0.1 J	67	0.75	220	0.22 J	0.16 J	41 J	0.64	28	10 J	<0.5	1,200 J	1	150	<0.2	1,900	2.5	--	--	0.25	410	4,100	<1
MW-86-066	05/18/21	FD	<0.2	<1	<0.1 J	67	0.69	210	0.21 J	0.17 J	41 J	0.64	28	11 J	<0.5	1,100 J	1	160	<0.2	1,900	2.3	--	--	0.29	400	4,000	<1
MW-86-066	08/18/21	N	<0.2	<1	<0.1 J	76	0.83	230 J	0.034 J	0.021 J	42 J	0.72	22	12	<0.5	1,300 J	1.6	150	<0.2	2,000	2	--	--	<0.1	430	4,600	<1
MW-86-066	12/14/21	N	<0.2	<1	<0.1	91	--	--	--	<0.02 J	--	0.76	16	--	<0.5	--	--	--	--	--	--	--	--	0.53	--	--	<1
MW-86-066	03/07/22	N	<0.2	--	<0.1 J	81	--	--	--	0.023	--	0.67	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-86-066	05/04/22	N	<0.2	<1	<0.1	87	--	--	--	0.086 J	--	0.72	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-86-120	02/27/20	N	<1	<1	<0.1	63 J	0.89	260	0.18 J	0.11 J	56	0.98	41	16	<0.5	3,100	<1	96	0.06 J	3,600	3	--	--	0.29	1,000	8,600	<1
MW-86-120	05/28/20	N	<1	<1	1.3	52	0.81	260	0.79	<0.02	67	0.52	37	22 J	<0.5	2,900	1	88	<0.2	3,400	3.1 J	--	--	0.64 J	1,000	8,300	<1
MW-86-120	08/25/20	N	<1	1	<0.1	51	0.69	180 J	0.24	0.044	67	0.45	41 J	25 J	<0.5	3,100	1.4	89	<0.2	3,500	3	--	--	0.83	1,000	8,400	<1
MW-86-120	12/01/20	N	<1	<1	3.1	55	1.1 J	170 J	0.033	0.69 J	66 J	0.62	51	16 J	<0.5	1,900	<1	100	<0.2	3,600	3.4	--	--	0.3	1,100	8,400	<1
MW-86-120	02/24/21	N	<1	<1	<0.1	47 J	0.95	320	0.18 J	<0.02	68	0.45	35	16 J	<0.5	2,700 J	1.3	95	<0.2	3,700	2.9	--	--	0.42	1,000	8,300	<1
MW-86-120	05/18/21	N	1.1 J	1.3	<0.1 J	39	0.79	270	0.11 J	0.039 J	57 J	0.25	35	22 J	<0.5	2,400 J	1.2	90	<0.2	3,400	3.2	--	--	1.1	1,000	8,100	<1
MW-86-120	08/18/21	N	<1	<1	<0.1 J	36	0.93	270 J	0.21 J	0.058 J	52 J	0.26	33	16	<0.5	2,600 J	1.7	87	<0.2	3,500	3.1	--	--	0.67	1,000	8,200	<1
MW-86-120	12/14/21	N	<1	<1	<0.1	42	--	--	--	<0.02 J	--	0.37	33	--	<0.5	--	--	--	--	--	--	--	--	0.41	--	--	<1
MW-86-120	03/07/22	N	<1	--	<0.1 J	42	--	--	--	<0.1	--	0.37	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-86-120	05/04/22	N	1.3	1.5	<0.1	37	--	--	--	<0.02 J	--	0.25	--	--	--	--	--	--	--	--	--	0.91	--	--	--	--	<1
MW-86-140	02/27/20	N	<1	1.3	1.4	67 J	0.9	430	0.24 J	0.064 J	58	1.50	44	24	<0.5	4,600	<1	79	0.07 J	5,200	2.4	--	--	0.17	1,000	12,000	<1
MW-86-140	05/22/20	N	<1	<1	<0.1	63	0.73	320	0.64 J	0.11 J	51 J	1.40	41	24 J	<0.5	3,800 J	<1	67	<0.2	4,900	3.5	--	--	0.48	950	11,000	<1
MW-86-140	08/25/20	N	<1	<1	1.4	74	1.1	250 J	0.21	0.14	60	1.10	44 J	24 J	0.59	3,900	<1	82	<0.2	4,700	3	--	--	0.52	930	11,000 J	<1
MW-86-140	12/01/20	N	<1	<1	0.93	63	1.1 J	350 J	0.066	0.088 J	79 J	1	39	28 J	<0.5	3,200	<1	74	<0.2	5,300	3.4	--	--	0.58	1,000	11,000	<1
MW-86-140	02/24/21	N	<1	<1	<0.1	56 J	1.2	480	0.16 J	<0.1	69	1	36	23 J	<0.5	3,100 J	<1	75	<0.2	5,300	3.6	--	--	0.48	960	11,000	<1
MW-86-140	05/18/21	N	<1	<1	<0.1 J	51	0.86	380	0.15 J	0.06 J	50 J	0.69	39	22 J	<0.5	3,900 J	<1	83	<0.2	4,600	3	--	--	0.82	920	10,000	<1
MW-86-140	08/18/21	N	<1	<1	<0.1 J	49	1	350 J	1.20 J	0.53 J	41 J	0.87	31	23	<0.5	2,700 J	1.3	97	0.79	4,000	3.1	--	--	0.15	840	8,600	<1
MW-86-140	12/14/21	N	<1	<1	<0.1	55	--	--	--	<0.02 J	--	0.73	34	--	<0.5	--	--	--	--	--	--	--	--	0.78	--	--	<1
MW-86-140	03/07/22	N	<1	--	<0.1 J	50	--	--	--	<0.1	--	0.82	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-86-140	05/04/22	N	<1	<1	<0.1	64	--	--	--	1 J	--	0.89	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-86-140	05/04/22	FD	<1	<1	<0.1	61	--	--	--	1.10 J	--	0.9	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
MW-87-109	01/27/20	N	28	27	0.74	98	0.44	90	1.30 J	1 J	13	0.032	10	7.8	6.8	290	3.2	77	0.06 J	530	2.4	--	--	7.7	180	1,300	<1 J
MW-87-109	02/25/20	N	24	23	0.6	110	0.4	120	1.70 J	0.055 J	16	0.00074	9.4	9.3 J	5.4	330	3.2	77	0.04 J	570	2.1	--	--	7.8	170	1,400	<1
MW-87-109	03/18/20	N	26	25	0.62	98 J	0.36	110	0.39 J	0.062 J	16	0.0022	9	9	5.9	310	3.1	77	<0.1	530	2.2	--	--	9.4 J	170	1,400	<1 J
MW-87-109	04/23/20	N	20	19	0.54	150	0.41	130	2.60	0.22 J	19	0.0074	7.8	10	4.1	340	2.8	73	0.03 J	680	1.9	--	--	6.3	170	1,600	<1
MW-87-109	05/29/20	N	21	22	0.37	130	0.32	120	3.70	0.12	21	0.0049	8.3	10	4.6	350	3.1	79	<0.2	680	1.9	--	--	6.9	170	1,800	<1
MW-87-109	06/15/20	N	22	34	0.48 J	120	0.37	120	1	0.12	18	0.0049	8.6	12 J	4.7	340	3.1	79	<0.2	630	2.2	--	--	7.2 J	160	1,600	<1
MW-87-109	07/22/20	N	24	25	0.68	120	0.39	120	2.10	0.12	18 J	0.0072	8.6	9.4 J	4.7	340	3.4	72	<0.2	610	2.1	--	--	7.9	160	1,600	<1
MW-87-109	08/26/20	N	27	27	0.53	140	0.61 J	97	0.62 J	0.32 J	19 J	0.0011	8.2	10 J	5.7	340 J	3.6	73	<0.2	610	2.2	--	--	7.9 J	160	1,600	<1 J
MW-87-109	09/30/20	N	24	25	0.3	140	0.38	120	0.87	0.04 J	20 J	0.00072	8	10	5.2 J	340	3.3	68	<0.2	660	2	--	--	7.3	160	1,800	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-87-109	10/20/20	N	25	25	0.62 J	140	0.38	110	1.80 J	0.53 J	16 J	0.014	8.3	11 J	5.9	350	3.1	73	<0.2	590 J	2.6	--	--	7.6	170	1,500	<1
MW-87-109	12/17/20	N	28	27	0.43	120	0.23	120	1	<0.02	16 J	0.0044	8.3	8.8 J	5.3	320	3.4	74	0.35	580	2.3	--	--	8.5	170	1,400	<1
MW-87-109	02/25/21	N	24	24	0.32	150	0.34	130	1.60 J	<0.02	18	0.0016	7.7	12 J	4.5	340 J	3.2	71	<0.2	710	2.3	--	--	7.3	170	1,500	<1
MW-87-109	05/20/21	N	33 J	32	0.4	120	0.33	140	0.13 J	<0.02	17 J	<0.0005	8	11 J	5.2	330 J	3.4	74	<0.2	610	2.6	--	--	6.3	170	1,400	<10
MW-87-109	08/23/21	N	27	28	<0.1	120	0.32	120	0.24 J	0.039 J	17 J	0.00092	6.8	10 J	4.1	290	3.5	71	<0.2	610	2.3	--	--	8.5	170	1,600	<1
MW-87-109	11/30/21	N	18	20	<0.1	--	--	--	--	--	--	<0.0005	5.5	--	2.9	--	--	--	--	--	--	--	--	5.1	--	--	--
MW-87-109	06/08/22	N	26	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-87-139	01/27/20	N	9.5	8.3	<0.1	270	0.68	370	0.038 J	<0.02	66	0.0072	4.4	16	0.89	800 J	3.2	49	0.06 J	2,200	2.6	--	--	1.2	330	5,000	<1
MW-87-139	02/18/20	N	6.6	6	<0.1	260 J	<0.5	410	<0.1	<0.1	67	0.0072	5.4	17	0.86	1,200	3.7	48	0.07 J	2,200	2.7	--	--	1.1	350	5,100	<1 J
MW-87-139	03/18/20	N	7.3	6.3	<0.1	250 J	0.63	430	0.035 J	<0.02	77	0.0027	4.7	16	0.85	950	3	48	<0.1	2,200	2.3	--	--	1.1 J	340	4,900	<1 J
MW-87-139	04/23/20	N	4.8	4.2	<0.1	250	0.8	430	0.85	0.068 J	72	0.037	5.2	16	0.9	1,000	3.1	46	0.33	2,500	2.5	--	--	1.3	360	5,000	<1
MW-87-139	05/29/20	N	6.2	6.8	0.42	170	0.33	220	0.69	0.08	49	0.013	9.9	30	0.59	740	5.5	92	<0.2	1,500	2.1	--	--	1.2	250	3,600	<1
MW-87-139	06/15/20	N	6.6	6.5	<0.1 J	250	0.6	410	0.12	0.09	73	0.0021	5.1	16 J	0.92	990	3.3	50	<0.2	2,400	2.6	--	--	1.2 J	340	5,400	<1
MW-87-139	07/22/20	N	5.9	6.5	<0.1	260	0.63	410	1.20	0.051	72 J	0.034	5.4	16 J	0.9	940	3.4	46	<0.2	2,300	2.5	--	--	1.4	350	5,500	<1
MW-87-139	08/26/20	N	9.7	9.4	<0.1	280	0.64 J	330	0.89 J	0.24 J	91 J	<0.0005	5.2	18 J	0.98	1,200 J	3.9	47	<0.2	2,200	2.4	--	--	1.2 J	350	5,800	<1 J
MW-87-139	09/30/20	N	9.9	10	<0.1	270	0.64	400	0.16	0.04 J	83 J	0.0011	4.9	17	0.95 J	1,000	3.7	48	<0.2	2,200	2.6	--	--	1.2	340	5,400	<1
MW-87-139	10/20/20	N	<0.2	1.3	0.34 J	200	0.45	280	0.35 J	0.2 J	49 J	0.33	2.9	35 J	<0.5	550	<1	120	0.44	1,400 J	2.1	--	--	0.11	220	3,700	<1
MW-87-139	12/17/20	N	10	9.9	<0.1	250	0.65	430	0.17	0.078	74 J	0.0041	4.7	16 J	0.72	960	3.8	50	0.3	2,100	2.3	--	--	1.2	350	4,700	<1
MW-87-139	02/26/21	N	9.5	9.4	<0.1	280	0.64	370	0.059 J	<0.02	79	<0.0005	4.7	19 J	0.87	1,000	3.2	44	<0.2	2,300	2.7	--	--	1.3	340	4,200	<1
MW-87-139	05/20/21	N	12 J	11	<0.1	260	0.47	570	0.099 J	<0.02	80 J	<0.0005	4.2	20 J	0.88	860 J	3.2	46	<0.2	2,100	2.8	--	--	1.1	340	4,400	<1
MW-87-139	08/23/21	N	11	11	<0.1	260	0.44	490	0.14 J	0.026 J	74 J	0.0032	3.9	19 J	0.71	680	3.7	49	<0.2	2,200	2.4	--	--	1.3	360	5,400	<1
MW-87-139	11/30/21	N	9.8	9.9	<0.1	--	--	--	--	--	--	<0.0005	4.7	--	1.1	--	--	--	--	--	--	--	--	1.3	--	--	--
MW-87-139	06/08/22	N	8.7	8.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-87-192	01/27/20	N	0.44	<1	<0.1	91	1.3	220	0.59 J	0.35 J	24	0.046	27	18	0.96	2,000 J	5.7	50	0.05 J	2,800	3.9	--	--	0.66	340	5,500	<1
MW-87-192	02/18/20	N	0.58	<1	<0.1	95 J	1.4	310	0.14 J	0.049	28	0.026	26	19	0.94	1,900	6.5	49	0.05 J	2,700	3.7	--	--	0.79	340	5,700	<1 J
MW-87-192	03/18/20	N	0.57	<1	<0.1	87 J	1.1	260	0.04 J	0.089 J	27	0.03	26	18	1	1,700	5.7	47	<0.1	2,800	3.1	--	--	0.73 J	340	5,700	<1 J
MW-87-192	04/22/20	N	0.76	<1	<0.1	90	1.1	260	0.082	0.021 J	24	0.016	25	16	1.2	1,700	6.5	44	<0.1	2,800	3	--	--	0.88	350	5,400	<1
MW-87-192	05/29/20	N	0.66	<1	<0.1	90	1.1	220	0.035	<0.02	30	0.014	25	18	1.1	1,700	6.4	45	<0.2	2,700	3.4	--	--	0.7	330	5,700	<1
MW-87-192	06/17/20	N	0.54	<1	<0.1 J	92	1.2	240	0.091	<0.02	25	0.017	26	16	0.93	1,600	6.3	50	<0.2	2,800	3.7	--	--	0.7 J	340	6,200	<1
MW-87-192	07/22/20	N	0.75	1.2	<0.1	93	1.2	240	0.056	<0.02	26 J	0.015	27	17 J	1.1	1,900	6.7	48	<0.2	2,700	3.6	--	--	0.78	340	5,800	<1
MW-87-192	08/26/20	N	1	1.1	<0.1	85	1.3 J	180	0.075 J	0.027 J	31 J	0.011	25	22 J	1	2,400 J	6.7	48	<0.2	2,600	3.3	--	--	0.86 J	330	5,900	<1 J
MW-87-192	09/30/20	N	0.77	1.2	<0.1	84	1.4	220	0.18	0.039 J	29 J	0.0064	27	18	1.8 J	1,700	6.8	47	<0.2	2,700	3.7	--	--	0.87	340	5,700	<1
MW-87-192	10/20/20	N	0.87	<1	<0.1 J	82	1.1	230	0.43 J	0.17 J	24 J	0.0086	25	23 J	1.1	2,000	6.4	55	<0.2	2,800 J	3.7	--	--	0.81	340	5,700	<1
MW-87-192	12/17/20	N	1.1	1.3	<0.1	69	1.2	260	0.021	<0.02	26 J	0.0033	26	17 J	1.1	1,600	7.1	47	<0.2	2,700	3.1	--	--	0.94	340	5,300	<1
MW-87-192	02/26/21	N	1.1	1.4	<0.1	72	1.3	200	0.04 J	0.033	29	0.0015	26	16 J	1.1	1,900	7.3	44	<0.2	2,800	3.7	--	--	0.94	340	5,400	<1
MW-87-192	05/20/21	N	1.5 J	1.5	<0.1	71	1.1	290	0.09 J	0.059	28 J	<0.0005	23	21 J	1.1	1,600 J	7.5	47	<0.2	2,600	4	--	--	0.98	330	5,100	<1
MW-87-192	08/23/21	N	1.4	2.1	<0.1	73	0.97	260	0.061 J	0.045 J	25 J	<0.0005	20	21 J	2.6	1,500	8.2	48	<0.2	2,700	3.5	--	--	1	330	5,700	<1
MW-87-192	11/30/21	N	1.7	2.2	<0.1	--	--	--	--	--	--	<0.0005	22	--	1.3	--	--	--	--	--	--	--	--	1.1	--	--	--
MW-87-192	06/08/22	N	1.2	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-87-275	01/27/20	N	<1	<1	3.8	76	1.5	230	<0.02 J	<0.02	19	0.02	42	24	1	2,700 J	4	44	0.04 J	3,500	4.5	--	--	0.77	430	7,100	<1
MW-87-275	02/18/20	N	<1	<1	0.79	83 J	1.6	300	0.071 J	<0.02	21	0.0092	41	23	0.85	2,300	4.2	22	0.05 J	3,400	4.4	--	--	0.59	450	6,800	<1 J
MW-87-275	03/18/20	N	<1	<1	<0.1	71 J	1.6	280	0.039 J	0.15 J	23	0.093	41	23	0.66	2,200	3.3	43	<0.1	3,600	4.2	--	--	0.59 J	460	7,400	<1 J
MW-87-275	04/22/20	N	<1	<1	<0.1	72	1.4	270	0.16	0.066 J	19	0.0069	43	22	1	2,300	3.9	29	<0.1	3,600	4.1	--	--	0.69	470	7,300	<1
MW-87-275	05/29/20	N	<1	<1	<0.1	70	1.7	300	0.11	<0.1	28	0.017	42	26	0.82	2,400	3.9	42	<0.2	3,500	4.7	--	--	0.73	450	8,000	<1
MW-87-275	06/17/20	N	0.86	1.1	3.7 J	70	1.5	240	0.13	<0.02	20	0.0062	43	22	1.1	2,300	4.2	46	<0.2	3,500	4	--	--	0.7 J	440	7,600	<50
MW-87-275	07/22/20	N	0.85	1.1	<0.1	74	1.6	240	0.1	<0.02	20 J	0.021	47	20 J	0.9	1,900	4.3	42	<0.2	3,400	4.4	--	--	0.77	440	7,700	<1
MW-87-275	07/22/20	FD	<1	1.1	<0.1	74	1.6	240	0.06	<0.02	20 J	0.023	45	21 J	0.92	2,700	4.2	40	<0.2	3,400	4.5	--	--	0.82	440	7,600	<1
MW-87-275	08/26/20	N	<1	1	<0.1	79	1.4 J	180	0.14 J	0.052 J	23 J	0.026	48	27 J	0.87	2,800 J	4.4	48	<0.2	3,400	4.2	--	--	0.67 J	430	7,700	<1 J
MW-87-275	08/26/20	FD	<1	<1	<0.1	81	1.4 J	180	0.13 J	<0.02	23 J	0.026	48	24 J	0.94	2,200 J	4.3	45	<0.2	3,400	4	--	--	0.69 J	430	7,500	<1 J
MW-87-275	09/30/20	N	<1	<1	<0.1	71	1.5	230	0.12 J	<0.02 J	22 J	0.023	46	24	2.3 J	2,300	4.3	44	<0.2	3,400	4.3	--	--	0.74	440	7,800	<50
MW-87-275	09/30/20	FD	<1	<1	<0.1	71	1.4	230	0.17 J	0.095 J	21 J	0.023	45	22	1.3 J	2,100	4.3	45	<0.2	3,500	3.7	--	--	0.64	440	7,400	<1
MW-87-275	10/20/20	N	0.95	1.1	0.82 J	66	1.4	230	0.13 J	<0.02	19 J	0.0042	41	27 J	1	2,400	3.9	44	<0.2	3,400 J	4.1	--	--	0.78	440	7,600	<1
MW-87-275	10/20/20	FD	0.93	1.1	0.96 J	64	1.5	230	0.3 J	<0.02	20 J	0.0044	42	28 J	0.97	2,400	3.9	47	<0.2	3,400 J	4.3	--	--	0.73	440	7,400	<1
MW-87-275	12/17/20	N	1.1	1.3	<0.1	61	1.5	270	0.029	<0.02	21 J	0.003	45	22 J	1	2,000	4.5	46	<0.2	3,400	4.3	--	--	0.83	440	7,300	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-87-275	02/26/21	N	1	1.5	<0.1	60	1.6	200	0.063 J	0.061	23	0.00061	43	20 J	1	2,100	4.1	39	<0.2	3,300	4	--	--	0.8	430	6,400	<1
MW-87-275	05/20/21	N	1.1 J	1.2	<0.1	60	1.4	290	0.02 J	<0.02	20 J	0.0072	44	26 J	0.91	2,100 J	4.6	45	<0.2	3,400	4.6	--	--	0.79	460	7,100	<1
MW-87-275	08/23/21	N	<1	1.5	<0.1	58	1.3	270	0.21 J	0.025 J	19 J	0.028	41	19 J	0.72	1,800	5.1	47	<0.2	3,700	4.1	--	--	0.76	460	7,500	<1
MW-87-275	11/30/21	N	1.3	1.8	<0.1	--	--	--	--	--	--	<0.0005	43	--	1.1	--	--	--	--	--	--	--	--	--	1	--	--	--
MW-87-275	06/08/22	N	<1	1.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-88-107	01/29/20	N	49	50	1.6	55	0.5	72	0.2	0.034 J	12 J	0.015	12	10	4.4	300	8.6	140	<0.1	350	0.96	--	--	9.1	170	1,000	<1
MW-88-107	02/25/20	N	59	54	1.5	53	0.43	70	0.29 J	0.044 J	9.6	0.015	10	9.6 J	4.4	290	9.9	140	0.05 J	360	0.81	--	--	10	170	1,100	<1
MW-88-107	05/28/20	N	69	70	1.5	57	0.41	77	0.27	<0.02	12	0.0077	10	10 J	4	310	8.6	140	<0.2	380	1 J	--	--	10 J	180	1,100	<1
MW-88-107	08/19/20	N	76	75	1.6	51	0.5	67 J	1.50	0.095 J	11	0.009	11	9.6	4	310	9	140	<0.2	360	1.1	--	--	11 J	170	1,100	<1
MW-88-107	12/10/20	N	89	88	1.9	47	0.3	61 J	0.26 J	0.088 J	9.3	0.0027	8.7	9.4	4.5	260	13	140	<0.2	350	1.1	--	--	11	170	1,100	<1
MW-88-107	02/24/21	N	81	80	1.6	54 J	0.49	75	0.42 J	0.021	12	0.00074	9.2	9 J	3.9	290 J	12	130	<0.2	380	1.2	--	--	10	170	1,100	<1
MW-88-107	05/19/21	N	120	110	1.5	51	0.4	95	0.076 J	0.024	12 J	0.00066	8.7	11 J	4.3	280	11	130	<0.2	420	1.1	--	--	11	180	1,200	<1
MW-88-107	08/20/21	N	120	130	3.8 J	50	0.42	100	0.17 J	0.024 J	14 J	<0.0005	9.4	13 J	3.8	330 J	14	130	<0.2	490	1	--	--	12	200	1,300	<1
MW-88-107	08/20/21	FD	120	130	1 J	50	0.42	100	0.22 J	0.072 J	14 J	<0.0005	9.3	14 J	4.4	270 J	13	120	<0.2	490	1	--	--	12	200	1,300	<1
MW-88-107	12/08/21	N	130	140	1.7	--	--	--	--	--	--	0.002 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-88-107	06/08/22	N	94	92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-89-183	02/19/20	N	0.89	1.7	<0.1	180	0.79 J	400 J	0.23	0.078 J	66 J	0.0021	7.8	15 J	1.9	1,100	3.1	55	0.08 J	2,100	2.9	--	--	2.2	460	4,700	<1 J
MW-89-183	05/20/20	N	0.76 J	<1	<0.1	160	0.72	270	1.40	0.052	65	0.004	10	16 J	2.7	990	3.5	50	<0.2	2,100	3.4	--	--	2.6	490	5,100	<10 J
MW-89-183	08/19/20	N	0.83	1.3	<0.1	150	0.73	290 J	0.52	0.048 J	64	0.0019	9.5	15	2.7	1,200	4	51	<0.2	2,100	3	--	--	3.3 J	480	5,200	<1
MW-89-183	12/10/20	N	0.72	1.1	<0.1	130	0.66	300 J	0.38 J	0.075 J	66	0.016	8.1	15	2.4	1,100	3.6	51	<0.2	2,100	3.6	--	--	2.8	500	4,300	<1
MW-89-183	02/24/21	N	0.64	2.1	<0.1	150 J	0.78	420	0.87 J	0.072	75	0.0071	7.4	14 J	2.2	1,500 J	3.6	53	<0.2	2,100	3.4	--	--	2.6	480	4,400	<1
MW-89-183	05/19/21	N	1	1.4	<0.1	120	0.79	400	0.1 J	<0.02	59 J	<0.0005	9.7	16 J	3.1	1,100	3.9	53	<0.2	2,000	3.8	--	--	2.9	490	4,400	<1
MW-89-183	08/25/21	N	0.93	1.5	<0.1	130	0.63	310	0.32 J	0.031 J	48	<0.0005 J	8.3	21 J	2.8	1,300	4.3	50	<0.2	2,100	3.2	--	--	2.7 J	490	5,000	<1
MW-89-183	12/06/21	N	0.98	1.2 J	<0.1	--	--	--	--	--	--	<0.0005 J	7	--	2.5	--	--	--	--	--	--	--	--	2.8	--	--	--
MW-89-183	06/16/22	N	1	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-89-273	02/19/20	N	0.86	1.7	4	32	1.4 J	140 J	0.15	0.058 J	7.9 J	0.0017	43	17 J	3.3	1,500	13	63	0.06 J	2,000	4.8	--	--	2.9	470	4,400	<1 J
MW-89-273	05/20/20	N	0.58 J	1.9	3.3	36	1.2	100	2.80	0.057	8.6	0.0039	42	23 J	3.5	1,600	14	58	<0.2	2,100	4.5	--	--	2.1 J	490	4,500	<1 J
MW-89-273	08/19/20	N	0.61	1	3.5	32	1.2	100 J	0.03	0.025 J	8.6	<0.0005	39	18	3.9	1,600	17	55	<0.2	2,100	4.6	--	--	2.8 J	480	4,600	<1
MW-89-273	12/10/20	N	0.47	<1	3.3	30	1.1	100 J	0.52 J	0.064 J	8.8	0.0008	35	18	3.5	1,400	16	57	<0.2	2,100	5.1	--	--	3	490	4,500	<1
MW-89-273	02/24/21	N	0.43	<1	3.1	31 J	1.2	140	0.72 J	<0.02	8.2	0.00084	36	18 J	3.5	1,200 J	16	57	<0.2	2,100	5.6	--	--	2.7	480	4,500	<1
MW-89-273	05/19/21	N	0.58	<1	3	29	1.1	150	0.045 J	<0.02	7.7 J	0.00058	34	17 J	3.6	1,600	16	62	<0.2	2,100	5	--	--	2.8	480	4,200	<1
MW-89-273	08/25/21	N	0.51	<1	1.2	32	0.92	120	0.08 J	0.064 J	6.1	<0.0005 J	33	26 J	3.7	1,600	17	59	<0.2	2,100	4.8	--	--	2.8 J	460	4,300	<1
MW-89-273	12/06/21	N	0.52	1.4 J	3.5	--	--	--	--	--	--	0.0018 J	32	--	3.7	--	--	--	--	--	--	--	--	2.7	--	--	--
MW-89-273	06/16/22	N	0.58	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-90-031	02/25/20	N	<1	1.6	<0.1	120	2.1	360	9.30 J	9.70 J	250	0.35	16	19 J	0.68	3,600	2.2	820	8.9	4,400	1.6	--	--	0.082	1,600	11,000	1.7
MW-90-031	05/26/20	N	<1	<1	3.7 J	97	1.4	300	8.80 J	8.80 J	220 J	0.3	14 J	17 J	<0.5	3,600	1.9	830	9.7	3,900	1.7	--	--	0.14	1,500	10,000	1.5
MW-90-031	08/18/20	N	<1	<1	<0.1	100	1.5	210	11 J	6.90 J	180 J	0.3	16	16	0.56	2,900	2.3	810	9.4	3,900	1.7	--	--	0.094	1,500	9,900	1.7
MW-90-031	12/02/20	N	<1	<1	3.7	110	3.4 J	270 J	10	9.80 J	280 J	0.32	17	17 J	0.58	2,600	2.2	870	10	4,100	2.1	--	--	<0.1	1,600	9,800	2
MW-90-031	02/17/21	N	<1	<1	<0.1	100	1.5	240	8.70 J	8.90 J	250	0.3	16	17 J	<0.5	3,400	2.3	910	13	4,600	1.7	--	--	0.11	1,700	10,000	1.7
MW-90-031	05/25/21	N	<1	<1	<0.1 J	88	1.7	520 J	8 J	8.80 J	250 J	0.26	16	23 J	<0.5	2,300 J	2.1	840	9	3,400	1.5	--	--	<0.05	1,500	8,600	<20
MW-90-031	08/18/21	N	<1	<1	<0.1 J	73	1.7	350 J	6.70 J	7.10 J	190 J	0.27	13	16	<0.5	2,900 J	2.8	820	9.2	3,300	1.6	--	--	<0.1	1,500	8,200	2.5
MW-90-031	12/08/21	N	<1	<1	<0.1	97	--	--	--	7	--	0.25	18	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	1.8
MW-90-031	03/04/22	N	<1	--	<0.1	97	--	--	--	3.60	--	0.24	--	--	--	--	--	--	--	--	--	0.66	--	--	--	--	1.8
MW-90-031	05/05/22	N	<1	<1	<0.1	87	--	--	--	6.20	--	0.25	--	--	--	--	--	--	--	--	--	<0.5	--	<0.1	--	--	2
MW-91-045	01/28/20	N	<0.2	<1	3.6 J	320 J	0.54	85 B	0.45	0.27 J	32 J	0.27 J	9.8 J	8.5 J	<0.5	480	<1	180	0.16	810	2.7	--	--	0.17	120	1,700	<1 J
MW-91-045	02/26/20	N	<0.2	<1	5.4	200 J	0.61	65	0.41 J	0.14 J	20	0.17	9.8	7 J	<0.5	440	<1	170	<0.1	610	2.9	--	--	0.1	140	1,400	<1
MW-91-045	05/19/20	N	<0.2	<1	6.1	150	0.43	45	0.71 J	0.13 J	15	0.12	10	7.3 J	<0.5	440	<1	160	<0.2	470	2.7	--	--	<0.05	130	1,200	<1
MW-91-045	05/19/20	FD	<0.2	<1	5.8	140	0.46	48	2.50 J	0.073 J	16	0.12	10	6.9 J	<0.5	450	<1	150	<0.2	470	2.7	--	--	<0.05	130	1,200	<1
MW-91-045	08/20/20	N	<0.2 J	<1	6.1	200	0.52	68	0.19	0.12 J	27	0.19	8.9	6.9	<0.5	410	<1	170	<0.2	580	2.6	--	--	<0.05	120	1,400	<1
MW-91-045	12/08/20	N	<0.2	<1	6.9	150	0.6	46	0.68 J	0.095 J	17	0.14	9.1	4.1	<0.5	300 J	1.5	160	<0.2	450	3	--	--	0.53	110	1,100	<1
MW-91-045	02/23/21	N	<0.2	<1	6.4	120	0.44	40 J	0.13	0.038 J	13 J	0.11	7.5	4.2 J	0.82	330	2	150	<0.2	390	3.2	--	--	0.44	110	960	<1
MW-91-045	05/26/21	N	<0.2	<1	6.5	100	0.59	37	0.49 J	<0.02	13 J	0.088	9.2 J	4.3 J	<0.5	290	1.7	150	<0.2	350	3.5	--	--	0.19	100	890	<1
MW-91-045	06/08/21	N	<0.2	<10	<10	96	--	42	--	--	13.5	<0.1	<20	4.03	<10	285	<10	--	--	391	2.81	--	--	<0.1	113	986	--
MW-91-045	08/24/21	N	<0.2	<1	5.1	110	0.44	36	0.51 J	<0.02 J	13	0.089 J	9.4	5.5 J	<0.5	310	2.1	150	<0.2	360	3.2	--	--	0.19	100	910	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-91-045	12/14/21	N	<0.2	<1	7 J	--	--	--	--	--	--	0.144	<10 J	--	<10 J	--	--	--	--	--	--	0.303	--	--	--	--	--
MW-91-045	06/15/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-91-120	01/28/20	N	4.4	6.8	1 J	36 J	1.1	210 B	0.46	0.083 J	26 J	0.26 J	16 J	13 J	0.99	2,400	<1	130	0.11	3,000	2.4	--	--	1.8	770	6,400	<1 J
MW-91-120	02/26/20	N	<0.2	<1	<0.1	35 J	1.4	230	0.82 J	0.068 J	38	0.48	23	11 J	<0.5	2,000	<1	150	<0.1	2,900	2	--	--	0.54	890	7,200	<1
MW-91-120	05/19/20	N	<0.2	2	<0.1	43	1.1	220	0.94 J	0.076 J	80	1.40	26	15 J	<0.5	2,500	1.3	170	<0.2	2,700	2.3	--	--	0.66	910	7,000	<1
MW-91-120	08/20/20	N	<0.2	<1	<0.1	41	1.2	200	0.058	<0.02 J	100	1.80	32	15	<0.5	1,900	2	170	<0.2	2,600	2.4	--	--	0.82	880	6,600	<1
MW-91-120	12/08/20	N	2.3	2.4	<0.1	33	1.1	190	0.055 J	<0.02	56	0.35	14	14	<0.5	1,800 J	<1	140	<0.2	2,900	2.2	--	--	1.2	850	6,700	<1
MW-91-120	02/23/21	N	<0.2	1.8	<0.1	31	1	230 J	0.27	0.054 J	37 J	0.24	21	13 J	<0.5	2,300	<1	140	<0.22	3,000	2.4	--	--	0.89	850	7,100	<1
MW-91-120	05/26/21	N	<0.2	<1	<0.1	33	1.3	180	1.10 J	<0.02	87 J	1.10	23 J	14 J	<0.5	1,900	2.1	160	<0.2	2,600	2.7	--	--	1.2	850	5,800	<1
MW-91-120	06/08/21	N	<1	<10	<10	31.5	--	203	--	--	82.8	1.13	<20	11.2	<10	1,840	<10	--	--	3,180	1.41	--	--	1.16	869	4,820	--
MW-91-120	08/24/21	N	<0.2	<1	<0.1	33	0.94	190	0.064 J	<0.02 J	67	1 J	25	18 J	<0.5	2,100	1.7	150	<0.2	2,600	2.5	--	--	0.83	850	6,500	<1
MW-91-120	12/14/21	N	7.67	<10	<10	--	--	--	--	--	--	0.162	<100 J	--	<100 J	--	--	--	--	--	--	1.3	--	--	--	--	--
MW-91-120	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-91-170	01/28/20	N	1.3	1.8	3.5 J	64 J	1.3	120 B	0.13	0.16 J	5.4 J	0.2 J	190 J	17 J	<2.5	3,200	<1	43	0.08 J	3,900	6	--	--	0.85	640	8,000	<1 J
MW-91-170	02/26/20	N	<1	3.6	<0.1	55 J	1.7	140	0.48 J	0.24 J	4.6	0.14	180	16 J	0.81	3,400	1.1	40	<0.1	3,700	5.4	--	--	0.93	620	7,700	<1
MW-91-170	02/26/20	FD	<1	3.4	<0.1	56 J	1.6	130	0.73 J	0.22 J	4.2	0.14	180	16 J	0.78	3,300	1	41	<0.1	3,800	5.5	--	--	0.84	640	7,900	<1
MW-91-170	05/19/20	N	<0.2	<1	<0.1	67	1.2	130	0.26 J	0.061 J	5.8	0.27	120	17 J	<0.5	3,600	<1	51	0.21	3,600	4.2	--	--	0.39	600	8,000	<1
MW-91-170	08/20/20	N	<0.2	<1	<0.1	66	1.3	130	0.057	<0.02 J	7.5	0.28	110	16	<0.5	2,200	<1	55	<0.2	3,400	4.2	--	--	0.39	580	7,600	<1
MW-91-170	12/08/20	N	2.1	2.5	<0.1	62	1.4	120	0.071 J	0.026 J	6.3	0.26	170	20	<0.5	2,500 J	<1	47	<0.2	3,800	5	--	--	0.72	630	7,700	<1
MW-91-170	02/23/21	N	1.6	2	<0.1	48	2.4	200 J	0.51	<0.1	6.8 J	0.14	180	14 J	0.95	2,900	1.4	42	<0.2	3,800	5.8	--	--	1.3	630	8,200	<1
MW-91-170	05/26/21	N	<1	<1	<0.1	55	1.6	130	1.60 J	0.041	6.3 J	0.31	110 J	16 J	0.56	2,400	1.1	52	<0.2	3,500	4.1	--	--	0.78	590	7,200	<1
MW-91-170	06/08/21	N	<1	<10	<10	51.9	--	161	--	--	6.72	0.261	80.5	13.2	<10	2,550	<10	--	--	3,970	2.84	--	--	0.857	618	6,660	--
MW-91-170	08/24/21	N	<1	<1	<0.1	55	1	150	0.14 J	0.2 J	5.1	0.27 J	94	24 J	<0.5	2,900	1.1	55	<0.2	3,500	3.9	--	--	0.2	590	7,500	<1
MW-91-170	12/14/21	N	1.66	<10	<10	--	--	--	--	--	--	0.256	130 J	--	<100 J	--	--	--	--	--	--	0.655	--	--	--	--	--
MW-91-170	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-91-320	01/28/20	N	<1	<1	<0.5 J	190 J	3.2	310 B	0.55	0.53 J	27 J	0.78 J	39 J	64 J	<2.5	7,600	<1	75	0.2	11,000	6.9	--	--	<0.05	1,400	19,000 J	<20 J
MW-91-320	02/26/20	N	<1	3.1	3.1	160 J	3.6	350	0.82 J	0.59 J	24	0.8	39	78 J	<2.5	10,000	<1	69	<0.1	11,000	5.2	--	--	<0.1	1,500	19,000 J	<1
MW-91-320	05/19/20	N	<1	<1	<0.5	130	3	390	0.73 J	0.53 J	22	1	43	79 J	<2.5	9,200	<1	70	0.31	10,000	3.7	--	--	0.21	1,600	20,000	<1
MW-91-320	08/20/20	N	<1	<1	6.4	120	4.4	300	0.99	1 J	25	0.98	51	76	<0.5	7,300	<1	64	0.27	10,000	4.9	--	--	<0.05	1,600	19,000	<1
MW-91-320	12/08/20	N	<0.2	<1	5.2	91	4	370	0.81 J	0.8 J	29	0.9	54	78	<0.5	6,400 J	<1	61	0.26	11,000	5.1	--	--	<0.05	1,600	20,000	<1
MW-91-320	02/23/21	N	<1	<1	6.2	77	4.4	480 J	0.93	0.81 J	29 J	0.96	56	75 J	<0.5	8,500	<1	53	0.3	11,000	4.5	--	--	0.059	1,800	21,000	<1
MW-91-320	05/26/21	N	<1	<1	<0.1	72	4.7	370	1.90 J	2	28 J	1.70	46 J	76 J	<0.5	8,400	<1	100	0.27	10,000	4.8	--	--	<0.05	1,700	19,000	<1
MW-91-320	06/08/21	N	<2	<10	<10	69.1	--	421	--	--	24.1	1.89	41.4	61.5	<10	7,310	<10	--	--	11,900	2.28	--	--	<0.5	1,870	17,200	--
MW-91-320	08/24/21	N	<1	<1	<0.1	77	2.5	410	0.77 J	0.66 J	13	1.50 J	60	89 J	<0.5	7,900	<1	66	0.27	12,000	2.9	--	--	<0.1	1,800	19,000	<1
MW-91-320	12/14/21	N	<2	<10	<10	--	--	--	--	--	--	1.42	<100 J	--	<100 J	--	--	--	--	--	--	<2	--	--	--	--	--
MW-91-320	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-037	01/28/20	N	<0.2	<1	21 J	14 J	0.54	8.1 B	0.34	0.057 J	1.2 J	0.0074 J	14 J	4.1 J	<0.5	290	<1	130	0.07 J	370	4.2	--	--	<0.05	81	870	<1 J
MW-92-037	02/26/20	N	<1	<1	22	18 J	0.61	7.5	0.33 J	0.053 J	1.1	0.0068	14	5 J	<0.5	300	<1	120	<0.1	360	4.1	--	--	<0.1	83	870	<10
MW-92-037	05/19/20	N	0.25	<1	21	22	0.43	7.6	0.19 J	0.045 J	0.99	0.0094	15	5.1 J	<0.5	390	<1	110	<0.2	340	4.1	--	--	<0.05	94	870	<10
MW-92-037	08/20/20	N	<0.2	<1	25	35	0.59	8.9	0.44	0.056 J	1.3	0.013	17	5.2	<0.5	310	<1	130	0.22	350	4.4	--	--	<0.05	81	870	<10
MW-92-037	12/08/20	N	<0.2	<1	22	60	0.58	9.5	0.14 J	0.032 J	1.3	0.02	16	3.6	<0.5	300 J	<1	120	<0.2	390	4.1	--	--	0.067	83	930	<1
MW-92-037	02/23/21	N	<0.2	<1	21	53	0.55	10 J	0.091	<0.02	1.4 J	0.027	16	4.2 J	<0.5	340	<1	140	<0.2	370	4.8	--	--	<0.05	89	890	<10
MW-92-037	05/26/21	N	0.5	<1	12	99	0.71	19	0.15 J	0.045	2.8 J	0.057	26 J	4.5 J	<2.5	480	1.2	270	0.38	460	7.5	--	--	<0.05	120	1,300	<1
MW-92-037	05/26/21	FD	0.49	<1	12	97	0.82	19	0.2 J	0.042	3.2 J	0.057	25 J	4.3 J	<0.5	440	1.2	270	0.37	460	7.4	--	--	<0.05	120	1,300	<1
MW-92-037	06/08/21	N	<0.2	<10	13.7 J	75.9	--	18.8	--	--	2.8	<0.1	<20	3.33	<10	429	<10	--	--	494	6.18	--	--	<0.1	111	1,310	--
MW-92-037	08/24/21	N	0.21	<1	19	45	0.51	8.9	0.069 J	0.041 J	1.3	0.022 J	16	5 J	<0.5	330	<1	140	0.24	330	4.4	--	--	<0.1	80	810	<5
MW-92-037	12/14/21	N	<0.2	<1	22.2 J	--	--	--	--	--	--	0.0327	12.9 J	--	<10 J	--	--	--	--	--	--	<0.1	--	--	--	--	--
MW-92-037	06/15/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-072	01/28/20	N	<0.2	<1	17 J	60 J	0.64	15 B	0.079	0.089 J	1.4 J	0.014 J	20 J	8.1 J	0.61	410	7	110	0.06 J	560	4.8	--	--	0.68	95	1,200	<1 J
MW-92-072	01/28/20	FD	<0.2	<1	17 J	62 J	0.66	15 B	0.085	0.094 J	1.5 J	0.015 J	20 J	7.8 J	0.56	410	6.7	120	0.05 J	570	4.8	--	--	0.67	95	1,200	<1 J
MW-92-072	02/26/20	N	<0.2	<1	18	54 J	0.75	17	0.11 J	0.027 J	1.3	0.013	21	8.9 J	0.58	460	6.4	120	<0.1	540	4.7	--	--	0.65	94	1,200	<1
MW-92-072	05/19/20	N	<0.2	<1	17	53	0.56	14	0.08 J	0.04 J	1.2	0.011 J	22	9.2 J	0.57	450	6.7	120	<0.2	530	4.7	--	--	0.65 J	95	1,200	<1
MW-92-072	05/19/20	FD	<0.2	<1	17	55	0.54	14	0.068 J	0.068 J	1.2	0.017 J	22	9.4 J	<0.5	450	6.7	120	<0.2	520	4.4	--	--	0.37 J	94	1,200	<1
MW-92-072	08/20/20	N	<0.2	<1	19	60	0.91	16	0.11	0.058 J	1.7	0.012	24	9.7	0.61	450	7.7	120	<0.2	540	4.9	--	--	0.44	97	1,200	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-92-072	12/08/20	N	<0.2	<1	17	71	0.69	15	0.035 J	<0.02	1.5	0.016	21	8.5	0.7	380 J	7.4	110	<0.2	600	4.6	--	--	0.77	100	1,300	<1
MW-92-072	02/23/21	N	<0.2	<1	17	69	0.57	16 J	0.03	0.022 J	1.4 J	0.017	21	8.8 J	0.8	420	8.3	110	<0.2	570	5.2	--	--	0.57	97	1,200	<1
MW-92-072	05/26/21	N	<0.2	<1	16	65	0.72	16	0.026 J	<0.02	1.5 J	0.014	22 J	8.7 J	<0.5	450	6.1	120	<0.2	570	5.3	--	--	0.1	98	1,200	<1
MW-92-072	06/08/21	N	<0.2	<10	17.6 J	63.3	--	19.5	--	--	1.54	<0.1	<20	8.45	<10	456	<10	--	--	615	4.41	--	--	<0.1	106	1,300	--
MW-92-072	08/24/21	N	<0.2	<1	16	72	0.59	16	0.032 J	<0.02 J	1.4	0.014 J	23	14 J	<0.5	540	7.2	120	<0.2	580	4.5	--	--	0.26	100	1,200	<1
MW-92-072	12/14/21	N	<0.2	<1	17.1 J	--	--	--	--	--	--	0.0194	19 J	--	<10 J	--	--	--	--	--	--	0.469	--	--	--	--	--
MW-92-072	06/15/22	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-102	01/28/20	N	<0.2	<1	9.9 J	120 J	0.91	17 B	0.058	0.03 J	1.6 J	0.0096 J	42 J	10 J	0.57	700	5.1	110	0.05 J	1,000	5.6	--	--	0.49	130	2,100	<1 J
MW-92-102	02/26/20	N	<0.2	<1	10	110 J	1.1	22	0.31 J	0.087 J	1.5	0.0084	41	12 J	<0.5	820	5.2	110	<0.1	1,000	5.4	--	--	0.42	140	2,100	<1
MW-92-102	05/19/20	N	<0.2	<1	9.4	110	0.83	20	0.19 J	0.033 J	1.8	0.01	42	13 J	<0.5	840	3	120	<0.2	1,000	5.1	--	--	0.1	130	2,100	<1
MW-92-102	08/20/20	N	<0.2	<1	10	120	0.98	19	0.31	0.031 J	1.8	0.0097	47	12	<0.5	760	6.2	110	<0.2	1,000	5.3	--	--	0.27	130	2,100	<1
MW-92-102	12/08/20	N	1.3	1.4	18	100	1	15	0.18 J	0.03 J	1.3	0.0067	46	11	0.74	660 J	13	120	<0.2	1,000	5.7	--	--	0.95	130	2,000	<1
MW-92-102	02/23/21	N	2.9	2.9	15	95	0.81	18 J	0.038	0.033 J	1.2 J	0.0051	42	10 J	0.82	770	13	120	<0.2	960	6	--	--	0.76	130	1,900	<1
MW-92-102	05/26/21	N	0.3	<1	13	86	1.1	18	0.05 J	0.058	1.5 J	0.01	48 J	10 J	<0.5	710	7.3	120	0.28	930	6	--	--	0.2	130	1,800	<1
MW-92-102	06/08/21	N	<0.2	<10	11.6 J	74.7	--	22.2	--	--	1.53	<0.1	38.1	9.88	<10	706	<10	--	--	1,060	5.09	--	--	0.238	132	2,090	--
MW-92-102	06/08/21	FD	<0.2	<10	11.1 J	76.2	--	22	--	--	1.55	<0.1	37.4	9.89	<10	695	<10	--	--	1,080	5	--	--	<0.1	133	2,000	--
MW-92-102	08/24/21	N	1	1.3	0.55 J	4.8 J	0.77	16	<0.02 J	<0.02 J	1.1	<0.0005 J	1.5 J	11 J	<0.5	560	1 J	110	<0.2	950	5.6	--	--	0.84	130	1,900	<1
MW-92-102	08/24/21	FD	1	1.1	14 J	85 J	0.77	17	0.043 J	<0.02 J	1.2	0.005 J	45 J	13 J	0.77	700	12 J	130	<0.2	940	5.4	--	--	0.86	130	1,900	<1
MW-92-102	12/14/21	N	4.85	5.18 J	18.7 J	--	--	--	--	--	--	<0.01	33.3 J	--	<10 J	--	--	--	--	--	--	1.23	--	--	--	--	--
MW-92-102	06/15/22	N	3.93	3.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-92-122	01/28/20	N	<1	<1	4.6 J	92 J	3.5	59 B	0.25	0.28 J	5.4 J	0.19 J	210 J	31 J	<2.5	4,000	<1	84	0.05 J	4,800	7.5	--	--	0.062	350	9,400	<1 J
MW-92-122	02/26/20	N	<1	<1	4.4	91 J	3.2	71	0.44 J	0.14 J	3.9	0.2	220	30 J	<0.5	3,300	<1	91	<0.1	4,700	7	--	--	<0.1	360	8,900	<1
MW-92-122	05/19/20	N	<1	<1	1.9	93	2.6	65	0.33 J	0.27 J	4.7	0.15	230	37 J	<0.5	4,300	<1	110	<0.2	4,500	6.7	--	--	<0.05	370	9,400	<1
MW-92-122	08/20/20	N	<1	3.8	3.8	96	2.9	76	2.40	0.27 J	7	0.17	230	36	<0.5	3,200	<1	97	<0.2	4,800	7	--	--	<0.05	380	9,600	<1
MW-92-122	12/08/20	N	<1	<1	5.3	88	2.4	55	0.49 J	0.14 J	4.8	0.13	230	41	<0.5	2,900 J	<1	91	<0.2	5,000	7.5	--	--	0.069	380	8,700	<1
MW-92-122	02/23/21	N	<1	<1	3.1	93	3.8	85 J	0.66	0.2 J	6.2 J	0.14	200	34 J	<0.5	3,800	<1	100	0.25	4,800	7.8	--	--	<0.05	380	8,300	<1
MW-92-122	05/26/21	N	<1	<1	2.3	96	3.3	60	0.23 J	0.19	4.5 J	0.17	200 J	28 J	<0.5	3,200	<1	120	0.34	4,600	7.6	--	--	<0.05	390	8,700	<1
MW-92-122	06/08/21	N	<1	<10	<10	98.1	--	80	--	--	4.76	0.188	174	30.4	<10	3,270	<10	--	--	5,100	5.18	--	--	<0.2	412	8,720	--
MW-92-122	08/24/21	N	<1	<1	<0.1	100	2.4	77	0.16 J	0.16 J	3.5	0.19 J	210	46 J	<0.5	4,400	<1	110	0.2	4,700	6.6	--	--	<0.1	410	8,500	<1
MW-92-122	12/14/21	N	<1	<10	10.4 J	--	--	--	--	--	--	0.188	180 J	--	<100 J	--	--	--	--	--	--	<0.5	--	--	--	--	--
MW-92-122	06/15/22	N	<0.2	<10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-050	06/03/20	N	0.29	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-050	06/18/20	N	2.2	2.4	0.71 J	42	0.62	91	0.65 J	0.12	27 J	0.59	38	9	1.6	580	1.7	130	<0.2	990	2.6	--	--	1.6 J	210	2,200	<1
MW-93-050	07/21/20	N	0.81	1	<0.1 J	65	0.58	130	0.18	<0.02 J	33	0.17	27	11 J	1.2	790	1.5	110	<0.2	1,300	2.5	--	--	1.3 J	220	2,800	<1
MW-93-050	08/19/20	N	3.2 J	3.2	<0.1	70	0.54	130 J	0.48	<0.02	38	0.038	25	11	1.3	840	2	100	<0.2	1,300	2.4	--	--	2.1 J	220	3,000	<1
MW-93-050	09/29/20	N	3.5	3.6	<0.1	70	0.51 J	140 J	0.21 J	0.072 J	37 J	0.0024	24	7.6 J	1.5	690 J	2.2	100	<0.2	1,300	2.3	--	--	2	210	3,000	<1 J
MW-93-050	10/21/20	N	4.5	4.5	1.2	66	0.73	130 J	0.11	0.06	33	0.0049	25	14	1.7	830	2.3	110	<0.2	1,200	2.2	--	--	2.1	210	2,700	<1 J
MW-93-050	11/16/20	N	6.3	6.2 J	<0.1	53	1	110 J	1	<0.02	32	0.0051	28	11	1.8	680	2.1	110	<0.2	1,200	2.4	--	--	2.3	200	2,500	<1 J
MW-93-050	12/09/20	N	7.9	7.4	<0.1	59	0.82	130	0.14	<0.02	31	0.0033	26	6.8	1.4	610	2.6	100	<0.2	1,300	2.5	--	--	2	220	2,600	<1
MW-93-050	02/15/21	N	8.3	8	<0.1 J	60	0.5	100	0.51 J	0.026	29 J	0.0055 J	23 J	8.7 J	1.4	690 J	2.7	93	<0.22	1,300	2.6	--	--	2.2	210	2,600	<1 J
MW-93-050	05/18/21	N	12 J	11	<0.1 J	54	0.49	120	0.24 J	<0.02 J	28 J	<0.0005	30	8.2 J	1.6	500 J	2.8	110	<0.2	1,100	3.1	--	--	2.6	200	2,400	<1
MW-93-050	08/19/21	N	12	13	<0.1	58 J	0.5	140 J	0.18 J	0.046	35 J	0.0015	22	9.5	1.5	580 J	2.8	100	<0.2	1,300	2.8	--	--	2.6	220	2,900	<1
MW-93-050	12/13/21	N	17	19	<0.1	--	--	--	--	--	--	0.0053	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-050	06/23/22	N	19	18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-213	06/04/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-213	06/18/20	N	<1	<1	4.4 J	99	1	230	2.60 J	0.41	43 J	0.85	89	20	<0.5	2,400	<1	65	0.31	4,200	3.6	--	--	0.43 J	630	8,600	<1
MW-93-213	07/21/20	N	<1	<1	<0.1 J	110	1.1	280	0.43	0.095 J	52	1	80	22 J	0.8	4,000	<1	59	0.21	4,600	3.7	--	--	0.74 J	800	9,600	<1
MW-93-213	08/19/20	N	<1	2.6	<0.1	96	1.8	350 J	4.90	0.88 J	56	0.83	77	22	0.91	3,300	1.3	57	0.2	4,600	2.9	--	--	1.3 J	820	10,000	<1
MW-93-213	09/29/20	N	<1	<1	0.62	90	0.65 J	130 J	0.59 J	0.36 J	40 J	0.84	99	19 J	<0.5	2,300 J	<1	79	0.54	3,600	4	--	--	<0.05	550	7,900	<1 J
MW-93-213	10/21/20	N	4.3	4.6	1	69	1.3	260 J	0.13	0.048	57	0.42	71	35	1.3	4,200	<1	58	<0.2	4,600	4	--	--	1.7	830	11,000	<1 J
MW-93-213	11/16/20	N	2	2.8 J	<0.1	64	1.4	270 J	1.10	0.057 J	65	0.33	68	26	1.2	3,100	<1	58	<0.2	4,800	3.5	--	--	1.4	850	10,000	<1 J
MW-93-213	12/09/20	N	8.3	7.8	<0.1	56	0.85	260	0.59	<0.02	60	0.17	68	18	1	2,400	<1	59	<0.2	4,800	3.6	--	--	1.8	900	10,000	<1
MW-93-213	02/15/21	N	4.7	5.8	<0.1 J	50	0.8	230	0.59 J	0.066	59 J	0.14 J	69 J	27 J	1.2	2,700	<1	56	<0.22	4,700	3.6	--	--	2	880	10,000	<1 J
MW-93-213	02/15/21	FD	4.7	5.6	<0.1 J	53	0.78	240	0.39 J	0.095	59 J	0.15 J	70 J	24 J	1.1	2,700	<1	56	<0.22	4,700	3.5	--	--	2.1	880	11,000	<1 J

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-93-213	05/18/21	N	<1	<1	<0.1 J	55	0.92	260	0.11 J	0.025 J	40 J	0.33	71	19 J	1.3	3,000 J	<1	61	<0.2	4,200	3.8	--	--	1.7	710	8,800	<1
MW-93-213	08/19/21	N	<1	1.5	<0.1	55 J	0.84	320 J	0.13 J	0.025	55 J	0.25	66	18	0.99	3,300 J	<1	60	<0.2	4,600	3.6	--	--	1.5	790	9,200	<1
MW-93-213	12/13/21	N	4.7	6.8	<0.1	--	--	--	--	--	--	0.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-93-213	06/23/22	N	<1	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-113	06/10/20	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-113	06/18/20	N	0.32	<1	0.62 J	38	0.28	97	0.8 J	0.097	26 J	0.22	9	10	4.9	140	3.6	100	<0.2	310	0.56	--	--	5 J	150	1,000	<1
MW-95-113	07/21/20	N	0.44	1.2	0.59 J	40	0.26	100	0.19	0.049 J	26	0.049	6.4	10 J	5.5	140	4.1	110	<0.2	290	<0.5	--	--	5.7 J	150	950	<1
MW-95-113	08/19/20	N	0.76	1.8	0.71	42	0.31	96 J	2.80	0.66 J	27	0.04	4.9	12	5.3	150	5.8	120	<0.2	290	0.58	--	--	5.6 J	150	970	<1
MW-95-113	09/30/20	N	1.4	1.6	0.51	42	0.31	100	2.10	0.11 J	30 J	0.019	4.5	9.7	5.2 J	140	6.2	110	<0.2	290	<0.5	--	--	5.7	150	930	<1
MW-95-113	10/20/20	N	1.4	2.1	0.87 J	40	0.25	89	0.95 J	0.9 J	23 J	0.017	3.9	13 J	5.4	140	6.6	110	<0.2	280 J	<0.5	--	--	4.8	150	930	<1
MW-95-113	11/18/20	N	1.6	1.7 J	0.93	39	0.37	88 J	0.75	0.12 J	27	0.0024	4.6	10	4.8	140	5.5	120	<0.2	280	<0.5	--	--	5.2 J	150	840	<1 J
MW-95-113	12/15/20	N	<0.2	<1	1.1	35	0.17	72 J	3.50 J	0.12 J	22	0.13	6.4	9.6	3.8	130	4.4	120	<0.2	250	0.71	--	--	4.4	130	730	<10
MW-95-113	02/25/21	N	1.6	1.6	0.84	42	0.23	94	3 J	<0.02	23	0.019	4.2	8.4 J	4.8	180 J	6.6	110	<0.2	280	0.62	--	--	5.7	150	810	<1
MW-95-113	05/19/21	N	0.82	1.6	2.2	46	0.22	110	1 J	0.18	26 J	0.25	4.1	10 J	5	160	7	110	<0.22	300	0.62	--	--	5.6	150	850	<1
MW-95-113	08/25/21	N	2.1	2.3	0.97	44	0.24	80	0.82 J	0.031 J	21	0.018 J	4	12 J	4.7	160	11	92	<0.2	280	<0.5	--	--	6.2 J	140	910	<1
MW-95-113	12/08/21	N	0.95	2.5	1.4	--	--	--	--	--	--	0.13 J	4.3	--	5.3	--	--	--	--	--	--	--	--	6.1	--	--	--
MW-95-113	06/22/22	N	3.5	3.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-157	06/09/20	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-95-157	06/25/20	N	0.63	16	<0.1	230	0.6	310	5	0.27	70	1.10	14	19	5.4	700	1.9	75	<0.2	1,500	1.1	--	--	6.2	280	3,500	<1
MW-95-157	07/21/20	N	2.3	2.6	<0.1 J	150	0.6	300	0.2	<0.02 J	67	0.16	8.5	19 J	6.3	720	2.7	76	<0.2	1,500	<1	--	--	6.7 J	290	3,800	<1
MW-95-157	08/19/20	N	4.2 J	4	<0.1	120	0.67	250 J	0.66	0.027 J	72	0.087	7.4	18	6.3	710	3.7	75	<0.2	1,500	<1	--	--	7.1 J	290	4,100	<1
MW-95-157	09/30/20	N	4.1	4.8	<0.1	110	0.64	270	0.076	0.044 J	72 J	0.038	6.8	17	7.7 J	630	4.2	75	<0.2	1,500	0.61	--	--	7.8	280	4,000	<1
MW-95-157	10/20/20	N	<0.2	<1	1.4 J	260	0.61	240	0.77 J	0.32 J	61 J	1	4.7	36 J	<0.5	1,100	<1	120	0.38	1,300 J	1.1	--	--	<0.05	200	3,200	<1
MW-95-157	11/18/20	N	<0.2	1.7 J	1.3	300	0.68 J	200 J	0.033	0.36 J	64	1.10	3.5 J	23	0.55	580	<1	78 J	<0.2	1,500	<1	--	--	8 J	290 J	3,500 J	<1 J
MW-95-157	11/18/20	FD	<0.2	3.4 J	1.5	270	0.87 J	230 J	<0.02	0.45 J	71	1	5 J	23	0.63	540	<1	110 J	<0.2	1,400	1.3	--	--	8.3	230 J	2,800 J	<1 J
MW-95-157	12/15/20	N	5.5	5.6	<0.1	93	0.62	290 J	0.099 J	<0.02	62	0.027	5.7	18	5.7	710	4.4	76	<0.2	1,500	<1	--	--	7.8	290	3,200	<1
MW-95-157	02/25/21	N	7.8	7.6	<0.1	89	0.54	290	0.25 J	0.031	62	0.016	5	18 J	6.3	670 J	5.5	54	<0.2	1,500	1	--	--	8.9	300	3,100	<1
MW-95-157	05/19/21	N	9.9	9.3	<0.1	81	0.53	330	0.043 J	<0.02	65 J	0.0085	4.8	20 J	6.7	650	5.9	73	<0.22	1,500	<1	--	--	8.7	300	3,300	<1
MW-95-157	08/25/21	N	8.7	9.9	<0.1	75	0.49	280	0.079 J	0.056 J	57	0.002 J	4.1	27 J	7	910	7.4	69	<0.2	1,600	<1	--	--	9.3 J	300	4,000	<1
MW-95-157	12/08/21	N	8.6	11	<0.1	--	--	--	--	--	--	0.0057 J	3.8	--	6.5	--	--	--	--	--	--	--	--	9.5	--	--	--
MW-95-157	06/22/22	N	3.7	7.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	09/22/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	10/21/20	N	<0.2	<1	6.1	51	2.3	79 J	2.30	0.25	75	0.82	130	23	<0.5	2,300	4.6	250	0.21	2,800	7.4	--	--	0.33	1,200	7,600	<1 J
MW-96-045	11/17/20	N	<1	<1 J	1.1	39	2.9	90 J	4.50	0.067 J	110	0.64	120	13	0.55	2,400	4.5	280	<0.2	2,900	7.4	--	--	0.54	1,200	7,200	<1 J
MW-96-045	12/02/20	N	<0.2	<1	4.1	38	2.3 J	80 J	0.89	0.085 J	83 J	0.68	110	8.7 J	0.91	2,100	5.9	250	<0.2	2,700	7.4	--	--	0.7	1,000	6,900	<1
MW-96-045	12/02/20	FD	<0.2	<1	4.1	39	3.6 J	85 J	0.79	<0.1	72 J	0.69	110	6.2 J	0.79	1,900	5.9	250	<0.2	2,700	7.6	--	--	0.72	1,100	7,100	<1
MW-96-045	01/26/21	N	<1	<1	<0.1 J	34	2.5	92 J	2.70	0.13 J	140	0.81	110	15 J	0.81	2,300 J	5.9	250	<0.2	3,100	6.8	--	--	0.79	1,300	7,600	<1 J
MW-96-045	02/17/21	N	<1	<1	<0.1	30	1.8	83	0.56 J	0.047 J	80	0.59	110	12 J	0.71	2,000	6.1	240	<0.22	3,000	6.8	--	--	0.7	1,100	6,700	<1
MW-96-045	03/17/21	N	<1	<1	3.4	57	1.8 J	160	2.40 J	0.067 J	32 J	1	91	7.7	0.81	2,000	6.5	240	<0.2	2,500	6.3	--	--	0.56	820	6,200	<1
MW-96-045	04/26/21	N	<0.2	<1	<0.1	56	1.4	150	0.84	0.1	34	1.20	79	7.4	0.71	1,800	7.2	200	<0.2	2,400	6.3	--	--	0.83	620	5,200	<1
MW-96-045	05/18/21	N	<0.2	<1	<0.1 J	56	1.3	150	3.10 J	0.091 J	31 J	1.20	72	6.1 J	0.67	1,700 J	6.7	220	<0.2	2,400	6.2	--	--	0.84	610	5,400	<1
MW-96-045	06/09/21	N	<0.2	<1	3.5	52	1.6 J	180	1.60 J	0.032 J	33	1	78	7.3 J	0.6	2,400	7.6	220	<0.2	2,500	5.8	--	--	0.84	610	5,000	<1
MW-96-045	08/19/21	N	<0.2	<1	<0.1	47 J	1.6	140 J	0.52 J	0.044	58 J	0.094	93	7.7	1.1	2,600 J	9.9	240	<0.2	2,800	6.6	--	--	0.71	1,100	6,700	<1
MW-96-045	12/15/21	N	<1	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	12/15/21	FD	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	03/02/22	N	<0.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-045	06/09/22	N	<0.2	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	09/16/20	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	10/21/20	N	<1	1.8	1.9	120	1.7	340 J	1.10	0.73	49	1.60	73	64	<0.5	5,200	<1	51	0.24	5,800	3.8	--	--	0.13	1,000	13,000	<1 J
MW-96-217	11/17/20	N	<1	2.6 J	<0.1	130	1.7	290 J	0.87	0.4 J	48	1.50	75	36	<0.5	3,900	<1	61	<0.2	5,500	3.6	--	--	<0.05	970	11,000	<1 J
MW-96-217	12/02/20	N	<1	1.4	1.5	110	1.5 J	300 J	0.62	0.22 J	52 J	1.20	74	35 J	<0.5	3,400	<1	62	<0.2	5,500	4.1	--	--	<0.1	1,000	11,000	<1
MW-96-217	01/26/21	N	<1	<1	<0.1 J	85	1.4	290 J	0.46	0.18 J	47	0.78	68	37 J	0.73	4,200 J	<1	54	<0.22	6,200	3.3	--	--	1	1,000	13,000	<20 J
MW-96-217	02/17/21	N	<1	<1	<0.1	69	0.97	310	0.37 J	0.053 J	46	0.83	66	35 J	<0.5	4,600	<1	49	<0.22	6,200	3.7	--	--	0.3	1,100	13,000	<1
MW-96-217	03/17/21	N	<1	<1	1.8	64	1.4 J	550	0.12 J	<0.1	51 J	0.93	65	30	<0.5	4,500	<1	45	<0.2	6,100	3.4	--	--	0.62	1,200	13,000 J	<50

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-96-217	04/26/21	N	<1	<1	<0.1	63	1.7	610	0.13	<0.1	62	0.69	64	27	<0.5	4,600	1.2	51	<0.2	6,100	3.5	--	--	0.67	1,200	12,000 J	<1
MW-96-217	05/18/21	N	<1	<1	<0.1 J	56	1	670	0.061 J	0.079 J	42 J	0.61	62	26 J	<0.5	4,700 J	<1	53	<0.2	6,000	3.8	--	--	0.72	1,200	12,000	<1
MW-96-217	06/09/21	N	<1	<1	1.8	48	1.2 J	570	0.12 J	<0.1	53	0.48	57	33 J	<0.5	4,900	1.4	51	<0.2	6,000	3.8	--	--	0.84	1,200	12,000	<50
MW-96-217	08/19/21	N	<1	<1	<0.1	47 J	0.93	490 J	0.078 J	<0.02	49 J	0.51	59	22	<0.5	3,800 J	1.4	50	<0.2	6,200	3.5	--	--	0.86	1,200	13,000	<1
MW-96-217	12/15/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-96-217	06/09/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	10/27/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	11/17/20	N	<0.2	<1 J	5.5	25	1.1	40 J	0.22	<0.1	11	0.28	42	9.5	1.3	610	<1	130	0.24	810	3.6	--	--	0.59	210	1,800	<1 J
MW-97-042	12/10/20	N	<0.2	<1	6.1	26	0.54	44 J	1.60 J	0.32 J	13	0.29	34	7.7	0.55	570	<1	120	0.26	900	3.5	--	--	0.37	230	1,800	<1
MW-97-042	01/26/21	N	11	13	4.7 J	24	0.62	38 J	0.57 J	0.11 J	10	0.19	31	6.9 J	1.5	490 J	1.3	120	<0.22	780	3.4	--	--	0.83 J	200	1,700	<1 J
MW-97-042	01/26/21	FD	12	14	4.7 J	22	0.62	38 J	1.40 J	0.031 J	10	0.2	32	6.5 J	1.5	480 J	1.2	130	0.25	790	3.2	--	--	0.57 J	200	1,700	<1 J
MW-97-042	02/15/21	N	0.25	<1	2.9 J	59	0.38	78	0.41 J	0.077	20 J	0.38 J	18 J	8.3 J	0.63	500	<1	98	<0.22	990	2.4	--	--	0.42	210	2,000	<1 J
MW-97-042	03/17/21	N	<0.2	1	3.2	71	0.55 J	140	0.25 J	0.13 J	25 J	0.45	12	11	0.8	630	<1	90	<0.2	1,000	2.2	--	--	0.59	220	2,200	<1
MW-97-042	03/17/21	FD	<0.2	1.2	3.5	74	0.5 J	140	0.24 J	0.085 J	24 J	0.47	13	11	0.76	600	<1	89	<0.22	1,100	2.2	--	--	0.65	220	2,200	<1
MW-97-042	04/26/21	N	1.4	1.6	1.5	96	0.46	170	0.19	0.022	31	0.33	9.9	11	0.8	620	1.1	89	<0.2	1,100	2	--	--	0.63	220	2,300	<1
MW-97-042	04/26/21	FD	1.4	1.8	1.4	95	0.51	170	0.26	0.13	28	0.33	9.6	10	0.72	620	1.1	82	<0.2	1,100	1.9	--	--	0.62	220	2,200	<1
MW-97-042	05/17/21	N	3.1	3.4	0.84	100	0.51	180	0.56	0.038	27	0.24	9	9.3 J	0.87	590 J	1.3	85	<0.2	1,100	1.9	--	--	0.99	220	2,400	<10
MW-97-042	06/09/21	N	2.1	2.4	3.1	82	0.58 J	180	0.042 J	0.025 J	29	0.16	13	11 J	0.7	650	2.1	92	<0.2	1,100	2.1	--	--	0.36	220	2,300	<1
MW-97-042	08/17/21	N	3.3	3.4	1.6	61	0.57	120	0.17 J	0.045	21 J	0.11	16	8.9 J	<0.5	610 J	1.4	110	<0.2	940	2.1	--	--	0.47	210	2,100	<1
MW-97-042	12/13/21	N	4.4	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	03/02/22	N	6.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-042	06/07/22	N	20	19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	10/22/20	N	7.9	26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	11/17/20	N	<1	<1 J	3	150	2	410 J	0.6	0.37 J	99	1	38	38	<0.5	3,500	<1	77	0.34	6,000	3.1	--	--	<0.05	950	12,000	<1 J
MW-97-202	12/10/20	N	<1	<1	7.1	140	0.89	350 J	0.59 J	0.45 J	85	1.30	36	29	<0.5	3,500	<1	81	0.39	6,200	3.5	--	--	0.25	990	12,000	<1
MW-97-202	01/26/21	N	<1	<1	2.7 J	150	1.1	350 J	0.54	0.46 J	86	1.60	34	31 J	<0.5	3,500 J	<1	100	0.37	5,900	2.7	--	--	0.072	990	12,000	<1 J
MW-97-202	02/15/21	N	<1	<1	<0.1 J	130	0.77	370	0.51 J	0.47	87 J	1.50 J	34 J	36 J	<0.5	3,300	<1	90	0.32	6,000	3	--	--	0.51	990	12,000	<20 J
MW-97-202	03/16/21	N	<1	<1	5.9	130	1.6 J	640	0.83 J	0.58 J	110 J	1.40	35	31	<0.5	4,200	<1	75	0.27	6,100	3	--	--	0.42	970	12,000	<1
MW-97-202	04/26/21	N	<1	<1	<0.1	130	1.1	630	0.48	0.53	87	1.40	35	28	<0.5	4,200	<1	81	0.56	6,500	3.3	--	--	0.21	990	12,000	<1
MW-97-202	05/17/21	N	<1	<1	<0.1	130	1	590	0.46	0.42	83	1.40	34	24 J	<0.5	4,300 J	<1	81	0.55	6,200	3.2	--	--	0.32	960	13,000	<1
MW-97-202	06/09/21	N	<1	<1	8.3	120	1.5 J	670	0.58 J	0.63 J	120	1.30	31	38 J	<0.5	5,600	<1	79	0.29	6,200	3.1	--	--	0.15	950	12,000	<1
MW-97-202	08/17/21	N	<1	3	<0.1	120	0.96	560	0.47 J	0.52	65 J	1.70	30	31 J	<0.5	3,900 J	<1	97	0.31	6,100	2.9	--	--	0.21	970	13,000	<1
MW-97-202	08/17/21	FD	<1	3	<0.1	120	0.87	560	0.47 J	0.46	63 J	1.70	29	26 J	<0.5	3,900 J	<1	94	0.26	6,100	3	--	--	0.18	980	14,000	<1
MW-97-202	12/13/21	N	<1	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	03/02/22	N	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-97-202	06/07/22	N	<1	3.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	10/29/20	N	1.2	8.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	10/29/20	FD	7.5	6.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	11/17/20	N	3.1	7.1 J	2.5	110	1.1	79 J	0.44	0.094 J	30	0.25	47	18	2.3	700	<1	170	0.35	900	1.9	--	--	1.5	470	2,400	1 J
MW-98-055	12/14/20	N	14	16	1.9	82	0.62	80 J	0.36	0.078 J	28	0.16	33	16	2.2	770	1.7	140	<0.2	870	2	--	--	1.8	430	2,200	<1
MW-98-055	01/25/21	N	11	15	1.6 J	82	0.64	80 J	1.80	0.11 J	23	0.16	22	13 J	3.4	630 J	2.3	140	0.22	840	1.6	--	--	2.8	500	2,200	<1
MW-98-055	02/16/21	N	24	27	1.3 J	82	0.51	84 J	0.47 J	0.046	23 J	0.16	19 J	12 J	3.4	530 J	2.4	120	<0.22	790	1.7	--	--	2.7	510	2,300	<1
MW-98-055	03/16/21	N	4	3.5	3.6	78	0.57 J	120	0.28 J	0.038 J	23 J	0.16	18	13	5.1	670	2.3	120	<0.2	820	1.7	--	--	4.2	520	2,300	<1
MW-98-055	04/26/21	N	50	53	1.4	72	0.58	140	0.46	0.04	25	0.094	16	10	4.8	650	3.6	110	<0.2	850	1.5	--	--	4.9	500	2,200	<10
MW-98-055	05/20/21	N	69 J	69	1.6	64	0.55	140	0.19 J	<0.02	24 J	0.081	15	12 J	4.9	610 J	3.4	100	<0.2	830	1.7	--	--	4.5	490	2,200	<1
MW-98-055	06/09/21	N	66	67	3.2	63	0.65 J	140	0.79 J	0.043 J	29	0.087	15	12 J	4.9	700	3.6	110	<0.2	850	1.6	--	--	4.7	500	2,200	<1
MW-98-055	06/09/21	FD	66	67	3	65	0.68 J	150	0.7 J	0.085 J	31	0.089	16	13 J	4.4	770	3.5	100	<0.2	850	1.6	--	--	5.1	490	2,200	<1
MW-98-055	08/20/21	N	84	93	<0.1	56	0.54	100	0.27 J	0.029 J	19 J	0.031	18	13 J	5.7	560 J	4.7	100	<0.2	870	1.4	--	--	6	470	2,200	<1
MW-98-055	12/16/21	N	240	230	2.8	--	--	--	--	--	--	0.0013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-055	06/09/22	N	130	120 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	10/30/20	FD	250	260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	10/30/20	N	260	230	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	11/17/20	N	26	29 J	<0.1	200	1.8	300 J	0.71	0.066 J	17	0.52	18	44	17	2,400	1.1	70	0.23	4,000	2.2	--	--	2.8	630	8,200	<20 J

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
MW-98-077	12/14/20	N	140	140	<0.1	140	1.5	270 J	0.52	0.085 J	14	0.31	14	37	17	2,300	2.2	70	<0.2	3,700	2.2	--	--	4.3	650	7,900	<1
MW-98-077	01/25/21	N	310	310	<0.1 J	110	1.5	250 J	0.19	<0.02 J	11	0.12	15	36 J	21	2,100 J	3.4	75	<0.22	3,500	2.1	--	--	5.5	610	7,400	<1
MW-98-077	02/16/21	N	360	340	<0.1 J	93	1.2	230 J	0.3 J	<0.02	9.6 J	0.071	16 J	47 J	19	1,900 J	4.1	80	<0.22	3,200	2.2	--	--	5	580	6,400	<1
MW-98-077	03/16/21	N	440	410	3.5	100	1.4 J	410	0.043 J	<0.02	10 J	0.12	11	38	22	2,400	2.6	64	<0.2	4,000	1.8	--	--	4.3	640	8,300	<1
MW-98-077	04/26/21	N	480	480	<0.1	83	1.5	350	0.41	<0.02	8.9	0.065	16	32	21	2,100	4.2	77	<0.2	3,300	2.3	--	--	5.5	590	6,800	<1
MW-98-077	05/20/21	N	490 J	470	<0.1	86	1.4	390	0.13 J	<0.02	9.5 J	0.039	14	40 J	21	2,100 J	3.7	74	<0.2	3,500	2.6	--	--	4.6	640	7,300	<1
MW-98-077	06/09/21	N	540	510	4.6	84	1.7 J	420	0.42 J	0.025 J	11	0.053	13	43 J	20	3,000	3.6	73	<0.2	3,600	2.2	--	--	5.2	610	7,800	<1
MW-98-077	08/20/21	N	340	390	4.3	38	0.77	63	0.085 J	0.03 J	3.9 J	0.002	28	9.3 J	18	870 J	8	100	<0.2	1,100	2.6	--	--	7.9	470	2,600	<1
MW-98-077	12/16/21	N	340	320	3	--	--	--	--	--	--	0.0028	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-98-077	06/09/22	N	440	430 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW-01D	10/07/20	N	0.6	<1	--	--	--	--	--	--	--	--	18 J	--	--	1,400	--	--	--	2,200	2.2	--	--	2.5	480	4,300	--
OW-01D	10/07/20	FD	0.59	<1	--	--	--	--	--	--	--	--	18 J	--	--	1,400	--	--	--	2,200	2	--	--	2.5	480	4,300	--
OW-01D	12/15/21	N	0.5	2.8	<0.1	32	1.1 J	140	--	--	24 J	0.0047	23	17 J	8.2	1,400	3.2	86	--	2,000	2.3	--	--	7 J	510	4,100	--
OW-01M	10/07/20	N	2.3	5.1	--	--	--	--	--	--	--	--	18 J	--	--	1,400	--	--	--	2,200	2.2	--	--	2.7	490	4,300	--
OW-01M	12/15/21	N	1.2	4.1	<0.1	63	1 J	150	--	--	24 J	0.0048	24	15 J	8.2	1,500	3	110	--	2,000	2.1	--	--	7.8 J	510	4,100	--
OW-01S	10/07/20	N	2.6	5.2	--	--	--	--	--	--	--	--	2.1 J	--	--	1,400	--	--	--	2,100	1.3	--	--	2.9	470	4,500	--
OW-01S	12/15/21	N	8.4	31	<0.1	110	0.88 J	350	--	--	54 J	0.026	8.9	17 J	2.9	1,000	2.5	270	--	1,700	1.4	--	--	3 J	360	4,000	--
OW-02D	10/08/20	N	0.5	1.4	--	--	--	--	--	--	--	--	23	--	--	1,600	--	--	--	2,200	2.7	--	--	3.1	490	4,400	--
OW-02D	12/15/21	N	0.28	1.8	<0.1	24	1.1 J	190	--	--	31 J	0.0017	24	21 J	8.4	1,600	1.9	86	--	2,100	3.1	--	--	7.4 J	500	4,100	--
OW-02M	10/08/20	N	2	3.2	--	--	--	--	--	--	--	--	20	--	--	1,600	--	--	--	2,200	2.1	--	--	2.8	490	4,400	--
OW-02M	12/15/21	N	1.1	1.6	<0.1	38	1.1 J	150	--	--	25 J	<0.0005	23	14 J	7.8	1,600	2.8	97	--	2,000	2.5	--	--	7.5 J	510	4,100	--
OW-02S	10/08/20	N	16	16	--	--	--	--	--	--	--	--	22	--	--	670	--	--	--	1,100	3.2	--	--	3.2	180	2,600	--
OW-02S	12/15/21	N	15	15	<0.1	130	0.59 J	130	--	--	16 J	0.00083	21	11 J	2	640	3.4	58	--	1,100	2.7	--	--	3.2 J	180	2,200	--
OW-05D	10/08/20	N	0.63	1.8	3	25	1.2	110	0.085 J	0.096 J	30	0.00058	26	14	4.3	1,600	2.3	71	<0.2	2,100	3	--	--	2.4	470	4,500	--
OW-05D	12/01/21	N	0.42	1.9	<0.1 J	28	1.1	200	--	--	31	<0.0005	29	17 J	9.3	1,300	2.4	76	--	2,000	2.8	--	--	7.8	500	4,000	--
OW-05M	10/08/20	N	0.49	16	1	33	1.1	97	2.90 J	0.23 J	26	0.016	23	11	4.6	1,500	2	86	<0.2	2,100	2.6	--	--	3.1	490	4,400	--
OW-05M	12/01/21	N	0.59	1.1	<0.1 J	31	1.1	150	--	--	24	<0.0005	26	15 J	9.2	1,400	1.8	79	--	1,900	3	--	--	9	510	4,000	--
OW-05S	10/08/20	N	10	10	--	--	--	--	--	--	--	--	10	--	--	660	--	--	--	1,700	1.7	--	--	3.2	350	4,600	--
OW-05S	12/01/21	N	9.7	10	<0.1 J	130	0.34	430	--	--	69	<0.0005	7.6	17 J	2.4	660	2	48	--	1,700	1.7	--	--	2.8	360	4,000	--
PGE-07BR	12/03/20	N	<1	<1	--	--	2.9	430	--	0.14	16	0.32	8.1	--	<0.5 J	4,000	--	17	--	7,400	--	--	--	--	410	10,000	--
PGE-08	12/09/20	N	<1	<1	--	--	3.2 J	150 J	--	0.08 J	3.8 J	0.45	110	--	<0.5	3,600 J	--	52	--	6,000	--	--	--	<0.05	2,000	14,000	--
PGE-08	12/08/21	N	<1	<1	<0.1	--	--	--	--	--	--	0.47 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PGE-08	06/10/22	N	<1	<1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PM-03	12/14/20	N	9.6	9.5	--	--	0.11	76 J	--	0.11 J	19	0.0008	5.8	--	1.7	170	--	85	--	320	--	--	--	3.2	62	760	--
PM-04	12/14/20	N	16	16	--	--	0.33	110 J	--	0.039 J	34	0.0029	5.4	--	1.4	320	--	64	--	650	--	--	--	2.2	180	1,500	--
PT5D	12/16/21	N	31	29	1.5	20	--	--	--	<0.02	--	0.031	100	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
PT5D	03/04/22	N	5.5	--	1.6	27	--	--	--	0.05	--	0.11	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
PT5D	05/05/22	N	<0.2	2.1	2.3	22	--	--	--	0.027	--	0.1	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<20
PT5M	12/16/21	N	<0.2	<1	1.7	23	--	--	--	<0.02	--	0.94	11	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	<1
PT5M	03/04/22	N	<0.2	--	1.1	32	--	--	--	0.14	--	1.20	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
PT5M	05/05/22	N	<0.2	<1	0.75	44	--	--	--	0.023	--	2.10	--	--	--	--	--	--	--	--	--	<0.5	--	--	--	--	<1
PT5S	12/16/21	N	<0.2	<1	13	84	--	--	--	0.65 J	--	0.21	6.1	--	<0.5	--	--	--	--	--	--	--	--	<0.1	--	--	3
PT5S	03/04/22	N	<0.2	--	9.5	90	--	--	--	0.87	--	0.24	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	1.9
PT5S	05/05/22	N	<0.2	<1	7	96	--	--	--	1.20	--	0.26	--	--	--	--	--	--	--	--	--	<0.25	--	--	--	--	1.1
PT8D	10/06/20	N	390	370	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT8D	05/04/21	N	240	230	<0.1	--	--	660	--	--	--	0.23	62	47	0.76	5,500 J	--	--	--	7,200	--	--	--	0.76	780	12,000 J	--
PT8D	12/10/21	N	200	200	<0.1	--	--	--	--	--	--	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT8D	06/23/22	N	220	250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT9D	10/06/20	N	5,200	5,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT9D	05/05/21	N	4,900	5,100 J	<0.1	--	--	100	--	--	--	0.0023	88	44 J	3.3	5,200	--	--	--	6,700	--	--	--	3.5	960	13,000	--
PT9D	12/10/21	N	7,000	6,100	<0.1	--	--	--	--	--	--	0.0035	90	--	4.6	--	--	--	--	--	--	--	--	6.4	--	--	--
PT9D	06/23/22	N	5,000	5,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT9M	10/06/20	N	690	660	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT9M	05/05/21	N	570	580 J	<0.1	--	--	160	--	--	--	0.03	5.1	38 J	2.6	2,500	--	--	--	3,600	--	--	--	2.4	690	8,700	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
PT9M	12/10/21	N	64	87	<0.1	--	--	--	--	--	--	0.11	7.2	--	5.7	--	--	--	--	--	--	--	--	--	7.2	--	--	--
PT9M	06/23/22	N	310	340	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT9S	10/06/20	N	42	58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PT9S	05/05/21	N	28	29 J	0.77	--	--	160	--	--	--	0.97	18	9.5 J	1.8	550	--	--	--	860	--	--	--	--	2.6	270	1,900	--
PT9S	12/10/21	N	34	35	<0.1	--	--	--	--	--	--	0.32	8.6	--	6	--	--	--	--	--	--	--	--	--	5	--	--	--
PT9S	06/23/22	N	41	40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-19	01/30/20	N	<0.2	<1	2.1	110	--	--	0.047	0.038 J	--	0.0025 J	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.37	--	--	--
R-19	02/20/20	N	<0.2	<1	2.1	120	--	--	0.093 J	0.027 J	--	0.0013	4.7 J	--	1.5	--	--	--	--	--	--	--	--	--	0.33	--	--	--
R-19	04/30/20	N	<0.2	<1	2.1	110	--	--	0.047	0.026 J	--	0.0014	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.38	--	--	--
R-19	08/20/20	N	<0.2	<1	2.5	110 J	--	--	0.041 J	<0.02 J	--	0.00072	4.5	--	1.5	--	--	--	--	--	--	--	--	--	0.36	--	--	--
R-19	11/19/20	N	<0.2	<1	2.4	110	--	--	<0.02	<0.02	--	0.0016	4.7	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--
R-19	01/28/21	N	<0.2	<1	2.2	120	--	--	0.076	0.023	--	0.0018	4.7	--	1.7	--	--	--	--	--	--	--	--	--	0.4	--	--	--
R-19	01/28/21	FD	<0.2	<1	2.3	120	--	--	0.043	0.029	--	0.0016	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.39	--	--	--
R-19	02/18/21	N	<0.2	<1	2.5	120	--	--	0.035 J	<0.02 J	--	0.0014	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.39	--	--	--
R-19	05/20/21	N	<0.2	<1	2	100	--	--	<0.02	<0.02	--	<0.0005	4.3	--	1.3	--	--	--	--	--	--	--	--	--	0.42	--	--	--
R-19	08/19/21	N	<0.2	<1	2.3	100	--	--	0.021	<0.02 J	--	<0.0005	4	--	1.5	--	--	--	--	--	--	--	--	--	0.36	--	--	--
R-19	08/19/21	FD	<0.2	<1	2.1	100	--	--	0.022	<0.02 J	--	<0.0005	4.1	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
R-19	11/18/21	N	<0.2	<1	3.1 J	--	--	--	--	--	--	0.00056	4.4	--	1.9	--	--	--	--	--	--	--	--	--	0.31	--	--	--
R-19	02/17/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-19	05/19/22	N	<0.2	<1 J	1.9 J	--	--	--	--	--	--	<0.0005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-28	01/29/20	N	<0.2	<1	2.2	120	--	--	0.18	<0.02	--	0.0026	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.32	--	--	--
R-28	02/19/20	N	<0.2	<1	2.1	120 J	--	--	0.15 J	0.063 J	--	0.0018	4.6	--	1.6	--	--	--	--	--	--	--	--	--	0.33	--	--	--
R-28	04/29/20	N	<0.2	<1	2.3	120	--	--	0.075 J	0.088 J	--	0.0016	4.5	--	1.7	--	--	--	--	--	--	--	--	--	0.41	--	--	--
R-28	08/19/20	N	<0.2	<1	2.5	110 J	--	--	0.038 J	0.041 J	--	0.00095	4.7	--	1.5	--	--	--	--	--	--	--	--	--	0.37	--	--	--
R-28	11/18/20	N	<0.2	<1	2.5	110	<100	58	0.04	<0.02	25	0.0015	4.5	4.7	1.6	86	--	140	--	88	--	--	--	--	0.28	210	580	--
R-28	11/18/20	FD	<0.2	<1	2.5	110	0.13	59	0.045	<0.02	25	0.0013	4.5	4.7	1.5	86	--	140	--	88	--	--	--	--	0.3	210	580	--
R-28	01/27/21	N	<0.2	<1	2.2	120	--	--	0.025	0.02 J	--	0.0023	4.7	--	1.5	--	--	--	--	--	--	--	--	--	0.27	--	--	--
R-28	02/17/21	N	<0.2	<1	2.4	120	--	--	0.085 J	<0.02 J	--	0.0016	4.8	--	1.7	--	--	--	--	--	--	--	--	--	0.47	--	--	--
R-28	05/19/21	N	<0.2	<1	1.9	100	--	--	<0.02	<0.02 J	--	0.00085	4.3	--	1.4	--	--	--	--	--	--	--	--	--	0.36	--	--	--
R-28	08/18/21	N	<0.2	<1	2.1	100	--	--	0.022 J	<0.02	--	<0.0005	4.3	--	1.6	--	--	--	--	--	--	--	--	--	0.35	--	--	--
R-28	11/17/21	N	<0.2	<1	3.3	--	--	--	--	--	--	0.00095	4.7 J	--	2	--	--	--	--	--	--	--	--	--	0.3	--	--	--
R-28	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	<0.0005 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R-28	05/18/22	N	<0.2	<1	2 J	--	--	--	--	--	--	0.00058	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R63	01/29/20	N	<0.2	<1	2.1	110	--	--	0.11	<0.02	--	0.0036	4.4	--	1.6	--	--	--	--	--	--	--	--	--	0.3	--	--	--
R63	02/19/20	N	<0.2	<1	2.3	120 J	--	--	0.17 J	0.043 J	--	0.0029	4.8	--	1.6	--	--	--	--	--	--	--	--	--	0.28	--	--	--
R63	04/29/20	N	<0.2	<1	2.2	120	--	--	0.073 J	0.058 J	--	0.0018	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.42	--	--	--
R63	08/19/20	N	<0.2 J	<1	2.6	120 J	--	--	0.028 J	<0.02 J	--	0.0024	4.9	--	1.5	--	--	--	--	--	--	--	--	--	0.35	--	--	--
R63	11/18/20	N	<0.2	<1	2.3	110	--	--	0.067	<0.02	--	0.0024	4.6	--	1.5	--	--	--	--	--	--	--	--	--	0.28	--	--	--
R63	01/27/21	N	<0.2	<1	2.2	120	--	--	0.043	0.027 J	--	0.0019	4.7	--	1.6	--	--	--	--	--	--	--	--	--	0.28	--	--	--
R63	02/17/21	N	<0.2	<1	2.4	120	--	--	0.053 J	0.041 J	--	0.0033	4.6	--	1.9	--	--	--	--	--	--	--	--	--	0.39	--	--	--
R63	05/19/21	N	<0.2	<1	2.1	100	--	--	0.13 J	<0.02 J	--	0.0036	4.4	--	1.3	--	--	--	--	--	--	--	--	--	0.37	--	--	--
R63	05/19/21	FD	<0.2	<1	2.2	110	--	--	0.097 J	<0.02 J	--	0.0036	4.7	--	1.4	--	--	--	--	--	--	--	--	--	0.35	--	--	--
R63	08/18/21	N	<0.2	<1	2	100	--	--	0.029 J	<0.02	--	0.0017	4.1	--	1.4	--	--	--	--	--	--	--	--	--	0.35	--	--	--
R63	11/17/21	N	<0.2	<1	2.8	--	--	--	--	--	--	0.0018	4.4 J	--	1.7	--	--	--	--	--	--	--	--	--	0.3	--	--	--
R63	02/16/22	N	<0.2	--	2	--	--	--	--	--	--	0.0007 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R63	05/18/2022	N	<0.2	<1	2 J	--	--	--	--	--	--	0.0012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
R63	05/18/2022	FD	<0.2	<1	2 J	--	--	--	--	--	--	0.0012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RRB	01/30/20	N	<0.2	<1	2.4	80	--	--	1.10	<0.1 J	--	0.021 J	7	--	2.3	--	--	--	--	--	--	--	--	--	1.1	--	--	--
RRB	02/20/20	N	<0.2	<1	2.1	97 J	--	--	0.16	0.021	--	0.0027	4.8	--	1.5	--	--	--	--	--	--	--	--	--	0.22	--	--	--
RRB	04/30/20	N	<0.2	<1	2.2	110	--	--	0.024	<0.02	--	0.0018	4.7	--	2.9	--	--	--	--	--	--	--	--	--	0.31	--	--	--
RRB	08/20/20	N	<0.2	<1	2.3	110 J	--	--	0.03 J	<0.02 J	--	0.0071	4.7	--	1.4	--	--	--	--	--	--	--	--	--	0.25	--	--	--
RRB	11/19/20	N	<0.2	<1	2.2	110	--	--	0.041	<0.02	--	0.0052	4.6	--	1.4	--	--	--	--	--	--	--	--	--	--	--	--	--
RRB	01/28/21	N	<0.2	<1	0.63	98	--	--	35	0.041	--	0.01	4.4	--	0.61	--	--	--	--	--	--	--	--	--	0.076	--	--	--
RRB	02/18/21	N	<0.2	<1	2.3	120	--	--	0.087 J	<0.02 J	--	0.0041	4.7	--	1.3	--	--	--	--	--	--	--	--	--	0.38	--	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
RRB	05/20/21	N	<0.2	<1	2.2	110	--	--	<0.02	<0.02	--	0.016	4.4	--	1.2	--	--	--	--	--	--	--	--	--	0.32	--	--	--
RRB	08/19/21	N	<0.2	<1	2.2	110	--	--	0.057	<0.02 J	--	0.0064	4.3	--	1.3	--	--	--	--	--	--	--	--	--	0.23	--	--	--
RRB	11/18/21	N	<0.2	<1	2.8 J	--	--	--	--	--	--	0.024	4.5	--	1.6	--	--	--	--	--	--	--	--	--	0.2	--	--	--
RRB	11/18/21	FD	<0.2	<1	2.9 J	--	--	--	--	--	--	0.025	4.4	--	1.5	--	--	--	--	--	--	--	--	--	0.22	--	--	--
RRB	02/17/22	N	<0.2	--	1.5	--	--	--	--	--	--	0.014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RRB	05/19/22	N	<0.2	<1 J	2 J	--	--	--	--	--	--	0.0076	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	01/29/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	02/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	04/30/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	08/20/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	11/18/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	01/27/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	02/17/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	05/19/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	08/18/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	11/17/21	N	<0.2	<1	2.2	--	--	--	--	--	--	0.0069	5.6 J	--	1.1	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
SW1	02/16/22	N	<0.2	--	1.4	--	--	--	--	--	--	0.021 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW1	05/18/22	N	<0.2	<1	1.6 J	--	--	--	--	--	--	0.011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	01/29/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	02/19/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	04/30/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	08/20/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	11/18/20	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	01/27/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	02/17/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	05/19/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	08/18/21	N	<0.2	<1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	11/17/21	N	<0.2	<1	2.3	--	--	--	--	--	--	0.0076	5.1 J	--	0.99	--	--	--	--	--	--	--	--	--	<0.05	--	--	--
SW2	02/16/22	N	<0.2	--	1.7	--	--	--	--	--	--	0.015 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SW2	05/18/22	N	<0.2	<1	1.9 J	--	--	--	--	--	--	0.0018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TOPOCK-2	09/20/21	N	11.8	13	12.1	51.9	0.557	37	--	<0.1	4.2	<0.01	19.1	6.71	<1	259	17.9	--	--	343	4.22	--	--	--	83.9	765	--
TOPOCK-2	05/18/22	N	13.8	17.9	15.3	63.6	0.402	26.5	--	<1	3.94	<0.1	<20	5.37	<10	190	24.6	104	--	246	4.45	--	--	--	72.1	630	<1
TOPOCK-3	09/20/21	N	14.2	14.9	13.4	69.3	0.508	30.1	--	<0.1	4.1	<0.01	16.3	5.67	<1	203	18.1	--	--	333	4.21	--	--	--	72	549	--
TOPOCK-3	05/18/22	N	11.4	14.9	12.1	58	0.527	37.9	--	2.29	4.55	<0.1	20.5	6.72	<10	266	22.2	91.5	--	404	4.61	--	--	--	97.9	814	<1
TW-01	11/04/20	N	1,400	1,400	0.71	26	1.6	170	0.065 J	<0.02	21	<0.0005	26	17 J	10	1,000	9.4	--	<0.2	--	2.9	--	--	13	520	3,500	<1
TW-01	06/10/21	N	1,400	1,500	<0.1	30	1.3 J	200	--	<0.02	17	<0.0005	25	18 J	10	1,100	9.3	--	<0.2	1,600	2.6	--	--	14	550	3,600	<1
TW-01	06/10/21	FD	1,400	1,500	<0.1	29	1.6 J	210	--	<0.02	19	<0.0005	24	19 J	10	1,200	9.3	--	<0.2	1,500	2.6	--	--	15	540	3,600	<1
TW-01	06/15/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,600	--
TW-01	06/16/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,500	--
TW-01	06/17/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,600	--
TW-01	06/18/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,600	--
TW-01	06/19/21	N	1,500	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,600	--
TW-01	06/20/21	N	1,500	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,600	--
TW-01	06/21/21	N	1,400	1,500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,300	--
TW-01	06/28/21	N	1,500	1,600	<0.1	32	1.2	200	--	0.023 J	20 J	<0.0005	34 J	17	10	1,100	11	--	<0.2	1,500	3.5	--	--	14	530	3,600	<10
TW-01	07/08/21	N	--	--	<0.1	--	--	210	--	--	24	<0.0005	35	19 J	11	1,000	--	--	--	1,600	--	--	--	14	530	--	--
TW-01	07/12/21	N	1,500	1,700	<0.1	--	--	210	--	--	22 J	--	35	20 J	10	1,000	--	--	--	1,600	--	--	--	14	520	3,800	--
TW-01	07/12/21	FD	1,500	1,700	<0.1	--	--	210	--	--	24 J	--	35	20 J	9.8	1,100	--	--	--	1,600	--	--	--	15	520	3,700	--
TW-01	07/20/21	N	--	--	<0.1	--	--	230	--	--	22	<0.0005	30	17 J	11	1,200	--	--	--	1,600	--	--	--	13	510	--	--
TW-01	07/26/21	N	1,400	1,500	<0.1	--	--	230	--	--	22	--	30	17 J	10	1,200	--	--	--	1,600	--	--	--	14	510	3,900	--
TW-01	08/03/21	N	--	--	<0.1	--	--	240	--	--	25	<0.0005	30	18	12	1,100	--	--	--	1,600	--	--	--	13	520	--	--
TW-01	08/16/21	N	1,400	1,400	<0.1	35	1.3	230	--	<0.02	24 J	<0.0005	30	17	12	1,100	10	--	<0.2	1,700	3.4	--	--	12	530	4,000	<5
TW-01	08/16/21	FD	1,400	1,500	<0.1	34	1.3	220	--	<0.02	24 J	<0.0005	29	24	12	1,300	10	--	<0.2	1,700	3.2	--	--	13	530	3,900	<1
TW-01	08/25/21	N	--	--	<0.1 J	--	--	250	--	--	23	<0.0005	31	18	12	1,100	--	--	--	1,700	--	--	--	12	510	--	--

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
TW-01	09/01/21	N	--	1,500 J	<0.1	--	--	240	--	--	23	<0.0005	22	18	9.2	1,200	--	--	--	1,700	3.5	--	--	12	510	4,000	--
TW-01	09/02/21	N	1,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	09/09/21	N	1,200	1,300	<0.1	42	1.2	240	--	<0.02 J	23 J	<0.0005	39	18	14	700 J	14	--	<0.2	1,700	3.5	--	--	12	510	4,000	<1
TW-01	09/09/21	FD	1,300	1,500	<0.1	42	1.2	230	--	<0.02 J	23 J	<0.0005	38	17	14	1,300 J	14	--	<0.2	1,700	3.4	--	--	11	500	4,100	<1
TW-01	09/15/21	N	--	--	<0.1	--	--	240	--	--	23 J	<0.0005	37	20 J	14	1,200 J	--	--	--	1,700	--	--	--	12	520	--	--
TW-01	09/23/21	N	1,200	1,400 J	<0.1 J	--	--	280 J	--	--	25	<0.0005	38 J	19	12	1,200	--	--	--	1,700	--	--	--	11	520	4,100	--
TW-01	09/23/21	FD	1,200	1,400 J	<0.1 J	--	--	270 J	--	--	24	<0.0005	39 J	18	13	1,200	--	--	--	1,700	--	--	--	11	510	3,900	--
TW-01	09/30/21	N	--	--	<0.1 J	--	--	310 J	--	--	30	<0.0005	40	20	14	1,300	--	--	--	1,700	--	--	--	15	540	--	--
TW-01	10/07/21	N	1,300	1,300	0.79	37	1.4	260	--	<0.02	25 J	<0.0005	34	22 J	12	1,200	12	--	<0.2	1,800	3.9	--	--	11	520	3,800	<1
TW-01	10/07/21	FD	1,300	1,300	0.72	36	1.5	250	--	<0.02	26 J	<0.0005	34	21 J	12	1,200	12	--	<0.2	1,800	4.2	--	--	12	510	4,000	<1
TW-01	10/20/21	N	1,300	1,400	0.92	--	--	270 J	--	--	26	<0.0005	33	19	13	1,200 J	--	--	--	1,800	--	--	--	11	510	3,900	--
TW-01	10/20/21	FD	1,300	1,400	1	--	--	290 J	--	--	27	<0.0005	34	20	14	1,300 J	--	--	--	1,800	--	--	--	11	520	3,900	--
TW-01	11/02/21	N	1,300	1,300	1.1	38 J	1.4	280	--	<0.02	26 J	<0.0005	32	18 J	13	1,300 J	13	--	<0.2	1,800	3.8	--	--	11	510	3,900	<1
TW-01	11/02/21	FD	1,300	1,300	1	41 J	1.4	260	--	<0.02	25 J	<0.0005	31	18 J	14	1,600 J	13	--	<0.2	1,700	4.1	--	--	11	510	4,000	<1
TW-01	11/11/21	N	1,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	11/15/21	N	1,300	1,300	1.7 J	--	--	240	--	--	24 J	--	32 J	18 J	13	1,200	--	--	--	1,800	--	--	--	11	500	3,800	--
TW-01	11/22/21	N	1,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	12/02/21	N	1,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-01	12/08/21	N	1,200	1,300	0.76	--	--	--	--	--	--	<0.0005 J	31	--	13	--	--	--	--	--	--	--	--	11	--	--	--
TW-02D	02/19/20	N	740	670	--	--	--	--	--	--	--	0.14	18	--	3.4	--	--	260	--	1,400	--	--	--	--	390	3,400	--
TW-02D	07/08/21	N	340	370	--	--	--	190	--	<0.02	28	0.067	--	--	--	1,400	--	150	--	2,100	--	--	--	2.4	470	4,400	--
TW-02D	08/04/21	N	350	360	--	--	--	170	--	<0.02	20	0.052	--	--	--	1,300	--	160	--	2,100	--	--	--	2.4	480	4,500	--
TW-02D	09/08/21	N	27	35	--	--	--	200	--	<0.02	34 J	0.13	18	--	0.92	1,500	--	190	--	1,900	--	--	--	1.1	460	4,200	--
TW-02D	09/08/21	FD	27	34	--	--	--	--	--	--	--	0.14	18	--	0.73	--	--	190	--	1,900	--	--	--	--	460	4,200	--
TW-02D	03/09/22	N	64	62	5.8	52	--	--	--	0.039 J	--	0.14	92	--	0.63	--	--	--	<0.2	--	--	1.1	--	--	940	--	<50
TW-02D	04/14/22	N	710	--	<0.1	43	--	--	--	0.024	--	0.12	--	--	--	--	--	--	--	--	--	1.8 J	--	--	950	--	<1
TW-02D	05/19/22	N	8.5	--	<0.1	51	--	--	--	0.56 J	--	0.27	--	--	--	--	--	--	--	--	--	0.36	--	--	400	--	<1
TW-02D	06/15/22	N	840	780	<0.1	34	--	--	--	<0.02	--	0.012 J	65	--	0.98 J	--	--	--	<0.2	--	--	1.5	<5	--	850	--	<1
TW-02D	06/15/22	FD	840	800	<0.1	36	--	--	--	<0.02	--	0.015 J	68	--	1.1 J	--	--	--	<0.2	--	--	1.4	<5	--	920	--	<1
TW-02S	03/09/22	N	110	99	1.4	42	--	--	--	0.031 J	--	<0.0005	9.7	--	2.5	--	--	--	<0.2	--	--	4	--	--	180	--	<1
TW-02S	04/14/22	N	130	--	1.1	48	--	--	--	<0.02	--	<0.0005	--	--	--	--	--	--	--	--	--	3.6 J	--	--	190	--	<1
TW-02S	05/19/22	N	97	--	0.57	52	--	--	--	<0.02 J	--	<0.0005	--	--	--	--	--	--	--	--	--	3.4	--	--	190	--	<1
TW-02S	06/15/22	N	91	80	0.3	52	--	--	--	<0.02	--	<0.0005	8.9	--	1.9 J	--	--	--	<0.2	--	--	3.3	<10	--	190	--	<1
TW-03D	01/08/20	N	470	460	--	--	--	190	--	<0.02	36	0.02	--	--	--	1,800	--	160	--	2,100	--	--	--	2.6	510	4,500	--
TW-03D	02/05/20	N	460	480	--	--	--	210	--	<0.02	41 J	0.021	--	--	--	1,300	--	150	--	2,200	--	--	--	2.5	510	4,500	--
TW-03D	03/04/20	N	450	390	--	--	--	230	--	<0.02	33	0.019 J	--	--	--	1,400	--	160	--	2,100	--	--	--	2.9	500	4,600	--
TW-03D	04/07/20	N	440	420	--	--	--	200	--	<0.1 J	30	0.021	--	--	--	1,500	--	170	--	2,100	--	--	--	2.9	500	4,700	--
TW-03D	05/05/20	N	450	410	--	--	--	200	--	<0.02	27	0.019	--	--	--	1,400	--	160	--	2,300	--	--	--	3.4	500	4,700	--
TW-03D	07/23/20	N	390	410	--	--	--	170	--	<0.02	27	0.019	--	--	--	1,400	--	150	--	2,100	--	--	--	2.3	490	4,500	--
TW-03D	08/04/20	N	440	430	--	--	--	190	--	<0.1	26	0.019	--	--	--	1,300 J	--	150	--	2,100	--	--	--	2.5	490	4,600	--
TW-03D	09/01/20	N	430	420	--	--	--	200	--	0.036 J	29	0.02	--	--	--	1,400	--	150	--	2,000	--	--	--	2.9	470	4,500	--
TW-03D	10/07/20	N	420	400	--	--	--	190	--	0.093 J	37 J	0.019	--	--	--	1,500	--	150	--	2,100	--	--	--	2.8	480	4,400	--
TW-03D	11/03/20	N	440	420	--	--	--	160	--	0.079 J	30	0.019	--	--	--	1,500 J	--	150	--	2,000	--	--	--	2.5	470	4,300	--
TW-03D	12/03/20	N	440	430	--	--	--	160 J	--	<0.02	32	0.017	--	--	--	1,600 J	--	160	--	2,000	--	--	--	--	480	4,500	--
TW-03D	01/06/21	N	440	410	--	--	--	180	--	<0.02	29	0.018	--	--	--	1,500 J	--	150	--	2,100	--	--	--	2.8	470	4,400	--
TW-03D	02/03/21	N	420	430	--	--	--	150	--	0.093 J	26	0.019	--	--	--	1,300	--	150	--	2,100	--	--	--	3	500	4,400	--
TW-03D	03/03/21	N	400	420	--	--	--	170 J	--	0.12 J	36 J	0.019	--	--	--	1,500	--	140	--	2,100	--	--	--	2.6	480	4,400	--
TW-03D	04/07/21	N	410	400	--	--	--	180	--	0.027	24 J	0.019	--	--	--	1,500	--	150	--	2,100	--	--	--	2.8	490	4,400	--
TW-03D	05/05/21	N	390	360	--	--	--	200	--	0.18 J	24	0.019	--	--	--	1,400	--	160	--	2,100	--	--	--	2.6	470	4,400	--
TW-03D	06/02/21	N	390	370	--	--	--	160 J	--	<0.02	26 J	0.019	--	--	--	1,600 J	--	160	--	2,000	--	--	--	2.7	480	4,300	--
TW-03D	10/07/21	N	390	380	--	--	--	210	--	<0.02	28	0.0071	--	--	--	1,500 J	--	150	--	2,100	--	--	--	2.4 J	480	4,400	--
TW-03D	11/02/21	N	400	390	--	--	--	230 J	--	<0.02	30	0.01	--	--	--	1,400 J	--	150	--	2,100	--	--	--	2.6	480	4,500	--
TW-03D	12/16/21	N	400	390	<0.1	36	--	--	--	<0.02	--	0.013	22	--	3.4	--	--	--	<0.23	--	--	--	<5	2.4	500	--	<1
TW-03D	03/09/22	N	920	840	<0.1	42	--	--	--	<0.02 J	--	0.03	65	--	1.1	--	--	--	<0.2	--	--	1.5	--	--	920	--	<1

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

Monitoring Well ID	Sample Date	Sample Type	Hexavalent Chromium (µg/L)	Total Dissolved Chromium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Barium (µg/L)	Dissolved Boron (mg/L)	Dissolved Calcium (mg/L)	Total Iron (mg/L)	Dissolved Iron (mg/L)	Dissolved Magnesium (mg/L)	Dissolved Manganese (mg/L)	Dissolved Molybdenum (µg/L)	Dissolved Potassium (mg/L)	Dissolved Selenium (µg/L)	Dissolved Sodium (mg/L)	Dissolved Vanadium (µg/L)	Alkalinity (mg/L)	Ammonia (as Nitrogen) (mg/L)	Chloride (mg/L)	Fluoride (mg/L)	Nitrate (as Nitrogen) (mg/L)	Nitrite (as Nitrogen) (mg/L)	Nitrate/ Nitrite as N (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)
TW-03D	04/14/22	N	780	--	<0.1	45	--	--	--	<0.02	--	0.14	--	--	--	--	--	--	--	--	--	1.7 J	--	--	880	--	<1
TW-03D	05/19/22	N	610	--	<0.1	43	--	--	--	<0.02 J	--	0.15	--	--	--	--	--	--	--	--	--	1.5	--	--	850	--	<1
TW-03D	06/15/22	N	700	750	<0.1	43	--	--	--	<0.02	--	0.11	72	--	1.1 J	--	--	--	<0.2	--	--	1.4	--	--	870	--	<1
TW-03D	06/15/22	FD	730	760	<0.1	41	--	--	--	<0.02	--	0.097	66	--	1 J	--	--	--	<0.2	--	--	1.4	--	--	870	--	<1
TW-04	06/25/20	N	3.7	4.1	--	--	--	--	--	--	--	0.07	41	--	0.58	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	11/30/20	N	6.4	6.6	--	--	3.2 J	330 J	--	<0.1	71 J	0.048	56	--	0.63	4,000 J	--	68	--	6,700	--	--	--	--	1,100	14,000	--
TW-04	06/07/21	N	7.9	7.4	--	--	--	--	--	--	--	0.0063 J	28	--	<0.5	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	12/06/21	N	9.1	9.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	03/03/22	N	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-04	06/07/22	N	8.1	8.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-05	06/25/20	N	12	12	--	--	--	--	--	--	--	0.0046	32	--	0.58	--	--	--	--	--	--	--	--	--	--	--	--
TW-05	12/07/20	N	18	16 J	--	--	2.5 J	380 J	--	<0.1 J	36 J	0.0015	25 J	--	0.96 J	2,600 J	--	38	--	5,200	--	--	--	--	600	11,000	--
TW-05	05/28/21	N	12	12	--	--	--	--	--	--	--	--	32	--	0.77	--	--	--	--	--	--	--	--	--	--	--	--
TW-05	12/13/21	N	14	15	<0.1	--	--	--	--	--	--	0.0014	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TW-05	06/17/22	N	13	12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Abbreviations:

-- = not applicable or not available

< = not detected at reporting limit, as shown

N = primary sample

FD = field duplicate

J = estimated concentration

mg/L= milligram(s) per liter

µg/L = microgram(s) per liter

Appendix C

Laboratory Reports, Second Quarter 2022

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

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-05-2022
EMAX Batch No.: 22F145

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 06/16/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-92-122-Q222	F145-01	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
MW-54-085-Q222	F145-02	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
MW-54-085-EB-Q222	F145-03	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-140-Q222	F145-04	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
MW-54-140-EB-Q222	F145-05	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-195-Q222	F145-06	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
MW-54-195-EB-Q222	F145-07	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-91-045-Q222	F145-08	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
MW-91-120-Q222	F145-09	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
MW-91-170-Q222	F145-10	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
MW-91-320-Q222	F145-11	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
				DISSOLVED CHROMIUM
EB-740-Q222	F145-12	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
EB-741-Q222	F145-13	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Gaspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

~~22F1460~~ JSR 06/16

22F145

Page 1 of 1

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled; 2. Headspace; 3. Container Intact; 4. Seal Present; 5. IR number; 6. Method of Cooling:
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	Global ID:
Submitted By: Nara Tep	Phone: 916-786-3302 Fax:	Phone: 916-786-3302 Fax:	Specify State:
Title: Project manager			
Signature: Date: 6/15/22	Sampled By: Nara Tep		Sample Temp:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Courier:
Project Name: PG&E Topock - AZ RCM	Signature: Date: 6/15/22		Tracking No.:
Project Number: 30121866.2Q22GW			

Matrix: Ground water x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (125 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 (250 mL poly)	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 (250 mL poly)	Dissolved Title 22 metals (SW6020B) FF; HNO3 (250 mL poly)	Dissolved metals Chromium; HNO3 (250 mL poly)	Alkalinity, Total (SM 2320B) (500 mL poly)	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) (500 mL poly)	TDS (SM 2540C) (500 mL poly)	TOC (SM9060); HCl (125 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
	1	MW-92-122-Q222	6/15/2022	7:54		X					X					E	2	P	BN	
	2	MW-54-085-Q222	6/15/2022	11:18		X					X					E	2	P	BN	
	3	MW-54-085-EB-Q222	6/15/2022	10:50		X					X					E	2	P	BN	
	4	MW-54-140-Q222	6/15/2022	10:30		X					X					E	2	P	BN	
	5	MW-54-140-EB-Q222	6/15/2022	10:05		X					X					E	2	P	BN	
	6	MW-54-195-Q222	6/15/2022	9:58		X					X					E	2	P	BN	
	7	MW-54-195-EB-Q222	6/15/2022	9:35		X					X					E	2	P	BN	
	8	MW-91-045-Q222	6/15/2022	9:43		X					X					E	2	P	BN	
	9	MW-91-120-Q222	6/15/2022	9:12		X					X					E	2	P	BN	
	10	MW-91-170-Q222	6/15/2022	8:30		X					X					E	2	P	BN	
	11	MW-91-320-Q222	6/15/2022	7:53		X					X					E	2	P	BN	
	12	EB-740-Q222	6/15/2022	9:50		X										E	1	P	BN	
	13	EB-741-Q222	6/15/2022	11:30		X										E	1	P	BN	

Reliquished by (Signature and Printed Name): Nara Tep 6/15/22 1300 Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Received: Joaquin Solorzano 06/16/22

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of tha total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

Temp: 2.5/2.0
CF: -0.5

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Page 1 of 1

22F145

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com
Submitted By: Nara Tep	Phone: 916-786-3302 Fax:	Phone: 916-786-3302 Fax:
Title: Project Manager		
Signature: Date: 6/15/22	Sampled By: Nara Tep	
Project Name: PG&E Topock - AZ RCM	Signature: Date: 6/15/22	
Project Number: 30121866.2Q22GW		

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Matrix			
Ground water	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled		
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact		
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number		
Global ID:		Regulatory		6. Method of Cooling:		
		Specify State:		Sample Temp:		

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (125 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 (250 mL poly)	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 (250 mL poly)	Dissolved Title 22 metals (SW6020B) FF; HNO3 (250 mL poly)	Dissolved metals Chromium; HNO3 (250 mL poly)	Alkalinity, Total (SM 2320B) (500 mL poly)	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) (500 mL poly)	TDS (SM 2540C) (500 mL poly)	TOC (SM9060); HCl (125 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	"	MW-92-122-Q222	6/15/2022	7:54		X					X					E	2	P	BN	
2	"	MW-54-085-Q222	6/15/2022	11:18		X					X					E	2	P	BN	
3	"	MW-54-085-EB-Q222	6/15/2022	10:50		X					X					E	(2)	P	BN	
4	"	MW-54-140-Q222	6/15/2022	10:30		X					X					E	2	P	BN	
5	"	MW-54-140-EB-Q222	6/15/2022	10:05		X					X					E	2	P	BN	
6	"	MW-54-195-Q222	6/15/2022	9:58		X					X					E	2	P	BN	
7	"	MW-54-195-EB-Q222	6/15/2022	9:35		X					X					E	2	P	BN	
8	"	MW-91-045-Q222	6/15/2022	9:43		X					X					E	2	P	BN	
9	"	MW-91-120-Q222	6/15/2022	9:12		X					X					E	2	P	BN	
10	"	MW-91-170-Q222	6/15/2022	8:30		X					X					E	2	P	BN	
11	"	MW-91-320-Q222	6/15/2022	7:53		X					X					E	2	P	BN	
12	"	EB-740-Q222	6/15/2022	9:50		X										E	1	P	BN	
13	"	EB-741-Q222	6/15/2022	11:30		X										E	1	P	BN	

No Container for Diss Cr

Reliquished by (Signature and Printed Name): Nara Tep Date/Time: 6/15/22 1300

Received by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Received by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 22F145
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7771 3910 3030	Recipient Jocelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 06/16/22 Time 09:32

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition Correction factor -0.5	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.5/2.0 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 210583479	*B - S/N* _____	(C) *S/N* 210271399	*D - S/N* _____	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
12	20	D10		R8
1-11	1,3,5,6,8,9,11,12,14,16,18	D12	label reads 250mL, received 125mL poly for Cr(VI)	
1,2,4,6,8-11	2,4,7,10,13,15,17,19	D12	label reads 500mL, received 250mL poly for Dissolved Metals	
3,5,7		D8	received no container for Dissolved Metals	R8

6/16/22

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. RB 6/16/22

NOTES/OBSERVATIONS: samples 12 & 13 read field-filtered on COC but not on label.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☑ NO

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
(D8)	Sample listed in COC is not received
D9	Sample received is not listed in COC
(D10)	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
(D12)	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed Client
R9	
R10	
R11	
R12	

REVIEWS:

Sample Labeling Jocelyne Solis-Ramos Date 06/16/22 — 6/16/22

SRF _____ Date 6/16/22

PM RB Date 6/16/22



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL II

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

SDG#: 22F145

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F145

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of eight(8) water samples were received on 06/16/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IMF024WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IMF024WL/IMF024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Chromium was within MS QC limits in F145-01M/F145-01S. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met. Samples analyzed at dilution due to high saturation.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22F145
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IMF024WB	1	NA	06/22/2213:34	06/21/2211:56	H6F14018	H6F14016	IMF024W	Method Blank
LCS1W	IMF024WL	1	NA	06/22/2213:36	06/21/2211:56	H6F14019	H6F14016	IMF024W	Lab Control Sample (LCS)
LCD1W	IMF024WC	1	NA	06/22/2213:39	06/21/2211:56	H6F14020	H6F14016	IMF024W	LCS Duplicate
MW-92-122-Q222MS	F145-01M	10	NA	06/22/2213:41	06/21/2211:56	H6F14021	H6F14016	IMF024W	Matrix Spike Sample (MS)
MW-92-122-Q222MSD	F145-01S	10	NA	06/22/2213:44	06/21/2211:56	H6F14022	H6F14016	IMF024W	MS Duplicate (MSD)
MW-92-122-Q222	F145-01I	10	NA	06/22/2213:49	06/21/2211:56	H6F14024	H6F14016	IMF024W	Diluted Sample
MW-54-085-Q222	F145-02I	10	NA	06/22/2213:54	06/21/2211:56	H6F14026	H6F14016	IMF024W	Diluted Sample
MW-54-140-Q222	F145-04I	10	NA	06/22/2213:57	06/21/2211:56	H6F14027	H6F14016	IMF024W	Diluted Sample
MW-54-195-Q222	F145-06I	10	NA	06/22/2214:05	06/21/2211:56	H6F14030	H6F14028	IMF024W	Diluted Sample
MW-91-120-Q222	F145-09I	10	NA	06/22/2214:10	06/21/2211:56	H6F14032	H6F14028	IMF024W	Diluted Sample
MW-91-170-Q222	F145-10I	10	NA	06/22/2214:12	06/21/2211:56	H6F14033	H6F14028	IMF024W	Diluted Sample
MW-91-320-Q222	F145-11I	10	NA	06/22/2214:15	06/21/2211:56	H6F14034	H6F14028	IMF024W	Diluted Sample
MW-91-045-Q222	F145-08	1	NA	06/22/2214:18	06/21/2211:56	H6F14035	H6F14028	IMF024W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 07:54
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-92-122-Q222	Date Analyzed:	06/22/22 13:49
Lab Samp ID:	F145-01I	Dilution Factor:	10
Lab File ID:	H6F14024	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 11:18
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-54-085-Q222	Date Analyzed:	06/22/22 13:54
Lab Samp ID:	F145-02I	Dilution Factor:	10
Lab File ID:	H6F14026	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 10:30
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-54-140-Q222	Date Analyzed:	06/22/22 13:57
Lab Samp ID:	F145-04I	Dilution Factor:	10
Lab File ID:	H6F14027	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:58
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-54-195-Q222	Date Analyzed:	06/22/22 14:05
Lab Samp ID:	F145-06I	Dilution Factor:	10
Lab File ID:	H6F14030	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:43
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-91-045-Q222	Date Analyzed:	06/22/22 14:18
Lab Samp ID:	F145-08	Dilution Factor:	1
Lab File ID:	H6F14035	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:12
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-91-120-Q222	Date Analyzed:	06/22/22 14:10
Lab Samp ID:	F145-09I	Dilution Factor:	10
Lab File ID:	H6F14032	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 08:30
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-91-170-Q222	Date Analyzed:	06/22/22 14:12
Lab Samp ID:	F145-10I	Dilution Factor:	10
Lab File ID:	H6F14033	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 07:53
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-91-320-Q222	Date Analyzed:	06/22/22 14:15
Lab Samp ID:	F145-11I	Dilution Factor:	10
Lab File ID:	H6F14034	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MBLK1W	Date Analyzed:	06/22/22 13:34
Lab Samp ID:	IMF024WB	Dilution Factor:	1
Lab File ID:	H6F14018	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IMF024WB	IMF024WL	IMF024WC
LAB FILE ID	: H6F14018	H6F14019	H6F14020
DATE PREPARED	: 06/21/22 11:56	06/21/22 11:56	06/21/22 11:56
DATE ANALYZED	: 06/22/22 13:34	06/22/22 13:36	06/22/22 13:39
PREP BATCH	: IMF024W	IMF024W	IMF024W
CALIBRATION REF	: H6F14016	H6F14016	H6F14016

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Chromium	ND	30	31.2	104	30	31.6	105	1	85-115	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : SW6020A

MATRIX : WATER % MOISTURE: NA
DILUTION FACTOR: 10 10 10
SAMPLE ID : MW-92-122-Q222 MW-92-122-Q222MS MW-92-122-Q222MSD
LAB SAMPLE ID : F145-01I F145-01M F145-01S
LAB FILE ID : H6F14024 H6F14021 H6F14022
DATE PREPARED : 06/21/22 11:56 06/21/22 11:56 06/21/22 11:56
DATE ANALYZED : 06/22/22 13:49 06/22/22 13:41 06/22/22 13:44
PREP BATCH : IMF024W IMF024W IMF024W
CALIBRATION REF: H6F14016 H6F14016 H6F14016

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpikeAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Chromium	ND	30	29.5	98	30	29.6	99	0	75-125	20

PSResult - Parent Sample Result

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD E218.6
HEXAVALENT CHROMIUM

SDG#: 22F145

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F145

METHOD E218.6
HEXAVALENT CHROMIUM

A total of thirteen (13) water samples were received on 06/16/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. Hexavalent Chromium was not detected in HCF011WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. HCF011WL/HCF011WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two (2) sets of MS/MSD were analyzed. Hexavalent Chromium was within MS QC limits in F145-04M/-04S and F145-08M/-08S. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Samples F145-04/-04M/-04S were reported at 5X dilution due to matrix interference.

METHOD E218.6
HEXAVALENT CHROMIUM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22F145

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCF011WB	ND	1	NA	0.2	0.05	06/22/2209:51	NA	IF22003	IF22001	HCF011W	NA	NA
LCS1W	HCF011WL	1.95	1	NA	0.2	0.05	06/22/2210:01	NA	IF22004	IF22001	HCF011W	NA	NA
LCD1W	HCF011WC	1.93	1	NA	0.2	0.05	06/22/2210:12	NA	IF22005	IF22001	HCF011W	NA	NA
MW-92-122-Q222	F145-01	ND	1	NA	0.2	0.05	06/22/2210:22	NA	IF22006	IF22001	HCF011W	06/15/2207:54	06/16/22
MW-54-085-Q222	F145-02	ND	1	NA	0.2	0.05	06/22/2210:32	NA	IF22007	IF22001	HCF011W	06/15/2211:18	06/16/22
MW-54-085-EB-Q222	F145-03	ND	1	NA	0.2	0.05	06/22/2210:43	NA	IF22008	IF22001	HCF011W	06/15/2210:50	06/16/22
MW-54-140-EB-Q222	F145-05	ND	1	NA	0.2	0.05	06/22/2211:34	NA	IF22012	IF22001	HCF011W	06/15/2210:05	06/16/22
MW-54-140-Q222	F145-04I	ND	5	NA	1	0.25	06/22/2212:06	NA	IF22015	IF22013	HCF011W	06/15/2210:30	06/16/22
MW-54-140-Q222MS	F145-04M	5.14	5	NA	1	0.25	06/22/2212:17	NA	IF22016	IF22013	HCF011W	06/15/2210:30	06/16/22
MW-54-140-Q222MSD	F145-04S	5.06	5	NA	1	0.25	06/22/2212:27	NA	IF22017	IF22013	HCF011W	06/15/2210:30	06/16/22
MW-54-195-Q222	F145-06	ND	1	NA	0.2	0.05	06/22/2212:38	NA	IF22018	IF22013	HCF011W	06/15/2209:58	06/16/22
MW-54-195-EB-Q222	F145-07	ND	1	NA	0.2	0.05	06/22/2212:48	NA	IF22019	IF22013	HCF011W	06/15/2209:35	06/16/22
MW-91-045-Q222	F145-08	ND	1	NA	0.2	0.05	06/22/2212:58	NA	IF22020	IF22013	HCF011W	06/15/2209:43	06/16/22
MW-91-045-Q222MS	F145-08M	1.02	1	NA	0.2	0.05	06/22/2213:10	NA	IF22021	IF22013	HCF011W	06/15/2209:43	06/16/22
MW-91-045-Q222MSD	F145-08S	1.02	1	NA	0.2	0.05	06/22/2213:20	NA	IF22022	IF22013	HCF011W	06/15/2209:43	06/16/22
MW-91-120-Q222	F145-09	ND	1	NA	0.2	0.05	06/22/2213:31	NA	IF22023	IF22013	HCF011W	06/15/2209:12	06/16/22
MW-91-170-Q222	F145-10	ND	1	NA	0.2	0.05	06/22/2213:41	NA	IF22024	IF22013	HCF011W	06/15/2208:30	06/16/22
MW-91-320-Q222	F145-11	ND	1	NA	0.2	0.05	06/22/2214:12	NA	IF22027	IF22025	HCF011W	06/15/2207:53	06/16/22
EB-740-Q222	F145-12	0.293	1	NA	0.2	0.05	06/22/2214:23	NA	IF22028	IF22025	HCF011W	06/15/2209:50	06/16/22
EB-741-Q222	F145-13	ND	1	NA	0.2	0.05	06/22/2214:33	NA	IF22029	IF22025	HCF011W	06/15/2211:30	06/16/22

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCF011WB	HCF011WL	HCF011WC
LAB FILE ID	: IF22003	IF22004	IF22005
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2209:51	06/22/2210:01	06/22/2210:12
PREP BATCH	: HCF011W	HCF011W	HCF011W
CALIBRATION REF	: IF22001	IF22001	IF22001

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	1.95	97.5	2.00	1.93	96.5	1	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 5	5	5
SAMPLE ID	: MW-54-140-Q222	MW-54-140-Q222MS	MW-54-140-Q222MSD
LAB SAMPLE ID	: F145-04I	F145-04M	F145-04S
LAB FILE ID	: IF22015	IF22016	IF22017
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2212:06	06/22/2212:17	06/22/2212:27
PREP BATCH	: HCF011W	HCF011W	HCF011W
CALIBRATION REF	: IF22013	IF22013	IF22013

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	5.00	5.14	103	5.00	5.06	101	2	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-91-045-Q222	MW-91-045-Q222MS	MW-91-045-Q222MSD
LAB SAMPLE ID	: F145-08	F145-08M	F145-08S
LAB FILE ID	: IF22020	IF22021	IF22022
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2212:58	06/22/2213:10	06/22/2213:20
PREP BATCH	: HCF011W	HCF011W	HCF011W
CALIBRATION REF	: IF22013	IF22013	IF22013

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	1.02	102	1.00	1.02	102	0	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-05-2022
EMAX Batch No.: 22F145

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 06/16/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-92-122-Q222	F145-01	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-54-085-Q222	F145-02	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-54-085-EB-Q222	F145-03	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-140-Q222	F145-04	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-54-140-EB-Q222	F145-05	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-54-195-Q222	F145-06	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-54-195-EB-Q222	F145-07	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-91-045-Q222	F145-08	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-91-120-Q222	F145-09	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-91-170-Q222	F145-10	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-91-320-Q222	F145-11	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
EB-740-Q222	F145-12	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC
EB-741-Q222	F145-13	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Gaspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

~~22F1460~~ JSR 06/16

22F145

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		1. Chilled		
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	2. Headspace		
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	Labspec		CalTrans		3. Container Intact		
Submitted By: Nara Tep	Phone: 916-786-3302 Fax:	Phone: 916-786-3302 Fax:	Others	✓	LEVEL III		4. Seal Present		
Title: Project manager			Specify: RWQCB		LEVEL IV		5. IR number		
Signature: Date: 6/15/22	Sampled By: Nara Tep		Global ID:		Regulatory		6. Method of Cooling:		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		Sample Temp:		
Project Name: PG&E Topock - AZ RCM	Signature: Date: 6/15/22	Matrix: Ground water x; Sediment; Potable; Soil; NPDES; Other Solid; Surface					Courier:		
Project Number: 30121866.2Q22GW							Tracking No.:		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 125 mL poly	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH 250 mL poly	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 250 mL poly	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 250 mL poly	Dissolved Title 22 metals (SW6020B) FF; HNO3 250 mL poly	Dissolved metals Chromium; HNO3 250 mL poly	Alkalinity, Total (SM 2320B) 500 mL poly	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) 500 mL poly	TDS (SM 2540C) 500 mL poly	TOC (SM9060); HCl 125 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
	1	MW-92-122-Q222	6/15/2022	7:54		X					X					E	2	P	BN	
	2	MW-54-085-Q222	6/15/2022	11:18		X					X					E	2	P	BN	
	3	MW-54-085-EB-Q222	6/15/2022	10:50		X					X					E	2	P	BN	
	4	MW-54-140-Q222	6/15/2022	10:30		X					X					E	2	P	BN	
	5	MW-54-140-EB-Q222	6/15/2022	10:05		X					X					E	2	P	BN	
	6	MW-54-195-Q222	6/15/2022	9:58		X					X					E	2	P	BN	
	7	MW-54-195-EB-Q222	6/15/2022	9:35		X					X					E	2	P	BN	
	8	MW-91-045-Q222	6/15/2022	9:43		X					X					E	2	P	BN	
	9	MW-91-120-Q222	6/15/2022	9:12		X					X					E	2	P	BN	
	10	MW-91-170-Q222	6/15/2022	8:30		X					X					E	2	P	BN	
	11	MW-91-320-Q222	6/15/2022	7:53		X					X					E	2	P	BN	
	12	EB-740-Q222	6/15/2022	9:50		X										E	1	P	BN	
	13	EB-741-Q222	6/15/2022	11:30		X										E	1	P	BN	

Reliquished by (Signature and Printed Name): Nara Tep 6/15/22 1300 Date/Time:	Reliquished by (Signature and Printed Name): Date/Time:
Reliquished by (Signature and Printed Name): Date/Time:	Reliquished by (Signature and Printed Name): Received: Joaquin Solorzano 06/16/22 Date/Time:
Reliquished by (Signature and Printed Name): Date/Time:	Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of tha total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

Temp: 2.5/2.0
CF: -0.5

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

Page 1 of 1

22F145

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com
Submitted By: Nara Tep	Phone: 916-786-3302 Fax:	Phone: 916-786-3302 Fax:
Title: Project Manager		
Signature: Date: 6/15/22	Sampled By: Nara Tep	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	
Project Name: PG&E Topock - AZ RCM	Signature: Date: 6/15/22	
Project Number: 30121866.2Q22GW		

Matrix			
Ground water	x	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled		
Geotracker		RWQCB	✓	2. Headspace		
Labspec		CalTrans		3. Container Intact		
Others	✓	LEVEL III		4. Seal Present		
Specify: RWQCB		LEVEL IV		5. IR number		
Global ID:		Regulatory		6. Method of Cooling:		
		Specify State:		Sample Temp:		

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (125 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 (250 mL poly)	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 (250 mL poly)	Dissolved Title 22 metals (SW6020B) FF; HNO3 (250 mL poly)	Dissolved metals Chromium; HNO3 (250 mL poly)	Alkalinity, Total (SM 2320B) (500 mL poly)	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) (500 mL poly)	TDS (SM 2540C) (500 mL poly)	TOC (SM9060); HCl (125 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1		MW-92-122-Q222	6/15/2022	7:54		X					X					E	2	P	BN	
2		MW-54-085-Q222	6/15/2022	11:18		X					X					E	2	P	BN	
3		MW-54-085-EB-Q222	6/15/2022	10:50		X					X					E	(2)	P	BN	
4		MW-54-140-Q222	6/15/2022	10:30		X					X					E	2	P	BN	
5		MW-54-140-EB-Q222	6/15/2022	10:05		X					X					E	(2)	P	BN	
6		MW-54-195-Q222	6/15/2022	9:58		X					X					E	2	P	BN	
7		MW-54-195-EB-Q222	6/15/2022	9:35		X					X					E	(2)	P	BN	
8		MW-91-045-Q222	6/15/2022	9:43		X					X					E	2	P	BN	
9		MW-91-120-Q222	6/15/2022	9:12		X					X					E	2	P	BN	
10		MW-91-170-Q222	6/15/2022	8:30		X					X					E	2	P	BN	
11		MW-91-320-Q222	6/15/2022	7:53		X					X					E	2	P	BN	
12		EB-740-Q222	6/15/2022	9:50		X										E	1	P	BN	
13		EB-741-Q222	6/15/2022	11:30		X										E	1	P	BN	

No Container for Diss Cr

Reliquished by (Signature and Printed Name): Nara Tep 6/15/22 1300 Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

EMAX LABORATORIES, INC.

REFERENCE: EMAX-SM02 Rev. 12

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 22F145
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7771 3910 3030	Recipient Jocelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 06/16/22 Time 09:32

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: _____

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition Correction factor -0.5	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.5+2.0 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C
Thermometer:	*A - S/N* 210583479	*B - S/N* _____	(C) *S/N* 210271399	*D - S/N* _____	

Comments: ☐ Temperature is out of range. PM was informed IMMEDIATELY.

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
12	20	D10		R8
1-11	1,3,5,6,8,9,11,12,14,16,18	D12	label reads 250mL, received 125mL poly for Cr(VI)	
1,2,4,6,8-11	2,4,7,10,13,15,17,19	D12	label reads 500mL, received 250mL poly for Dissolved Metals	
3,5,7		D8	received no container for Dissolved Metals	R8

6/16/22

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. RB 6/16/22

NOTES/OBSERVATIONS: samples 12 & 13 read field-filtered on COC but not on label.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☑ NO

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
(D8)	Sample listed in COC is not received
D9	Sample received is not listed in COC
(D10)	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
(D12)	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
D20	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed Client
R9	
R10	
R11	
R12	

REVIEWS:

Sample Labeling Jocelyne Solis-Ramos Date 06/16/22 — 6/16/22

SRF _____ Date 6/16/22

PM RB Date 6/16/22



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL IV

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

SDG#: 22F145

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F145

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of eight(8) water samples were received on 06/16/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IMF024WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IMF024WL/IMF024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of MS/MSD was analyzed. Chromium was within MS QC limits in F145-01M/F145-01S. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met. Samples analyzed at dilution due to high saturation.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22F145
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IMF024WB	1	NA	06/22/2213:34	06/21/2211:56	H6F14018	H6F14016	IMF024W	Method Blank
LCS1W	IMF024WL	1	NA	06/22/2213:36	06/21/2211:56	H6F14019	H6F14016	IMF024W	Lab Control Sample (LCS)
LCD1W	IMF024WC	1	NA	06/22/2213:39	06/21/2211:56	H6F14020	H6F14016	IMF024W	LCS Duplicate
MW-92-122-Q222MS	F145-01M	10	NA	06/22/2213:41	06/21/2211:56	H6F14021	H6F14016	IMF024W	Matrix Spike Sample (MS)
MW-92-122-Q222MSD	F145-01S	10	NA	06/22/2213:44	06/21/2211:56	H6F14022	H6F14016	IMF024W	MS Duplicate (MSD)
MW-92-122-Q222	F145-01I	10	NA	06/22/2213:49	06/21/2211:56	H6F14024	H6F14016	IMF024W	Diluted Sample
MW-54-085-Q222	F145-02I	10	NA	06/22/2213:54	06/21/2211:56	H6F14026	H6F14016	IMF024W	Diluted Sample
MW-54-140-Q222	F145-04I	10	NA	06/22/2213:57	06/21/2211:56	H6F14027	H6F14016	IMF024W	Diluted Sample
MW-54-195-Q222	F145-06I	10	NA	06/22/2214:05	06/21/2211:56	H6F14030	H6F14028	IMF024W	Diluted Sample
MW-91-120-Q222	F145-09I	10	NA	06/22/2214:10	06/21/2211:56	H6F14032	H6F14028	IMF024W	Diluted Sample
MW-91-170-Q222	F145-10I	10	NA	06/22/2214:12	06/21/2211:56	H6F14033	H6F14028	IMF024W	Diluted Sample
MW-91-320-Q222	F145-11I	10	NA	06/22/2214:15	06/21/2211:56	H6F14034	H6F14028	IMF024W	Diluted Sample
MW-91-045-Q222	F145-08	1	NA	06/22/2214:18	06/21/2211:56	H6F14035	H6F14028	IMF024W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 07:54
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-92-122-Q222	Date Analyzed:	06/22/22 13:49
Lab Samp ID:	F145-01I	Dilution Factor:	10
Lab File ID:	H6F14024	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 11:18
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-54-085-Q222	Date Analyzed:	06/22/22 13:54
Lab Samp ID:	F145-02I	Dilution Factor:	10
Lab File ID:	H6F14026	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 10:30
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-54-140-Q222	Date Analyzed:	06/22/22 13:57
Lab Samp ID:	F145-04I	Dilution Factor:	10
Lab File ID:	H6F14027	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:58
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-54-195-Q222	Date Analyzed:	06/22/22 14:05
Lab Samp ID:	F145-06I	Dilution Factor:	10
Lab File ID:	H6F14030	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:43
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID	: MW-91-045-Q222	Date Analyzed:	06/22/22 14:18
Lab Samp ID	: F145-08	Dilution Factor:	1
Lab File ID	: H6F14035	Matrix:	WATER
Ext Btch ID	: IMF024W	% Moisture:	NA
Calib. Ref.	: H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:12
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-91-120-Q222	Date Analyzed:	06/22/22 14:10
Lab Samp ID:	F145-09I	Dilution Factor:	10
Lab File ID:	H6F14032	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client : ARCADIS	Date Collected: 06/15/22 08:30
Project : PG&E TOPOCK-GMP	Date Received: 06/16/22
SDG NO. : 22F145	Date Extracted: 06/21/22 11:56
Sample ID: MW-91-170-Q222	Date Analyzed: 06/22/22 14:12
Lab Samp ID: F145-10I	Dilution Factor: 10
Lab File ID: H6F14033	Matrix: WATER
Ext Btch ID: IMF024W	% Moisture: NA
Calib. Ref.: H6F14028	Instrument ID: H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount : 50ml	Final Volume:50ml
Prepared by : CKaing	Analyzed by:LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 07:53
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MW-91-320-Q222	Date Analyzed:	06/22/22 14:15
Lab Samp ID:	F145-11I	Dilution Factor:	10
Lab File ID:	H6F14034	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14028	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 22F145	Date Extracted:	06/21/22 11:56
Sample ID:	MBLK1W	Date Analyzed:	06/22/22 13:34
Lab Samp ID:	IMF024WB	Dilution Factor:	1
Lab File ID:	H6F14018	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IMF024WB	IMF024WL	IMF024WC
LAB FILE ID	: H6F14018	H6F14019	H6F14020
DATE PREPARED	: 06/21/22 11:56	06/21/22 11:56	06/21/22 11:56
DATE ANALYZED	: 06/22/22 13:34	06/22/22 13:36	06/22/22 13:39
PREP BATCH	: IMF024W	IMF024W	IMF024W
CALIBRATION REF	: H6F14016	H6F14016	H6F14016

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Chromium	ND	30	31.2	104	30	31.6	105	1	85-115	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 10	10	10
SAMPLE ID	: MW-92-122-Q222	MW-92-122-Q222MS	MW-92-122-Q222MSD
LAB SAMPLE ID	: F145-01I	F145-01M	F145-01S
LAB FILE ID	: H6F14024	H6F14021	H6F14022
DATE PREPARED	: 06/21/22 11:56	06/21/22 11:56	06/21/22 11:56
DATE ANALYZED	: 06/22/22 13:49	06/22/22 13:41	06/22/22 13:44
PREP BATCH	: IMF024W	IMF024W	IMF024W
CALIBRATION REF	: H6F14016	H6F14016	H6F14016

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpikeAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Chromium	ND	30	29.5	98	30	29.6	99	0	75-125	20

PSResult - Parent Sample Result

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	3000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	300	25	20	0
B	100	300	50	20	0
Cd	500	300	250	20	0
Ca	50000	3000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	300	25000	100000	100000
Pb	500	300	250	20	0
Mg	50000	3000	25000	100000	100000
Mn	3000	300	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
K	50000	3000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	2000	0
Ag	50	30	25	20	0
Na	50000	3000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0
Li	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 06/22/22 12:53

End Date: 06/22/22 15:15

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

F145, F146

10X: 0.5mL → 5mL

Book #:	AH6-011
Instrument No.:	H6
Analytical Batch:	1H6F14
Analytical Sequence:	H6F14
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☑ ICP-06
Micropipette ID:	☐ 339362028
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☑ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☑ A42761607

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-25-51-01	MRL1 (1)	SM6B-25-17-02
S1	51-02	MRL2 (0.4)	18-01
S2	52-01	MRL3 (0.2)	18-02
S3	52-02	MRL4	NA
S4	53-01	MRL5	
S5	53-02	MRL6	
S6	NA	Internal Standard	SM6B-25-54-02
S7		Post-Spike 1	SM6A-23-01-12
ICV	SM6B-25-16-01	Post-Spike 2	01-13
CCV	54-01	Post-Spike 3	NA
ICSA	47-01	Post-Spike 4	
ICSAB	47-02		
6020 TUNE SOLN.	46-02		
200.8 TUNE SOLN.	46-02		

Analyzed By: LY

Date: 06/22/22

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22F145
Method : METHOD SW6020A
Sequence : IH6F14
InstrumentID: H6

Lab Samp ID :		ICV				ICSA1			ICSAB1	
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120	
Lab File ID :		H6F14009				H6F14013			H6F14014	
DateAnalyed :		06/22/2213:10				06/22/2213:21			06/22/2213:23	
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		28.05	30	4.1	94	0.092621	0	>0	20.063	20	100
Beryllium		28.78	30	4.6	96	0.0095358	0	<0.1	19.677	20	98
Boron		28.11	30	6.0	94	1.1383	0	<5.0	18.011	20	90
Sodium		30830	30000	0.8	103	104840	100000	105	103230	100000	103
Magnesium		29930	30000	4.4	100	100580	100000	101	101480	100000	101
Aluminum		29370	30000	4.8	98	100040	100000	100	100740	100000	101
Silicon		3253	3000	0.6	108	8.1256	0	<20	224.66	200	112
Phosphorus		300.5	300	4.2	100	102090	100000	102	102600	100000	103
Potassium		30560	30000	0.4	102	105340	100000	105	104230	100000	104
Calcium		30370	30000	0.9	101	105070	100000	105	102060	100000	102
Titanium		303.8	300	4.0	101	2097.7	2000	105	2129.5	2000	106
Vanadium		307.1	300	0.5	102	0.71991	0	>0.5	19.679	20	98
Chromium	T	316.5	300	0.5	106	2.0017	0	>.25	22.204	20	111
Manganese		1942	2000	3.7	97	0.39401	0	>0.2	20.334	20	102
Iron		30480	30000	0.2	102	102800	100000	103	101670	100000	102
Cobalt		310.0	300	4.0	103	0.15966	0	<0.2	20.437	20	102
Nickel		310.5	300	0.5	103	0.16511	0	<0.2	19.876	20	99
Copper		329.5	300	0.4	110	0.13204	0	<0.5	20.058	20	100
Zinc		311.0	300	3.7	104	2.0861	0	<10	21.818	20	109
Arsenic		305.3	300	0.3	102	0.051799	0	<0.2	20.016	20	100
Selenium		311.7	300	0.3	104	0.25915	0	<0.3	20.108	20	101
Strontium		308.0	300	3.6	103	1.1152	0	>1.0	21.425	20	107
Zirconium		32.21	30	3.6	107	0.32343	0	<2.0	6.6503	20	33*
Molybdenum		298.9	300	4.6	100	2075.8	2000	104	2089.1	2000	104
Silver		29.92	30	4.1	100	0.30026	0	>0.2	19.954	20	100
Cadmium		299.6	300	3.5	100	0.078047	0	<0.2	19.965	20	100
Tin		303.4	300	3.7	101	0.076931	0	<0.2	20.496	20	102
Antimony		58.61	60	3.1	98	0.056548	0	<0.5	20.234	20	101
Barium		304.8	300	3.5	102	0.38205	0	<0.5	20.730	20	104
Tungsten		29.54	30	1.8	98	0.13513	0	<1.0	19.135	20	96
Mercury		2.859	3	2.7	95	0.013242	0	<0.1	1.9935	2	100
Thallium		308.1	300	3.3	103	0.012970	0	<0.2	19.597	20	98
Lead		311.8	300	2.2	104	0.091142	0	<0.1	19.937	20	100
Uranium		305.3	300	3.0	102	0.0052144	0	<0.1	19.928	20	100

Unit:	ug/L
T:	Target analyte
EV:	Expected Value
Comment:	* Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22F145
Method : METHOD SW6020A
Sequence : IH6F14
Instrument ID: H6

		CCV1			CCV2			CCV3		
CCV SampleID					H6F14028			H6F14036		
CCV DataFileID		H6F14016			06/22/22 13:59			06/22/22 14:20		
CCV DateTime		06/22/22 13:28								
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	23.3	93	4.2	23.6	94	4.7	23.6	94	3.7
Beryllium		25	23.3	93	3.9	23.2	93	4.5	23.4	93	4.8
Boron		50	44.1	88*	7.1	48.0	96	5.4	54.1	108	2.7
Sodium		25000	24900	100	0.7	25600	102	0.6	25500	102	0.3
Magnesium		25000	24500	98	3.4	24800	99	3.6	25000	100	3.0
Aluminum		25000	24400	98	1.8	24800	99	4.7	24900	100	3.7
Silicon		2500	2500	100	0.3	2590	104	0.5	2570	103	0.7
Phosphorus		250	235	94	3.1	235	94	2.6	240	96	3.3
Potassium		25000	25100	101	1.0	25300	101	0.4	25700	103	0.9
Calcium		25000	24700	99	0.7	25200	101	0.2	25000	100	0.2
Titanium		250	243	97	3.2	244	98	3.7	245	98	2.9
Vanadium		250	249	100	0.1	248	99	0.1	247	99	0.1
Chromium	T	250	250	100	0.4	251	100	0.5	252	101	0.3
Manganese		1500	1470	98	3.5	1470	98	3.4	1470	98	3.9
Iron		25000	24900	100	0.2	25000	100	1.1	24900	100	0.9
Cobalt		250	247	99	3.3	250	100	4.2	248	99	2.7
Nickel		250	249	100	0.6	249	100	0.3	247	99	0.1
Copper		250	252	101	0.3	252	101	0.1	253	101	0.6
Zinc		250	243	97	4.3	246	98	3.3	247	99	4.0
Arsenic		250	245	98	0.8	247	99	0.3	248	99	0.3
Selenium		250	246	98	1.0	245	98	0.7	247	99	0.5
Strontium		250	244	98	4.4	248	99	3.0	251	100	4.1
Zirconium		25	26.0	104	3.6	26.2	105	3.9	26.2	105	3.9
Molybdenum		250	242	97	3.7	242	97	2.8	245	98	3.0
Silver		25	24.5	98	3.7	24.4	97	3.2	24.4	98	2.4
Cadmium		250	242	97	3.2	240	96	2.7	242	97	2.7
Tin		250	241	96	2.5	241	96	2.0	245	98	2.1
Antimony		50	47.5	95	2.8	47.2	94	2.2	47.7	95	3.3
Barium		500	484	97	3.6	483	97	1.7	491	98	2.6
Tungsten		25	25.5	102	2.2	25.7	103	3.1	25.4	102	1.4
Mercury		2.5	2.45	98	2.8	2.43	97	4.7	2.42	97	3.6
Thallium		250	246	98	3.7	246	98	1.8	242	97	2.6
Lead		250	249	100	3.2	248	99	1.6	245	98	1.6
Uranium		250	244	98	3.5	243	97	3.1	240	96	1.8

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22F145
Method : SW6020A
Sequence : IH6F14
Instrument ID: H6

CB SampleID		: ICB		CCB1		CCB2		CCB3	
CB DataFileID		: H6F14010		H6F14017		H6F14029		H6F14037	
CB DateTime		: 06/22/2213:13		06/22/2213:31		06/22/2214:02		06/22/2214:23	
PARAMETER		LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium		0	0.3	>0	0.4	>0	0.3	>0	0.3	>0
Beryllium		0.1	0.01	<0.1	0.01	<0.1	0.01	<0.1	0.010	<0.1
Boron		5.0	1	<5.0	1	<5.0	3	<5.0	5	<5.0
Sodium		50	10	<50	20	<50	60	>50	100	>50
Magnesium		10	1	<10	1	<10	2	<10	5	<10
Aluminum		20	0.9	<20	1	<20	2	<20	5	<20
Silicon		20	9	<20	3	<20	2	<20	2	<20
Phosphorus		25	4	<25	8	<25	8	<25	7	<25
Potassium		20	1	<20	3	<20	7	<20	20	<20
Calcium		25	0.4	<25	0.7	<25	2	<25	5	<25
Titanium		0.5	0.02	<0.5	0.03	<0.5	0.03	<0.5	0.08	<0.5
Vanadium		0.5	0.5	<0.5	0.3	<0.5	0.5	>0.5	0.7	>0.5
Chromium	T	.25	0.09	<.25	0.1	<.25	0.1	<.25	0.1	<.25
Manganese		0.2	0.1	<0.2	0.1	<0.2	0.2	<0.2	0.3	>0.2
Iron		10	0.9	<10	1	<10	2	<10	5	<10
Cobalt		0.2	0.003	<0.2	0.004	<0.2	0.02	<0.2	0.04	<0.2
Nickel		0.2	0.001	<0.2	0.007	<0.2	0.02	<0.2	0.05	<0.2
Copper		0.5	0.04	<0.5	0.08	<0.5	0.002	<0.5	0.1	<0.5
Zinc		10	0.06	<10	0.04	<10	0.03	<10	0.07	<10
Arsenic		0.2	0.03	<0.2	0.04	<0.2	0.07	<0.2	0.04	<0.2
Selenium		0.3	0.04	<0.3	0.03	<0.3	0.05	<0.3	0.07	<0.3
Strontium		1.0	0.008	<1.0	0.007	<1.0	0.03	<1.0	0.06	<1.0
Zirconium		2.0	0.004	<2.0	0.001	<2.0	0.0009	<2.0	0.003	<2.0
Molybdenum		0.5	0.1	<0.5	0.1	<0.5	0.08	<0.5	0.1	<0.5
Silver		0.2	0.001	<0.2	0.002	<0.2	0.002	<0.2	0.0007	<0.2
Cadmium		0.2	0.04	<0.2	0.03	<0.2	0.03	<0.2	0.05	<0.2
Tin		0.2	0.09	<0.2	0.07	<0.2	0.07	<0.2	0.1	<0.2
Antimony		0.5	0.005	<0.5	0.008	<0.5	0.02	<0.5	0.02	<0.5
Barium		0.5	0.02	<0.5	0.02	<0.5	0.05	<0.5	0.1	<0.5
Tungsten		1.0	0.02	<1.0	0.01	<1.0	0.007	<1.0	0.01	<1.0
Mercury		0.1	0.03	<0.1	0.03	<0.1	0.02	<0.1	0.02	<0.1
Thallium		0.2	0.07	<0.2	0.04	<0.2	0.04	<0.2	0.08	<0.2
Lead		0.1	0.07	<0.1	0.02	<0.1	0.010	<0.1	0.03	<0.1
Uranium		0.1	0.03	<0.1	0.02	<0.1	0.03	<0.1	0.06	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		CalBlk	BLANK		1101	H6F14001.d		1	
2		CalBlk	BLANK		1101	H6F14002.d		1	
3		CalBlk	S0		1102	H6F14003.d		1	
4		CalStd	S1		1103	H6F14004.d		2	
5		CalStd	S2		1104	H6F14005.d		3	
6		CalStd	S3		1105	H6F14006.d		4	
7		CalStd	S4		1106	H6F14007.d		5	
8		CalStd	S5		1107	H6F14008.d		6	
9		ICV	ICV		1204	H6F14009.d			1
10		ICB	ICB		1102	H6F14010.d			1
11		LLCCV	MRLF2201	1/100/10 ppb	1306	H6F14011.d			1
12		LLCCV2	MRLF2202	0.4/40/4 ppb	1307	H6F14012.d			1
13		ICS-A	ICSA1		1304	H6F14013.d			1
14		ICSB	ICSAB1		1305	H6F14014.d			1
15		Sample	MRLF2203	500 ppb CAT	1207	H6F14015.d			1
16		CCV	CCV1		1206	H6F14016.d			1
17		CCB	CCB1		1102	H6F14017.d			1

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		Blank	IMF024WB		2101	H6F14018.d			1
2		LCSW	IMF024WL		2102	H6F14019.d			1
3		LCSW	IMF024WC		2103	H6F14020.d			1
4		Sample	F145-01M		2104	H6F14021.d			10
5		Sample	F145-01S		2105	H6F14022.d			10
6		Sample	F145-01A		2106	H6F14023.d			10
7		Sample	F145-01I		2107	H6F14024.d			10
8		Sample	F145-01J		2108	H6F14025.d			50
9		Sample	F145-02I		2109	H6F14026.d			10
10		Sample	F145-04I		2110	H6F14027.d			10
11		CCV	CCV2		1206	H6F14028.d			1
12		CCB	CCB2		1102	H6F14029.d			1
13		Sample	F145-06I		2111	H6F14030.d			10
14		Sample	F145-08I		2112	H6F14031.d			10
15		Sample	F145-09I		2201	H6F14032.d			10
16		Sample	F145-10I		2202	H6F14033.d			10
17		Sample	F145-11I		2203	H6F14034.d			10
18		Sample	F145-08		2301	H6F14035.d			1
19		CCV	CCV3		1206	H6F14036.d			1

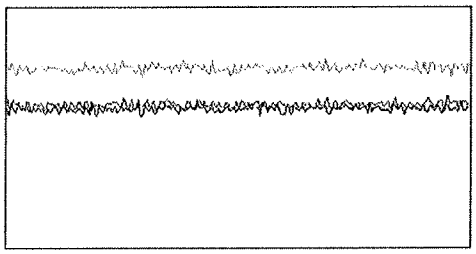
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
20		CCB	CCB3		1102	H6F14037.d			1
21		Sample	F146-01I		2204	H6F14038.d			10
22		Sample	F146-02I		2205	H6F14039.d			10
23		Sample	F146-03I		2206	H6F14040.d			10
24		Sample	F146-04I		2207	H6F14041.d			10
25		Sample	F146-06I		2208	H6F14042.d			10
26		Sample	F146-08I		2209	H6F14043.d			10
27		Sample	F146-09I		2210	H6F14044.d			10
28		Sample	F146-10I		2211	H6F14045.d			10
29		CCV	CCV4		1206	H6F14046.d			1
30		CCB	CCB4		1102	H6F14047.d			1
31		Sample	F146-04		2302	H6F14048.d			1
32		Sample	F146-08		2303	H6F14049.d			1
33		Sample	F146-09		2304	H6F14050.d			1
34		Sample	F146-10		2305	H6F14051.d			1
35		CCV	CCV5		1206	H6F14052.d			1
36		CCB	CCB5		1102	H6F14053.d			1
37		ICS-A	ICSA2		1304	H6F14054.d			1
38		ICSB	ICSAB2		1305	H6F14055.d			1

Performance Report

Operator Name	LYaman
Acq. Date-Time	2022-06-22 12:26:52
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



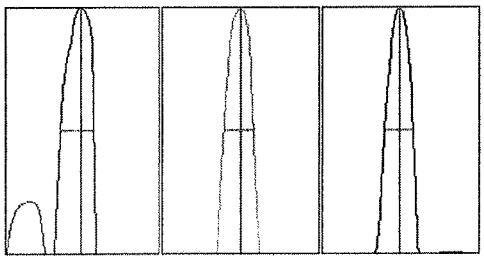
Mass	Range	Count	RSD%	Background
7	10000	5957	2.211	0.200
89	20000	14964	1.916	0.500
205	20000	11563	2.125	2.800

Sampling Period [sec] 0.311
Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide 156 / 140 0.894 %
Doubly Charged 70 / 140 1.597 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	5976.08	7.00	0.66	0.77
89	14921.14	89.05	0.58	0.75
205	11494.67	205.00	0.57	0.74

Integration Time [sec] 0.1
Acquisition Time [sec] 22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.07 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	6.6 V	Deflect	12.8 V
Extract 2	-160.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.3 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.4 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.02 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	123	Axis Gain	0.9994		
Mass Offset	124	Axis Offset	-0.01		

EM

Discriminator	3.2 mV	Analog HV	2301 V	Pulse HV	1119 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.07	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	15.02	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.39E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	32.0	°C
Nebulizer Gas(DP)	5.91E+0	kPa
MU./Dil. Gas(DP)	-1.85E-1	kPa
Aux Gas(DP)	1.24E+1	kPa
Plasma Gas(DP)	1.12E+1	kPa
Nebulizer Gas(BP)	3.70E+2	kPa
MU./Dil. Gas(BP)	-4.01E+0	kPa
Aux Gas(BP)	5.93E+1	kPa
Plasma Gas(BP)	3.95E+1	kPa
S/C Temp (H)	16.3	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.8	V
IF/BK Press	2.35E+2	Pa
Analyzer Press	6.99E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.2	%
TMP Current	2.62	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	203.8	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.0	V
+U Voltage	36.4	V

Name	Value	Unit
-U Voltage	-38.9	V
V Voltage	35.1	V
QPRF Fader	0.0	V
Pickup Temp	54.9	°C
PWR Amp Temp	0.1	V
+600V	609.1	V
-120V	-133.6	V
-720V	-737.8	V
Prefilter Bias	-5.06	V
Pickup Heater I	0.08	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2305	V
Pulse HV	1130	V
EM Gate	-40.2	V
Pulse Gate	237.2	V
EM Entrance	0.1	V
EM HV Gain	-945.7	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	62.5	V
RF PS +48V	47.9	V
Forward Power	1550	W
Reflected Power	3	W
Plasma Freq.	26.71	MHz
Drain I 1	11.45	A
Drain I 2	10.94	A
Drain I 3	10.89	A
Drain I 4	10.22	A
Temp Sensor	2.8	V
Driver I	5.64	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.52E+0	kPa
ORS AMFC Temp	32.1	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-160.3	V
Omega Bias	-90.2	V
Omega Lens	6.5	V
Cell Entrance	-30.0	V
Cell Exit	-50.2	V
Deflect	12.8	V
Plate Bias	-35.0	V
HV+530V	523	V
HV+240V	238	V
HV-360V	-357	V
Inlet Temp	31.2	°C
Internal Temp	38.7	°C
+24V	23.6	V
Water Temp	18.7	°C
Water RF/WC/IF	1.40	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

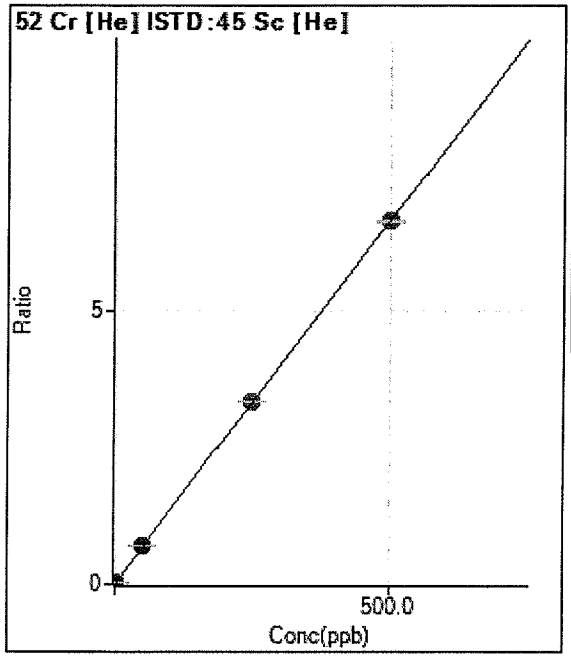
Performance Report History

Sensitivity

Calibration for H6F14055.d

Batch Folder: D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b\
Analysis File: IH6F14.batch.bin
DA Date-Time: 2022-06-22 15:17:37
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

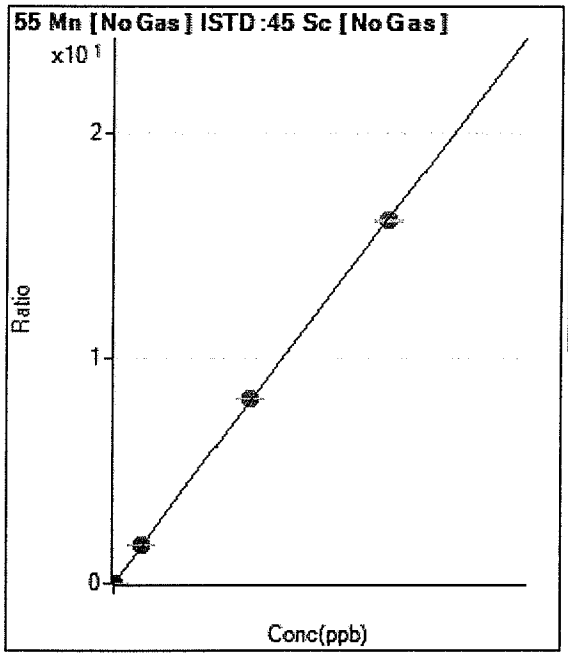
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6F14003.d	S0	2022-06-22 12:53:37
2	H6F14004.d	S1	2022-06-22 12:56:28
3	H6F14005.d	S2	2022-06-22 12:59:19
4	H6F14006.d	S3	2022-06-22 13:02:10
5	H6F14007.d	S4	2022-06-22 13:05:00
6	H6F14008.d	S5	2022-06-22 13:07:50



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1524.76	0.0044	P	5.8
2	☐	0.500	0.553	4101.29	0.0117	P	3.6
3	☐	1.000	1.078	6580.91	0.0187	P	3.5
4	☐	50.000	52.922	251716.27	0.7096	P	0.8
5	☐	250.000	250.414	1167492.96	3.3416	A	0.3
6	☐	500.000	499.500	2261914.75	6.6611	A	0.2

y = 0.0133 * x + 0.0044
R = 1.0000
DL = 0.05699
BEC = 0.3281

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8972.27	0.0022	P	0.8
2	☐	0.500	0.626	22539.22	0.0056	P	1.1
3	☐	1.000	1.146	34113.79	0.0084	P	0.2
4	☐	300.000	317.275	6942330.50	1.7183	A	0.7
5	☐	1500.000	1523.203	33321446.67	8.2411	A	0.5
6	☐	3000.000	2986.671	64419634.67	16.1568	A	0.7

y = 0.0054 * x + 0.0022
R = 0.9999
DL = 0.009279
BEC = 0.4121

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	LYaman
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq. Date-Time	2022-06-22 12:44:18
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

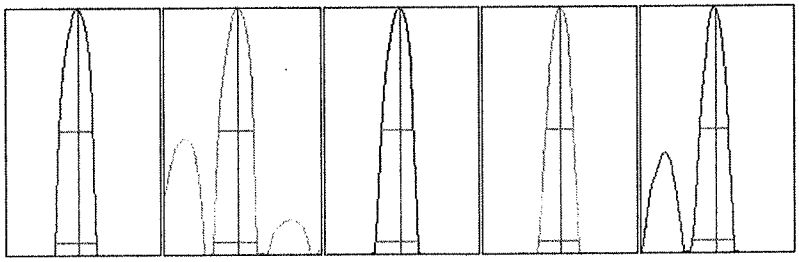
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	25341	253408.94			0.681	5.000
24	10.00	88964	889642.16			0.294	5.000
59	10.00	170569	1705693.56			0.625	5.000
115	10.00	248185	2481845.99			0.676	5.000
208	10.00	172657	1726569.37			0.945	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	25364	25267	25622	25286	25166
24	88977	88954	88629	88900	89361
59	169842	172206	171109	169807	169883
115	246727	246996	248600	250891	247708
208	172227	171255	171352	175192	173257

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	41696.72	8.95	8.90 - 9.10	
24	144342.89	23.95	23.90 - 24.10	
59	283957.98	59.00	58.90 - 59.10	
115	478651.13	115.05	114.90 - 115.10	
208	317410.37	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.64	0.786	0.900	
24	0.66	0.830	0.900	
59	0.63	0.827	0.900	
115	0.54	0.766	0.900	
208	0.57	0.807	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.61 L/min	Dilution Gas	0.36 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.6 V	Deflect	14.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-50 V
Omega Bias	-110 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9994	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.01		

Hardware Settings

Torch

Torch H	0.3 mm	Torch V	-0.4 mm

EM

Discriminator	3.2 mV	Analog HV	2301 V	Pulse HV	1119 V

Calibration Blank Report

Sample Name	BLANK
File Name	H6F14002.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 12:50:32
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	116898.66	1.9
Be	9	6	No Gas	100.00	15.3
B	11	6	No Gas	734.46	5.1
Na	23	45	H2	295111.31	0.4
Mg	24	45	No Gas	10640.73	1.4
Al	27	45	No Gas	17991.70	4.0
Si	28	45	H2	6420.15	1.5
P	31	45	No Gas	49099.18	1.0
K	39	45	He	53194.17	3.3
Ca	40	45	H2	38356.52	0.4
Ti	47	45	No Gas	210.67	3.1
V	51	45	He	4357.36	0.5
Cr	52	45	He	1667.44	2.2
Mn	55	45	No Gas	9981.65	1.0
Fe	56	45	H2	25434.87	65.9
Co	59	45	No Gas	682.69	19.1
Ni	60	45	He	44.67	12.9
Cu	63	45	He	1344.73	4.3
Zn	66	72	No Gas	1094.71	7.8
As	75	72	He	191.33	5.0
Se	78	72	H2	9.67	26.0
Sr	88	72	No Gas	617.80	11.6
Zr	90	72	No Gas	170.00	20.4
Mo	95	115	No Gas	42.22	24.1
Mo	98	115	No Gas	97.78	20.8
[Cd]	106	115	No Gas	2.67	108.3
Ag	107	115	No Gas	102.22	24.0
[Cd]	108	115	No Gas	4.00	50.0
Cd	111	115	No Gas	14.74	46.2
Sn	118	115	No Gas	967.82	7.6
Sn	118	115	H2	1013.37	8.9
Sb	123	115	No Gas	162.22	9.7
Ba	137	115	No Gas	133.33	4.3
W	182	159	No Gas	133.33	41.3
Hg	201	159	No Gas	9.83	23.5

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	5.00	30.0
Tl	205	159	No Gas	311.11	9.1
Pb	206	159	No Gas	746.69	12.9
Pb	207	159	No Gas	596.68	12.8
Pb	208	159	No Gas	2851.25	9.1
Th	232	159	No Gas	45.56	4.2
U	238	159	No Gas	196.67	22.8

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	2048437.38	0.3
Sc	45	No Gas	3991048.42	0.3
Sc	45	H2	2183609.83	0.9
Sc	45	He	345602.25	0.4
Ge	72	No Gas	887389.44	0.6
Ge	72	H2	589627.64	1.3
Ge	72	He	192331.57	0.5
In	115	No Gas	5997056.36	0.7
Tb	159	No Gas	8850040.48	0.7
Tb	159	He	5162003.50	0.1

Calibration Blank Report

Sample Name	S0
File Name	H6F14003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 12:53:37
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	117616.60	0.6
Be	9	6	No Gas	56.67	15.6
B	11	6	No Gas	613.35	4.4
Na	23	45	H2	287003.03	0.1
Mg	24	45	No Gas	5572.45	1.3
Al	27	45	No Gas	10503.99	5.3
Si	28	45	H2	5392.38	2.3
P	31	45	No Gas	47953.20	0.9
K	39	45	He	52249.25	3.8
Ca	40	45	H2	24939.82	1.2
Ti	47	45	No Gas	182.67	6.4
V	51	45	He	4296.68	2.5
Cr	52	45	He	1524.76	5.5
Mn	55	45	No Gas	8972.27	0.7
Fe	56	45	H2	8571.36	1.5
Co	59	45	No Gas	259.33	15.9
Ni	60	45	He	39.33	14.7
Cu	63	45	He	1202.06	2.5
Zn	66	72	No Gas	788.69	9.2
As	75	72	He	185.33	8.9
Se	78	72	H2	8.33	6.9
Sr	88	72	No Gas	471.12	12.5
Zr	90	72	No Gas	133.33	11.5
Mo	95	115	No Gas	36.67	9.1
Mo	98	115	No Gas	76.67	15.1
[Cd]	106	115	No Gas	0.33	173.2
Ag	107	115	No Gas	104.45	31.5
[Cd]	108	115	No Gas	4.00	50.0
Cd	111	115	No Gas	4.63	63.1
Sn	118	115	No Gas	634.46	15.1
Sn	118	115	H2	538.90	8.9
Sb	123	115	No Gas	118.89	11.7
Ba	137	115	No Gas	55.55	19.3
W	182	159	No Gas	86.67	46.6
Hg	201	159	No Gas	5.67	10.2

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	4.33	33.3
Tl	205	159	No Gas	222.22	21.3
Pb	206	159	No Gas	416.68	13.2
Pb	207	159	No Gas	413.34	10.9
Pb	208	159	No Gas	1740.05	2.3
Th	232	159	No Gas	45.56	27.7
U	238	159	No Gas	71.11	18.9

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	2071494.35	1.1
Sc	45	No Gas	4025477.17	0.3
Sc	45	H2	2213497.75	0.7
Sc	45	He	348770.57	0.8
Ge	72	No Gas	883390.69	0.6
Ge	72	H2	598767.10	0.8
Ge	72	He	194783.48	0.7
In	115	No Gas	6067282.66	0.1
Tb	159	No Gas	8945293.53	1.3
Tb	159	He	5228762.33	0.3

Calibration Standard Report

Sample Name	S1
File Name	H6F14004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 12:56:28
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	121195.60	0.6
Be	9	6	No Gas	1516.75	0.8
B	11	6	No Gas	2978.10	6.0
Na	23	45	H2	447627.76	0.5
Mg	24	45	No Gas	501297.77	0.1
Al	27	45	No Gas	646868.02	1.1
Si	28	45	H2	99651.82	0.9
P	31	45	No Gas	66455.07	0.6
K	39	45	He	75742.76	1.8
Ca	40	45	H2	398203.60	0.6
Ti	47	45	No Gas	974.04	2.0
V	51	45	He	6526.89	2.1
Cr	52	45	He	4101.29	3.5
Mn	55	45	No Gas	22539.22	1.1
Fe	56	45	H2	570992.61	0.5
Co	59	45	No Gas	10307.23	2.6
Ni	60	45	He	1012.04	4.2
Cu	63	45	He	4033.93	1.1
Zn	66	72	No Gas	5191.66	1.5
As	75	72	He	574.68	5.9
Se	78	72	H2	163.67	3.6
Sr	88	72	No Gas	14638.00	1.4
Zr	90	72	No Gas	60091.41	3.2
Mo	95	115	No Gas	2589.14	6.5
Ag	107	115	No Gas	8022.44	2.5
Cd	111	115	No Gas	1404.06	0.9
Sn	118	115	No Gas	4915.37	1.6
Sb	123	115	No Gas	4928.71	2.2
Ba	137	115	No Gas	2482.46	5.8
W	182	159	No Gas	4420.79	1.8
Hg	201	159	He	71.00	13.7
Tl	205	159	No Gas	14059.03	0.9
Pb	208	159	No Gas	22608.10	1.5
U	238	159	No Gas	20039.69	1.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2066080.53	0.6	2071494.35	99.74	60	120	
Sc	45	No Gas	4015242.58	0.3	4025477.17	99.75	60	120	
Sc	45	H2	2226500.08	0.2	2213497.75	100.59	60	120	
Sc	45	He	349182.12	0.8	348770.57	100.12	60	120	
Ge	72	No Gas	941543.40	0.9	883390.69	106.58	60	120	
Ge	72	H2	638379.90	0.8	598767.1	106.62	60	120	
Ge	72	He	208496.03	0.3	194783.48	107.04	60	120	
In	115	No Gas	6093524.72	0.7	6067282.66	100.43	60	120	
Tb	159	No Gas	8967230.20	0.9	8945293.53	100.25	60	120	
Tb	159	He	5236165.67	1.0	5228762.33	100.14	60	120	

Calibration Standard Report

Sample Name	S2
File Name	H6F14005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 12:59:19
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	128250.77	0.9
Be	9	6	No Gas	2841.40	3.1
B	11	6	No Gas	8528.15	2.4
Na	23	45	H2	603134.54	0.4
Mg	24	45	No Gas	985692.10	0.4
Al	27	45	No Gas	1251911.05	0.4
Si	28	45	H2	191450.71	0.9
P	31	45	No Gas	73251.74	0.1
K	39	45	He	99349.50	2.3
Ca	40	45	H2	744361.10	1.8
Ti	47	45	No Gas	1750.78	2.8
V	51	45	He	8554.67	1.4
Cr	52	45	He	6580.91	3.0
Mn	55	45	No Gas	34113.79	0.6
Fe	56	45	H2	1139190.50	0.8
Co	59	45	No Gas	20009.98	0.9
Ni	60	45	He	1944.81	2.4
Cu	63	45	He	6509.56	2.1
Zn	66	72	No Gas	33999.12	0.6
As	75	72	He	932.36	3.8
Se	78	72	H2	328.33	8.6
Sr	88	72	No Gas	27791.01	2.0
Zr	90	72	No Gas	104704.96	2.9
Mo	95	115	No Gas	5154.33	3.8
Ag	107	115	No Gas	14454.55	1.5
Cd	111	115	No Gas	2866.01	0.7
Sn	118	115	No Gas	9184.33	4.5
Sb	123	115	No Gas	9720.28	4.0
Ba	137	115	No Gas	4685.29	2.7
W	182	159	No Gas	12462.86	2.8
Hg	201	159	He	154.17	4.8
Tl	205	159	No Gas	27769.75	0.8
Pb	208	159	No Gas	40175.26	0.8
U	238	159	No Gas	39036.47	0.4

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2096320.63	0.6	2071494.35	101.2	60	120	
Sc	45	No Gas	4048598.17	0.8	4025477.17	100.57	60	120	
Sc	45	H2	2234187.83	0.3	2213497.75	100.93	60	120	
Sc	45	He	351332.67	0.7	348770.57	100.73	60	120	
Ge	72	No Gas	950235.08	0.4	883390.69	107.57	60	120	
Ge	72	H2	649275.23	0.9	598767.1	108.44	60	120	
Ge	72	He	208536.34	1.0	194783.48	107.06	60	120	
In	115	No Gas	6077394.61	0.3	6067282.66	100.17	60	120	
Tb	159	No Gas	9114843.53	0.9	8945293.53	101.9	60	120	
Tb	159	He	5255396.83	0.6	5228762.33	100.51	60	120	

Calibration Standard Report

Sample Name	S3
File Name	H6F14006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:02:10
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	166445.35	0.9
Be	9	6	No Gas	14513.03	2.6
B	11	6	No Gas	25994.00	2.4
Na	23	45	H2	15600205.00	0.3
Mg	24	45	No Gas	47481282.67	0.9
Al	27	45	No Gas	60693210.76	0.6
Si	28	45	H2	493475.92	1.0
P	31	45	No Gas	80859.11	0.7
K	39	45	He	2329142.42	0.2
Ca	40	45	H2	33194973.33	0.4
Tl	47	45	No Gas	72579.56	1.3
V	51	45	He	211486.86	0.9
Cr	52	45	He	251716.27	0.8
Mn	55	45	No Gas	6942330.50	0.3
Fe	56	45	H2	53728641.33	1.0
Co	59	45	No Gas	972037.83	0.5
Ni	60	45	He	94401.99	0.7
Cu	63	45	He	252536.34	0.9
Zn	66	72	No Gas	152059.45	1.1
As	75	72	He	38107.94	0.7
Se	78	72	H2	16403.97	1.4
Sr	88	72	No Gas	1309613.42	0.8
Zr	90	72	No Gas	180688.13	2.1
Mo	95	115	No Gas	256587.12	0.4
Ag	107	115	No Gas	68382.67	0.5
Cd	111	115	No Gas	136899.98	0.7
Sn	118	115	No Gas	409649.90	1.1
Sb	123	115	No Gas	96073.79	1.9
Ba	137	115	No Gas	429588.52	0.4
W	182	159	No Gas	61753.67	1.8
Hg	201	159	He	668.02	3.5
Tl	205	159	No Gas	1359733.35	0.9
Pb	208	159	No Gas	1884560.93	1.2
U	238	159	No Gas	1910950.48	0.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2078240.41	0.5	2071494.35	100.33	60	120	
Sc	45	No Gas	4040217.25	0.4	4025477.17	100.37	60	120	
Sc	45	H2	2269033.00	1.4	2213497.75	102.51	60	120	
Sc	45	He	354707.84	0.0	348770.57	101.7	60	120	
Ge	72	No Gas	949448.90	0.0	883390.69	107.48	60	120	
Ge	72	H2	651842.90	0.9	598767.1	108.86	60	120	
Ge	72	He	211619.06	0.8	194783.48	108.64	60	120	
In	115	No Gas	6076694.95	0.3	6067282.66	100.16	60	120	
Tb	159	No Gas	9007755.20	1.0	8945293.53	100.7	60	120	
Tb	159	He	5284983.50	1.0	5228762.33	101.08	60	120	

Calibration Standard Report

Sample Name	S4
File Name	H6F14007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:05:00
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	353263.79	0.8
Be	9	6	No Gas	69814.63	0.3
B	11	6	No Gas	91807.48	2.8
Na	23	45	H2	74321080.00	1.9
Mg	24	45	No Gas	230861941.33	0.8
Al	27	45	No Gas	296039215.59	1.2
Si	28	45	H2	2290366.42	1.5
P	31	45	No Gas	210234.79	0.8
K	39	45	He	10843428.67	1.2
Ca	40	45	H2	160648453.33	1.4
Ti	47	45	No Gas	349657.64	0.1
V	51	45	He	984385.33	0.6
Cr	52	45	He	1167492.96	0.7
Mn	55	45	No Gas	33321446.67	0.2
Fe	56	45	H2	257118373.33	0.7
Co	59	45	No Gas	4605610.33	0.5
Ni	60	45	He	438189.07	0.9
Cu	63	45	He	1139079.71	0.2
Zn	66	72	No Gas	726138.06	0.2
As	75	72	He	182720.05	0.6
Se	78	72	H2	78147.14	0.1
Sr	88	72	No Gas	6439293.77	0.2
Zr	90	72	No Gas	419111.72	2.0
Mo	95	115	No Gas	1246615.78	0.7
Ag	107	115	No Gas	312406.43	0.4
Cd	111	115	No Gas	658694.00	0.5
Sn	118	115	No Gas	1941068.12	0.4
Sb	123	115	No Gas	464310.62	1.1
Ba	137	115	No Gas	2072022.84	0.2
W	182	159	No Gas	306261.38	0.4
Hg	201	159	He	3157.57	1.4
Tl	205	159	No Gas	6631720.71	1.4
Pb	208	159	No Gas	9065145.54	0.1
U	238	159	No Gas	9490060.46	0.4

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2091163.74	0.9	2071494.35	100.95	60	120	
Sc	45	No Gas	4043404.00	0.5	4025477.17	100.45	60	120	
Sc	45	H2	2255301.42	1.0	2213497.75	101.89	60	120	
Sc	45	He	349383.79	0.5	348770.57	100.18	60	120	
Ge	72	No Gas	949203.62	0.2	883390.69	107.45	60	120	
Ge	72	H2	641222.69	0.5	598767.1	107.09	60	120	
Ge	72	He	208545.11	0.7	194783.48	107.07	60	120	
In	115	No Gas	5966406.42	0.7	6067282.66	98.34	60	120	
Tb	159	No Gas	9073964.36	0.6	8945293.53	101.44	60	120	
Tb	159	He	5282196.33	0.4	5228762.33	101.02	60	120	

Calibration Standard Report

Sample Name	S5
File Name	H6F14008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:07:50
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	582024.99	1.0
Be	9	6	No Gas	136243.72	0.3
B	11	6	No Gas	188787.38	2.0
Na	23	45	H2	143947072.00	0.7
Mg	24	45	No Gas	449360213.33	0.8
Al	27	45	No Gas	579653524.69	1.0
Si	28	45	H2	4434880.67	1.2
P	31	45	No Gas	366007.48	0.2
K	39	45	He	20947546.67	0.6
Ca	40	45	H2	315462570.67	0.7
Tl	47	45	No Gas	675814.52	0.3
V	51	45	He	1937498.17	0.3
Cr	52	45	He	2261914.75	0.8
Mn	55	45	No Gas	64419634.67	0.4
Fe	56	45	H2	499914922.67	0.5
Co	59	45	No Gas	8900118.33	0.9
Ni	60	45	He	838366.89	0.3
Cu	63	45	He	2185750.75	0.3
Zn	66	72	No Gas	1368252.16	0.7
As	75	72	He	358097.99	0.9
Se	78	72	H2	149559.85	1.0
Sr	88	72	No Gas	12536118.95	1.7
Zr	90	72	No Gas	840180.30	1.2
Mo	95	115	No Gas	2435836.02	0.7
Ag	107	115	No Gas	598512.62	0.9
Cd	111	115	No Gas	1267557.43	0.6
Sn	118	115	No Gas	3811690.96	0.4
Sb	123	115	No Gas	909283.47	0.5
Ba	137	115	No Gas	4090023.86	0.9
W	182	159	No Gas	581452.13	2.1
Hg	201	159	He	6318.92	1.5
Tl	205	159	No Gas	12957263.10	0.2
Pb	208	159	No Gas	17695516.83	0.8
U	238	159	No Gas	18994668.69	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2074282.60	0.6	2071494.35	100.13	60	120	
Sc	45	No Gas	3987208.92	0.4	4025477.17	99.05	60	120	
Sc	45	H2	2206210.50	0.9	2213497.75	99.67	60	120	
Sc	45	He	339571.34	0.7	348770.57	97.36	60	120	
Ge	72	No Gas	914657.19	0.6	883390.69	103.54	60	120	
Ge	72	H2	620615.73	0.6	598767.1	103.65	60	120	
Ge	72	He	204287.71	0.6	194783.48	104.88	60	120	
In	115	No Gas	5793207.99	0.3	6067282.66	95.48	60	120	
Tb	159	No Gas	9036137.98	0.5	8945293.53	101.02	60	120	
Tb	159	He	5246454.33	0.5	5228762.33	100.34	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6F14009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:10:36
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	28.054	ppb	4.1	388176.13	30	93.51	90	110	
Be	9	6	No Gas	28.779	ppb	4.6	80756.50	30	95.93	90	110	
B	11	6	No Gas	28.108	ppb	6.0	54632.12	30	93.69	90	110	
Na	23	45	H2	30826.657	ppb	0.8	88411594.67	30000	102.76	90	110	
Mg	24	45	No Gas	29929.827	ppb	4.4	266044592.00	30000	99.77	90	110	
Al	27	45	No Gas	29374.390	ppb	4.8	336397134.99	30000	97.91	90	110	
Si	28	45	H2	3252.978	ppb	0.6	2874291.08	3000	108.43	90	110	
P	31	45	No Gas	300.551	ppb	4.2	235813.82	300	100.18	90	110	
K	39	45	He	30557.304	ppb	0.4	12870219.33	30000	101.86	90	110	
Ca	40	45	H2	30367.158	ppb	0.9	190178272.00	30000	101.22	90	110	
Ti	47	45	No Gas	303.751	ppb	4.0	406730.33	300	101.25	90	110	
V	51	45	He	307.088	ppb	0.5	1191611.79	300	102.36	90	110	
Cr	52	45	He	316.517	ppb	0.5	1437688.29	300	105.51	90	110	
Mn	55	45	No Gas	1941.631	ppb	3.7	41300956.00	2000	97.08	90	110	
Fe	56	45	H2	30482.639	ppb	0.2	303173877.33	30000	101.61	90	110	
Co	59	45	No Gas	309.983	ppb	4.0	5466905.33	300	103.33	90	110	
Ni	60	45	He	310.465	ppb	0.5	523960.98	300	103.49	90	110	
Cu	63	45	He	329.453	ppb	0.4	1449252.21	300	109.82	90	110	
Zn	66	72	No Gas	311.006	ppb	3.7	852971.63	300	103.67	90	110	
As	75	72	He	305.300	ppb	0.3	218180.07	300	101.77	90	110	
Se	78	72	H2	311.669	ppb	0.3	93154.93	300	103.89	90	110	
Sr	88	72	No Gas	307.964	ppb	3.6	7682262.47	300	102.65	90	110	
Zr	90	72	No Gas	32.207	ppb	3.6	532344.22	30	107.36	90	110	
Mo	95	115	No Gas	298.913	ppb	4.6	1474817.13	300	99.64	90	110	
Ag	107	115	No Gas	29.917	ppb	4.1	364410.90	30	99.72	90	110	
Cd	111	115	No Gas	299.561	ppb	3.5	771572.54	300	99.85	90	110	
Sn	118	115	No Gas	303.428	ppb	3.7	2340804.28	300	101.14	90	110	
Sb	123	115	No Gas	58.611	ppb	3.1	539513.88	60	97.68	90	110	
Ba	137	115	No Gas	304.794	ppb	3.5	1259933.18	300	101.6	90	110	
W	182	159	No Gas	29.540	ppb	1.8	344767.64	30	98.47	90	110	
Hg	201	159	No Gas	2.859	ppb	2.7	5169.23	3	95.3	90	110	
Hg	201	159	He	2.893	ppb	0.9	3657.53	3	96.43	90	110	
Tl	205	159	No Gas	308.051	ppb	3.3	7964779.96	300	102.68	90	110	
Pb	208	159	No Gas	311.832	ppb	2.2	11013469.51	300	103.94	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	305.317	ppb	3.0	11511617.60	300	101.77	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2127364.60	0.4	2071494.35	102.7	60	120	
Sc	45	No Gas	3930862.17	1.0	4025477.17	97.65	60	120	
Sc	45	H2	2191064.33	1.2	2213497.75	98.99	60	120	
Sc	45	He	340483.60	0.1	348770.57	97.62	60	120	
Ge	72	No Gas	911564.48	1.1	883390.69	103.19	60	120	
Ge	72	H2	618474.62	0.4	598767.1	103.29	60	120	
Ge	72	He	203775.19	0.4	194783.48	104.62	60	120	
In	115	No Gas	5872743.84	0.8	6067282.66	96.79	60	120	
Tb	159	No Gas	8974103.53	2.0	8945293.53	100.32	60	120	
Tb	159	He	5251330.00	0.2	5228762.33	100.43	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6F14010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:13:13
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	122959.84	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	18.89	0.08	
B	11	6	No Gas	1.135	ppb	15.0	2922.53	4	
Na	23	45	H2	<0.000	ppb	N/A	246119.90	40	
Mg	24	45	No Gas	1.068	ppb	58.4	14935.05	10	
Al	27	45	No Gas	0.920	ppb	68.4	20794.74	15	
Si	28	45	H2	9.268	ppb	2.1	13557.27	8	>LOD
P	31	45	No Gas	<0.000	ppb	N/A	44414.82	10	
K	39	45	He	1.219	ppb	473.4	52389.81	20	
Ca	40	45	H2	0.438	ppb	7.6	27522.05	25	
Ti	47	45	No Gas	0.024	ppb	60.2	211.33	0.5	
V	51	45	He	<0.000	ppb	N/A	2398.21	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1110.05	0.2	
Mn	55	45	No Gas	0.148	ppb	31.8	11922.57	0.2	
Fe	56	45	H2	0.889	ppb	1.6	17384.38	10	
Co	59	45	No Gas	0.003	ppb	121.5	311.34	0.15	
Ni	60	45	He	0.001	ppb	437.2	41.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1026.71	0.4	
Zn	66	72	No Gas	0.058	ppb	31.1	926.03	2	
As	75	72	He	<0.000	ppb	N/A	165.00	0.2	
Se	78	72	H2	0.044	ppb	33.4	21.00	0.2	
Sr	88	72	No Gas	0.008	ppb	60.6	661.13	0.2	
Zr	90	72	No Gas	0.004	ppb	37.4	186.67	2	
Mo	95	115	No Gas	0.108	ppb	25.0	590.02	0.2	
Ag	107	115	No Gas	0.001	ppb	203.2	118.89	0.08	
Cd	111	115	No Gas	0.037	ppb	13.6	104.05	0.2	
Sn	118	115	No Gas	0.093	ppb	10.6	1382.30	0.2	
Sb	123	115	No Gas	0.005	ppb	40.8	163.33	0.4	
Ba	137	115	No Gas	0.020	ppb	24.6	142.22	0.2	
W	182	159	No Gas	0.019	ppb	14.0	313.34	0.3	
Hg	201	159	No Gas	0.031	ppb	14.7	62.50	0.1	
Hg	201	159	He	0.021	ppb	17.0	32.00	0.1	
Tl	205	159	No Gas	0.072	ppb	36.7	2083.52	0.1	
Pb	208	159	No Gas	0.068	ppb	30.1	4161.41	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.026	ppb	12.3	1066.72	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2213954.94	0.7	2071494.35	106.88	60	120	
Sc	45	No Gas	3937176.92	0.6	4025477.17	97.81	60	120	
Sc	45	H2	2198506.42	0.3	2213497.75	99.32	60	120	
Sc	45	He	346187.04	0.3	348770.57	99.26	60	120	
Ge	72	No Gas	868313.23	1.2	883390.69	98.29	60	120	
Ge	72	H2	599105.58	0.7	598767.1	100.06	60	120	
Ge	72	He	195779.36	0.2	194783.48	100.51	60	120	
In	115	No Gas	6098864.17	1.6	6067282.66	100.52	60	120	
Tb	159	No Gas	9044383.81	0.8	8945293.53	101.11	60	120	
Tb	159	He	5359172.50	0.6	5228762.33	102.49	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA1
File Name	H6F14013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:21:00
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.093	ppb	42.4	119573.06	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	31.11	0.4	-50	50	
B	11	6	No Gas	1.138	ppb	2.7	2766.94	10	-50	50	
Na	23	45	H2	104840.485	ppb	0.5	301679402.67	100000	80	120	
Mg	24	45	No Gas	100580.256	ppb	2.8	882554240.00	100000	80	120	
Al	27	45	No Gas	100036.609	ppb	2.6	1130845769.81	100000	80	120	
Si	28	45	H2	8.126	ppb	4.2	12573.01	50	-50	50	
P	31	45	No Gas	102089.038	ppb	2.9	63417493.33	100000	80	120	
K	39	45	He	105340.502	ppb	0.4	44751646.67	100000	80	120	
Ca	40	45	H2	105067.517	ppb	1.1	661617002.67	100000	80	120	
Ti	47	45	No Gas	2097.677	ppb	3.3	2772016.17	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1426.74	1	-50	50	> +/- 20%
Cr	52	45	He	2.002	ppb	1.9	10692.84	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.394	ppb	3.7	16921.16	1	-50	50	
Fe	56	45	H2	102803.157	ppb	0.9	1028129429.33	100000	80	120	
Co	59	45	No Gas	0.160	ppb	4.7	3030.34	0.75	-50	50	
Ni	60	45	He	0.165	ppb	3.5	320.67	1	-50	50	
Cu	63	45	He	0.132	ppb	11.3	1774.12	2	-50	50	
Zn	66	72	No Gas	2.086	ppb	2.2	6360.16	20	-50	50	
As	75	72	He	<0.000	ppb	N/A	156.33	1	-50	50	
Se	78	72	H2	0.259	ppb	9.6	85.00	1	-50	50	
Sr	88	72	No Gas	1.115	ppb	2.5	27568.41	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.323	ppb	7.4	5341.08	10	-50	50	
Mo	95	115	No Gas	2075.761	ppb	3.1	9799101.55	2000	80	120	
Ag	107	115	No Gas	0.300	ppb	2.4	3594.94	0.4	-50	50	> +/- 20%
Cd	111	115	No Gas	0.078	ppb	28.8	196.78	1	-50	50	
Sn	118	115	No Gas	0.077	ppb	11.0	1155.61	1	-50	50	
Sb	123	115	No Gas	0.057	ppb	17.6	607.79	1	-50	50	
Ba	137	115	No Gas	0.382	ppb	3.2	1562.32	1	-50	50	
W	182	159	No Gas	0.135	ppb	1.9	1640.12	1	-50	50	
Hg	201	159	No Gas	0.013	ppb	18.6	29.17	0.5	-50	50	
Hg	201	159	He	0.011	ppb	25.8	18.50	0.5	-50	50	
Tl	205	159	No Gas	0.013	ppb	20.3	550.01	0.5	-50	50	
Pb	208	159	No Gas	0.091	ppb	4.5	4894.82	0.5	-50	50	

LY 06/22/22

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.005	ppb	15.7	264.45	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2090557.10	2.4	2071494.35	100.92	60	120	
Sc	45	No Gas	3879967.33	2.1	4025477.17	96.39	60	120	
Sc	45	H2	2203236.75	0.5	2213497.75	99.54	60	120	
Sc	45	He	344399.04	0.1	348770.57	98.75	60	120	
Ge	72	No Gas	887995.83	0.9	883390.69	100.52	60	120	
Ge	72	H2	610778.85	0.7	598767.1	102.01	60	120	
Ge	72	He	202881.06	0.8	194783.48	104.16	60	120	
In	115	No Gas	5619247.26	1.1	6067282.66	92.62	60	120	
Tb	159	No Gas	8850701.59	0.9	8945293.53	98.94	60	120	
Tb	159	He	5233068.67	0.7	5228762.33	100.06	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB1
File Name	H6F14014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:23:37
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.063	ppb	2.4	310656.86	20	80	120	
Be	9	6	No Gas	19.677	ppb	3.0	55020.08	20	80	120	
B	11	6	No Gas	18.011	ppb	1.4	35081.69	20	80	120	
Na	23	45	H2	103226.765	ppb	0.2	302990517.33	100000	80	120	
Mg	24	45	No Gas	101479.938	ppb	0.5	902178261.33	100000	80	120	
Al	27	45	No Gas	100744.951	ppb	1.2	1153641796.14	100000	80	120	
Si	28	45	H2	224.665	ppb	1.2	208707.68	200	80	120	
P	31	45	No Gas	102599.206	ppb	0.8	64578204.00	100000	80	120	
K	39	45	He	104230.399	ppb	0.8	44757990.67	100000	80	120	
Ca	40	45	H2	102058.588	ppb	0.7	655519338.67	100000	80	120	
Ti	47	45	No Gas	2129.535	ppb	0.5	2851251.83	2000	80	120	
V	51	45	He	19.679	ppb	1.8	82079.28	20	80	120	
Cr	52	45	He	22.204	ppb	0.4	104532.68	20	80	120	
Mn	55	45	No Gas	20.334	ppb	1.7	441129.75	20	80	120	
Fe	56	45	H2	101666.446	ppb	0.1	1037124522.67	100000	80	120	
Co	59	45	No Gas	20.437	ppb	0.7	360704.51	20	80	120	
Ni	60	45	He	19.876	ppb	1.0	34333.12	20	80	120	
Cu	63	45	He	20.058	ppb	0.6	91339.11	20	80	120	
Zn	66	72	No Gas	21.818	ppb	1.2	59971.01	20	80	120	
As	75	72	He	20.016	ppb	2.0	14656.61	20	80	120	
Se	78	72	H2	20.108	ppb	2.1	6095.05	20	80	120	
Sr	88	72	No Gas	21.425	ppb	1.3	529437.39	20	80	120	
Zr	90	72	No Gas	6.650	ppb	0.8	108895.78	20	80	120	> +/- 20%
Mo	95	115	No Gas	2089.130	ppb	1.5	9851615.44	2000	80	120	
Ag	107	115	No Gas	19.954	ppb	1.3	232264.08	20	80	120	
Cd	111	115	No Gas	19.965	ppb	0.3	49146.28	20	80	120	
Sn	118	115	No Gas	20.496	ppb	1.3	151643.53	20	80	120	
Sb	123	115	No Gas	20.234	ppb	0.9	178037.37	20	80	120	
Ba	137	115	No Gas	20.730	ppb	0.7	81937.97	20	80	120	
W	182	159	No Gas	19.135	ppb	1.5	219082.07	20	80	120	
Hg	201	159	No Gas	1.994	ppb	0.7	3538.50	2	80	120	
Hg	201	159	He	1.951	ppb	0.9	2475.75	2	80	120	
Tl	205	159	No Gas	19.597	ppb	0.3	497315.62	20	80	120	
Pb	208	159	No Gas	19.937	ppb	0.7	692407.32	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.928	ppb	1.7	737081.22	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2118037.40	3.3	2071494.35	102.25	60	120	
Sc	45	No Gas	3932737.67	4.5	4025477.17	97.7	60	120	
Sc	45	H2	2247359.67	0.7	2213497.75	101.53	60	120	
Sc	45	He	348129.14	1.0	348770.57	99.82	60	120	
Ge	72	No Gas	902253.04	3.3	883390.69	102.14	60	120	
Ge	72	H2	626495.88	1.5	598767.1	104.63	60	120	
Ge	72	He	206184.00	0.3	194783.48	105.85	60	120	
In	115	No Gas	5613500.15	3.8	6067282.66	92.52	60	120	
Tb	159	No Gas	8807467.43	3.6	8945293.53	98.46	60	120	
Tb	159	He	5268222.00	0.4	5228762.33	100.75	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6F14016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:28:50
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.329	ppb	4.2	350234.15	25	93.32	90	110	
Be	9	6	No Gas	23.313	ppb	3.9	66783.02	25	93.25	90	110	
B	11	6	No Gas	44.098	ppb	7.1	87117.54	50	88.2	90	110	> +/- 10%
Na	23	45	H2	24887.282	ppb	0.7	73017392.00	25000	99.55	90	110	
Mg	24	45	No Gas	24500.472	ppb	3.4	222250704.00	25000	98	90	110	
Al	27	45	No Gas	24396.691	ppb	1.8	285085722.42	25000	97.59	90	110	
Si	28	45	H2	2504.838	ppb	0.3	2263556.58	2500	100.19	90	110	
P	31	45	No Gas	234.875	ppb	3.1	198502.51	250	93.95	90	110	
K	39	45	He	25140.137	ppb	1.0	10783060.00	25000	100.56	90	110	
Ca	40	45	H2	24715.930	ppb	0.7	158223834.67	25000	98.86	90	110	
Ti	47	45	No Gas	242.538	ppb	3.2	331465.67	250	97.02	90	110	
V	51	45	He	249.499	ppb	0.1	985872.71	250	99.8	90	110	
Cr	52	45	He	249.807	ppb	0.4	1154832.38	250	99.92	90	110	
Mn	55	45	No Gas	1466.901	ppb	3.5	31846552.00	1500	97.79	90	110	
Fe	56	45	H2	24932.179	ppb	0.2	253470538.67	25000	99.73	90	110	
Co	59	45	No Gas	247.437	ppb	3.3	4453372.50	250	98.97	90	110	
Ni	60	45	He	249.036	ppb	0.6	427648.14	250	99.61	90	110	
Cu	63	45	He	252.260	ppb	0.3	1129362.42	250	100.9	90	110	
Zn	66	72	No Gas	243.332	ppb	4.3	681130.44	250	97.33	90	110	
As	75	72	He	244.520	ppb	0.8	179134.22	250	97.81	90	110	
Se	78	72	H2	245.819	ppb	1.0	75198.47	250	98.33	90	110	
Sr	88	72	No Gas	244.312	ppb	4.4	6218305.59	250	97.72	90	110	
Zr	90	72	No Gas	26.039	ppb	3.6	439146.37	25	104.16	90	110	
Mo	95	115	No Gas	241.758	ppb	3.7	1206326.86	250	96.7	90	110	
Ag	107	115	No Gas	24.479	ppb	3.7	301520.94	25	97.92	90	110	
Cd	111	115	No Gas	241.631	ppb	3.2	629412.68	250	96.65	90	110	
Sn	118	115	No Gas	240.655	ppb	2.5	1877605.00	250	96.26	90	110	
Sb	123	115	No Gas	47.485	ppb	2.8	442064.85	50	94.97	90	110	
Ba	137	115	No Gas	484.194	ppb	3.6	2024056.38	500	96.84	90	110	
W	182	159	No Gas	25.549	ppb	2.2	302005.81	25	102.2	90	110	
Hg	201	159	No Gas	2.448	ppb	2.8	4483.31	2.5	97.92	90	110	
Hg	201	159	He	2.479	ppb	1.0	3203.24	2.5	99.16	90	110	
Tl	205	159	No Gas	245.908	ppb	3.7	6438841.97	250	98.36	90	110	
Pb	208	159	No Gas	249.034	ppb	3.2	8908410.36	250	99.61	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	243.790	ppb	3.5	9309621.02	250	97.52	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2171403.80	0.7	2071494.35	104.82	60	120	
Sc	45	No Gas	4011571.50	1.1	4025477.17	99.65	60	120	
Sc	45	H2	2239622.92	0.3	2213497.75	101.18	60	120	
Sc	45	He	346436.48	0.3	348770.57	99.33	60	120	
Ge	72	No Gas	930330.42	1.0	883390.69	105.31	60	120	
Ge	72	H2	633016.92	1.0	598767.1	105.72	60	120	
Ge	72	He	208850.32	0.5	194783.48	107.22	60	120	
In	115	No Gas	5939632.39	1.0	6067282.66	97.9	60	120	
Tb	159	No Gas	9090196.86	0.6	8945293.53	101.62	60	120	
Tb	159	He	5365841.83	0.6	5228762.33	102.62	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6F14017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:31:27
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	121995.96	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	22.22	0.08	
B	11	6	No Gas	1.022	ppb	19.8	2699.15	4	
Na	23	45	H2	<0.000	ppb	N/A	235994.89	40	
Mg	24	45	No Gas	1.208	ppb	44.8	16501.93	10	
Al	27	45	No Gas	1.117	ppb	51.2	23514.76	15	
Si	28	45	H2	3.254	ppb	8.3	8307.15	8	
P	31	45	No Gas	<0.000	ppb	N/A	42930.84	10	
K	39	45	He	2.874	ppb	236.3	53068.50	20	
Ca	40	45	H2	0.722	ppb	13.9	29566.29	25	
Ti	47	45	No Gas	0.029	ppb	23.9	222.67	0.5	
V	51	45	He	<0.000	ppb	N/A	3096.35	0.5	
Cr	52	45	He	<0.000	ppb	N/A	983.37	0.2	
Mn	55	45	No Gas	0.121	ppb	34.8	11600.27	0.2	
Fe	56	45	H2	1.073	ppb	1.7	19388.41	10	
Co	59	45	No Gas	0.004	ppb	106.5	329.34	0.15	
Ni	60	45	He	<0.000	ppb	N/A	26.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	816.03	0.4	
Zn	66	72	No Gas	0.044	ppb	16.1	902.70	2	
As	75	72	He	<0.000	ppb	N/A	162.67	0.2	
Se	78	72	H2	0.027	ppb	95.3	16.33	0.2	
Sr	88	72	No Gas	0.007	ppb	85.0	633.35	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.136	ppb	21.3	743.36	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	81.11	0.08	
Cd	111	115	No Gas	0.027	ppb	28.4	76.43	0.2	
Sn	118	115	No Gas	0.070	ppb	7.4	1213.39	0.2	
Sb	123	115	No Gas	0.008	ppb	24.1	194.45	0.4	
Ba	137	115	No Gas	0.018	ppb	38.6	136.67	0.2	
W	182	159	No Gas	0.011	ppb	63.1	223.33	0.3	
Hg	201	159	No Gas	0.025	ppb	16.1	52.00	0.1	
Hg	201	159	He	0.014	ppb	9.2	22.33	0.1	
Tl	205	159	No Gas	0.040	ppb	39.0	1273.40	0.1	
Pb	208	159	No Gas	0.024	ppb	40.8	2659.00	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.017	ppb	13.4	745.58	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2215448.86	1.1	2071494.35	106.95	60	120	
Sc	45	No Gas	4023227.42	1.7	4025477.17	99.94	60	120	
Sc	45	H2	2217700.00	0.4	2213497.75	100.19	60	120	
Sc	45	He	345951.47	0.6	348770.57	99.19	60	120	
Ge	72	No Gas	880786.77	1.3	883390.69	99.71	60	120	
Ge	72	H2	602868.92	0.1	598767.1	100.69	60	120	
Ge	72	He	198397.88	1.0	194783.48	101.86	60	120	
In	115	No Gas	6176473.26	1.5	6067282.66	101.8	60	120	
Tb	159	No Gas	9187596.58	1.6	8945293.53	102.71	60	120	
Tb	159	He	5386799.33	0.5	5228762.33	103.02	60	120	

Blank Report

Sample Name	IMF024WB
File Name	H6F14018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:34:02
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	122760.01	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	17.78	0.08	
B	11	6	No Gas	0.737	ppb	7.1	2150.17	4	
Na	23	45	H2	<0.000	ppb	N/A	251333.60	40	
Mg	24	45	No Gas	2.145	ppb	5.8	24996.38	10	
Al	27	45	No Gas	2.479	ppb	5.3	39432.55	15	
Si	28	45	H2	3.192	ppb	7.6	8267.13	8	
P	31	45	No Gas	<0.000	ppb	N/A	42958.95	10	
K	39	45	He	<0.000	ppb	N/A	51707.92	20	
Ca	40	45	H2	12.557	ppb	1.0	104774.91	25	
Ti	47	45	No Gas	0.074	ppb	7.8	282.67	0.5	
V	51	45	He	<0.000	ppb	N/A	2702.27	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1126.71	0.2	
Mn	55	45	No Gas	0.143	ppb	12.8	12045.31	0.2	
Fe	56	45	H2	2.223	ppb	1.5	31026.48	10	
Co	59	45	No Gas	<0.000	ppb	N/A	177.33	0.15	
Ni	60	45	He	0.044	ppb	7.6	114.00	0.2	
Cu	63	45	He	0.133	ppb	10.7	1788.12	0.4	
Zn	66	72	No Gas	0.545	ppb	0.9	2294.19	2	
As	75	72	He	<0.000	ppb	N/A	138.00	0.2	
Se	78	72	H2	0.013	ppb	100.7	12.33	0.2	
Sr	88	72	No Gas	0.024	ppb	11.5	1067.82	0.2	
Zr	90	72	No Gas	0.005	ppb	44.7	226.67	2	
Mo	95	115	No Gas	0.053	ppb	25.2	314.45	0.2	
Ag	107	115	No Gas	0.006	ppb	16.1	180.00	0.08	
Cd	111	115	No Gas	0.009	ppb	50.8	29.72	0.2	
Sn	118	115	No Gas	0.009	ppb	24.8	723.35	0.2	
Sb	123	115	No Gas	0.006	ppb	9.3	181.11	0.4	
Ba	137	115	No Gas	0.052	ppb	21.4	285.56	0.2	
W	182	159	No Gas	0.001	ppb	441.1	100.00	0.3	
Hg	201	159	No Gas	0.015	ppb	11.1	33.00	0.1	
Hg	201	159	He	0.011	ppb	19.5	18.17	0.1	
Tl	205	159	No Gas	0.006	ppb	35.9	395.56	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1503.37	0.1	

Blank Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.002	ppb	21.4	142.22	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2234248.69	0.9	2071494.35	107.86	60	120	
Sc	45	No Gas	4012572.08	1.8	4025477.17	99.68	60	120	
Sc	45	H2	2221837.42	0.5	2213497.75	100.38	60	120	
Sc	45	He	346553.67	0.5	348770.57	99.36	60	120	
Ge	72	No Gas	906863.73	1.3	883390.69	102.66	60	120	
Ge	72	H2	616692.58	0.7	598767.1	102.99	60	120	
Ge	72	He	203300.06	0.6	194783.48	104.37	60	120	
In	115	No Gas	6210653.60	0.8	6067282.66	102.36	60	120	
Tb	159	No Gas	9175075.47	1.1	8945293.53	102.57	60	120	
Tb	159	He	5375380.00	1.0	5228762.33	102.8	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF024WL
File Name	H6F14019.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:36:37
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	28.991	ppb	3.5	410337.13	30	96.64	85	115	
Be	9	6	No Gas	28.011	ppb	4.0	81234.84	30	93.37	83	121	
B	11	6	No Gas	24.448	ppb	7.8	49207.90	30	81.49	85	115	FAIL
Na	23	45	H2	3022.951	ppb	0.5	9123196.67	3000	100.77	85	117	
Mg	24	45	No Gas	3028.819	ppb	3.9	27579835.33	3000	100.96	83	118	
Al	27	45	No Gas	2968.931	ppb	4.3	34833779.48	3000	98.96	84	117	
Si	28	45	H2	2.030	ppb	6.8	7286.58	3000	0.07	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	42410.58	300	-2.87	85	115	FAIL
K	39	45	He	3099.270	ppb	1.1	1379146.92	3000	103.31	87	115	
Ca	40	45	H2	3030.376	ppb	1.0	19419120.67	3000	101.01	87	118	
Ti	47	45	No Gas	29.708	ppb	3.9	40909.10	30	99.03	85	115	
V	51	45	He	29.773	ppb	0.8	121786.42	30	99.24	86	115	
Cr	52	45	He	31.166	ppb	1.2	145857.81	30	103.89	85	116	
Mn	55	45	No Gas	30.318	ppb	4.3	669410.40	30	101.06	87	115	
Fe	56	45	H2	3088.057	ppb	0.4	31397856.00	3000	102.94	87	118	
Co	59	45	No Gas	30.604	ppb	3.7	553029.38	30	102.01	86	115	
Ni	60	45	He	31.485	ppb	0.1	54273.64	30	104.95	85	117	
Cu	63	45	He	32.772	ppb	1.6	148219.73	30	109.24	85	118	
Zn	66	72	No Gas	61.482	ppb	2.8	172917.91	60	102.47	83	119	
As	75	72	He	30.068	ppb	0.2	22187.19	30	100.23	84	116	
Se	78	72	H2	30.131	ppb	1.0	9251.18	30	100.44	80	120	
Sr	88	72	No Gas	29.841	ppb	4.1	760927.21	30	99.47	85	115	
Zr	90	72	No Gas	0.029	ppb	36.7	633.35	30	0.1	85	115	FAIL
Mo	95	115	No Gas	28.183	ppb	3.2	145952.23	30	93.94	85	115	
Ag	107	115	No Gas	30.074	ppb	3.6	384417.08	30	100.25	85	117	
Cd	111	115	No Gas	28.985	ppb	2.9	78349.38	30	96.62	87	115	
Sn	118	115	No Gas	29.525	ppb	3.1	239606.08	30	98.42	85	115	
Sb	123	115	No Gas	28.800	ppb	2.9	278266.01	30	96	85	117	
Ba	137	115	No Gas	28.757	ppb	3.5	124798.96	30	95.86	86	114	
W	182	159	No Gas	0.007	ppb	50.9	170.00	30	0.02	85	115	FAIL
Hg	201	159	No Gas	0.011	ppb	21.0	26.00	2.5	0.44	85	115	FAIL
Hg	201	159	He	0.009	ppb	20.6	16.00	2.5	0.36	82	119	FAIL
Tl	205	159	No Gas	30.569	ppb	3.6	807580.23	30	101.9	82	116	
Pb	208	159	No Gas	30.903	ppb	3.2	1116573.49	30	103.01	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	29.654	ppb	4.7	1142386.27	30	98.85	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2197926.10	1.5	2071494.35	106.1	60	120	
Sc	45	No Gas	4026276.33	1.5	4025477.17	100.02	60	120	
Sc	45	H2	2239384.00	0.9	2213497.75	101.17	60	120	
Sc	45	He	347543.26	0.8	348770.57	99.65	60	120	
Ge	72	No Gas	931222.71	1.2	883390.69	105.41	60	120	
Ge	72	H2	634744.62	1.1	598767.1	106.01	60	120	
Ge	72	He	208710.53	0.4	194783.48	107.15	60	120	
In	115	No Gas	6163086.48	0.8	6067282.66	101.58	60	120	
Tb	159	No Gas	9169599.63	1.1	8945293.53	102.51	60	120	
Tb	159	He	5380181.83	0.6	5228762.33	102.9	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF024WC
File Name	H6F14020.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:39:12
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.493	ppb	6.3	416554.42	30	98.31	85	115	
Be	9	6	No Gas	28.359	ppb	4.7	82477.58	30	94.53	83	121	
B	11	6	No Gas	25.155	ppb	7.7	50739.95	30	83.85	85	115	FAIL
Na	23	45	H2	3067.805	ppb	0.6	9200899.67	3000	102.26	85	117	
Mg	24	45	No Gas	3067.323	ppb	3.6	28109156.00	3000	102.24	83	118	
Al	27	45	No Gas	2976.074	ppb	3.9	35140703.64	3000	99.2	84	117	
Si	28	45	H2	2.427	ppb	5.9	7599.41	3000	0.08	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	42714.83	300	-2.85	85	115	FAIL
K	39	45	He	3117.035	ppb	1.6	1397375.37	3000	103.9	87	115	
Ca	40	45	H2	3084.970	ppb	1.0	19654781.33	3000	102.83	87	118	
Ti	47	45	No Gas	29.453	ppb	3.1	40815.44	30	98.18	85	115	
V	51	45	He	29.994	ppb	0.7	123592.38	30	99.98	86	115	
Cr	52	45	He	31.605	ppb	0.7	149030.26	30	105.35	85	116	
Mn	55	45	No Gas	30.357	ppb	3.9	674511.40	30	101.19	87	115	
Fe	56	45	H2	3174.192	ppb	1.5	32086045.33	3000	105.81	87	118	
Co	59	45	No Gas	30.914	ppb	3.8	562217.79	30	103.05	86	115	
Ni	60	45	He	31.667	ppb	1.1	54998.58	30	105.56	85	117	
Cu	63	45	He	32.871	ppb	1.3	149798.85	30	109.57	85	118	
Zn	66	72	No Gas	61.589	ppb	3.5	172663.82	60	102.65	83	119	
As	75	72	He	30.482	ppb	0.9	22451.62	30	101.61	84	116	
Se	78	72	H2	30.907	ppb	0.9	9526.36	30	103.02	80	120	
Sr	88	72	No Gas	30.155	ppb	3.4	766410.21	30	100.52	85	115	
Zr	90	72	No Gas	0.013	ppb	3.0	363.34	30	0.04	85	115	FAIL
Mo	95	115	No Gas	28.193	ppb	3.0	146919.92	30	93.98	85	115	
Ag	107	115	No Gas	30.289	ppb	2.8	389549.30	30	100.96	85	117	
Cd	111	115	No Gas	29.338	ppb	2.8	79797.30	30	97.79	87	115	
Sn	118	115	No Gas	29.969	ppb	2.1	244686.25	30	99.9	85	115	
Sb	123	115	No Gas	28.687	ppb	2.5	278894.47	30	95.62	85	117	
Ba	137	115	No Gas	28.933	ppb	3.4	126353.67	30	96.44	86	114	
W	182	159	No Gas	0.005	ppb	47.6	153.33	30	0.02	85	115	FAIL
Hg	201	159	No Gas	0.009	ppb	30.6	23.17	2.5	0.36	85	115	FAIL
Hg	201	159	He	0.007	ppb	29.4	13.50	2.5	0.28	82	119	FAIL
Tl	205	159	No Gas	30.254	ppb	2.6	808961.90	30	100.85	82	116	
Pb	208	159	No Gas	30.679	ppb	2.5	1122011.14	30	102.26	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	29.385	ppb	2.3	1145666.66	30	97.95	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2205265.77	0.4	2071494.35	106.46	60	120	
Sc	45	No Gas	4051307.50	1.8	4025477.17	100.64	60	120	
Sc	45	H2	2226472.50	0.6	2213497.75	100.59	60	120	
Sc	45	He	350183.80	0.7	348770.57	100.41	60	120	
Ge	72	No Gas	928086.63	1.9	883390.69	105.06	60	120	
Ge	72	H2	637260.40	0.3	598767.1	106.43	60	120	
Ge	72	He	208353.29	0.7	194783.48	106.97	60	120	
In	115	No Gas	6201154.35	1.7	6067282.66	102.21	60	120	
Tb	159	No Gas	9278923.24	1.6	8945293.53	103.73	60	120	
Tb	159	He	5385422.33	0.8	5228762.33	103	60	120	

Sample Report

Sample Name	F145-01M
File Name	H6F14021.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:41:47
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	721.845	72.184	ppb	3.3	788112.17	50	>LDR
Be	9	6	No Gas	30.346	3.035	ppb	2.5	8346.95	50	
B	11	6	No Gas	2471.913	247.191	ppb	5.8	463703.31	100	>LDR
Na	23	45	H2	3225342.772	322534.277	ppb	1.7	931648554.67	50000	>LDR
Mg	24	45	No Gas	7273.543	727.354	ppb	4.0	6406445.33	50000	
Al	27	45	No Gas	2982.960	298.296	ppb	2.9	3391381.41	50000	
Si	28	45	H2	7795.822	779.582	ppb	1.2	699857.02	5000	
P	31	45	No Gas	115.089	11.509	ppb	5.2	53496.77	500	
K	39	45	He	32505.219	3250.522	ppb	0.0	1438903.83	50000	
Ca	40	45	H2	79692.414	7969.241	ppb	1.0	50430537.33	50000	
Ti	47	45	No Gas	31.485	3.149	ppb	1.1	4346.69	500	
V	51	45	He	23.628	2.363	ppb	3.1	13560.04	500	
Cr	52	45	He	29.490	2.949	ppb	2.9	15124.35	500	
Mn	55	45	No Gas	232.837	23.284	ppb	2.4	498803.73	3000	
Fe	56	45	H2	3250.442	325.044	ppb	0.3	3273953.33	50000	
Co	59	45	No Gas	30.405	3.041	ppb	2.9	53329.88	500	
Ni	60	45	He	29.855	2.985	ppb	0.5	5163.65	500	
Cu	63	45	He	31.666	3.167	ppb	1.4	15349.99	500	
Zn	66	72	No Gas	62.219	6.222	ppb	2.6	17720.93	500	
As	75	72	He	39.251	3.925	ppb	1.4	3019.01	500	
Se	78	72	H2	30.461	3.046	ppb	4.3	933.37	500	
Sr	88	72	No Gas	2030.334	203.033	ppb	4.4	5025546.47	500	
Zr	90	72	No Gas	0.112	0.011	ppb	7.0	320.00	50	
Mo	95	115	No Gas	210.752	21.075	ppb	3.3	101929.67	500	
Ag	107	115	No Gas	29.800	2.980	ppb	2.7	35655.94	50	
Cd	111	115	No Gas	30.144	3.014	ppb	2.6	7612.49	500	
Sn	118	115	No Gas	30.643	3.064	ppb	3.3	23762.62	500	
Sb	123	115	No Gas	29.820	2.982	ppb	2.6	27005.69	100	
Ba	137	115	No Gas	134.134	13.413	ppb	3.8	54390.49	1000	
W	182	159	No Gas	3.765	0.377	ppb	2.2	4437.47	50	
Hg	201	159	No Gas	0.064	0.006	ppb	21.1	17.00	5	
Hg	201	159	He	0.032	0.003	ppb	22.6	8.50	5	
Tl	205	159	No Gas	29.623	2.962	ppb	2.0	76065.88	500	
Pb	208	159	No Gas	30.646	3.065	ppb	2.8	108915.98	500	
U	238	159	No Gas	30.576	3.058	ppb	2.5	114247.39	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2071901.33	3.5	2071494.35	100.02	60	120	
Sc	45	No Gas	3890211.67	2.6	4025477.17	96.64	60	120	
Sc	45	H2	2213195.00	0.6	2213497.75	99.99	60	120	
Sc	45	He	346318.96	0.7	348770.57	99.3	60	120	
Ge	72	No Gas	904430.25	1.1	883390.69	102.38	60	120	
Ge	72	H2	628091.67	0.5	598767.1	104.9	60	120	
Ge	72	He	205309.76	0.1	194783.48	105.4	60	120	
In	115	No Gas	5754362.35	1.7	6067282.66	94.84	60	120	
Tb	159	No Gas	8888509.37	1.6	8945293.53	99.37	60	120	
Tb	159	He	5289107.67	0.8	5228762.33	101.15	60	120	

Sample Report

Sample Name	F145-01S
File Name	H6F14022.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:44:21
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	737.944	73.794	ppb	5.7	836918.27	50	>LDR
Be	9	6	No Gas	29.845	2.985	ppb	6.6	8558.18	50	
B	11	6	No Gas	2538.471	253.847	ppb	7.3	495914.37	100	>LDR
Na	23	45	H2	3264468.426	326446.843	ppb	0.6	953682005.33	50000	>LDR
Mg	24	45	No Gas	7460.202	746.020	ppb	4.3	6741351.33	50000	
Al	27	45	No Gas	2999.676	299.968	ppb	3.0	3499317.03	50000	
Si	28	45	H2	7971.656	797.166	ppb	0.4	723658.37	5000	
P	31	45	No Gas	114.769	11.477	ppb	7.4	54882.79	500	
K	39	45	He	33492.833	3349.283	ppb	0.6	1501970.92	50000	
Ca	40	45	H2	82196.772	8219.677	ppb	0.7	52605344.00	50000	
Ti	47	45	No Gas	31.084	3.108	ppb	6.9	4408.71	500	
V	51	45	He	23.126	2.313	ppb	0.5	13550.69	500	
Cr	52	45	He	29.574	2.957	ppb	0.5	15378.62	500	
Mn	55	45	No Gas	236.558	23.656	ppb	3.6	519913.20	3000	
Fe	56	45	H2	3295.945	329.595	ppb	0.2	3357254.58	50000	
Co	59	45	No Gas	30.744	3.074	ppb	3.1	55326.57	500	
Ni	60	45	He	30.981	3.098	ppb	1.2	5433.08	500	
Cu	63	45	He	32.327	3.233	ppb	1.8	15865.91	500	
Zn	66	72	No Gas	65.244	6.524	ppb	4.6	18782.37	500	
As	75	72	He	40.067	4.007	ppb	1.1	3130.03	500	
Se	78	72	H2	30.473	3.047	ppb	3.0	943.70	500	
Sr	88	72	No Gas	2107.550	210.755	ppb	3.5	5282719.93	500	
Zr	90	72	No Gas	0.141	0.014	ppb	46.3	373.34	50	
Mo	95	115	No Gas	216.435	21.643	ppb	5.3	106513.45	500	
Ag	107	115	No Gas	30.281	3.028	ppb	4.6	36861.43	50	
Cd	111	115	No Gas	29.774	2.977	ppb	3.2	7653.32	500	
Sn	118	115	No Gas	31.108	3.111	ppb	3.0	24534.04	500	
Sb	123	115	No Gas	30.408	3.041	ppb	4.8	28020.04	100	
Ba	137	115	No Gas	138.145	13.815	ppb	2.3	57006.23	1000	
W	182	159	No Gas	4.015	0.401	ppb	5.7	4740.91	50	
Hg	201	159	No Gas	0.064	0.006	ppb	18.0	17.17	5	
Hg	201	159	He	0.055	0.006	ppb	49.8	11.50	5	
Tl	205	159	No Gas	30.190	3.019	ppb	3.4	77752.06	500	
Pb	208	159	No Gas	30.542	3.054	ppb	3.6	108853.83	500	
U	238	159	No Gas	31.237	3.124	ppb	3.7	117063.14	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2160193.04	0.5	2071494.35	104.28	60	120	
Sc	45	No Gas	3992513.50	1.6	4025477.17	99.18	60	120	
Sc	45	H2	2238224.67	0.5	2213497.75	101.12	60	120	
Sc	45	He	351222.07	1.1	348770.57	100.7	60	120	
Ge	72	No Gas	916029.19	1.4	883390.69	103.69	60	120	
Ge	72	H2	634873.83	0.6	598767.1	106.03	60	120	
Ge	72	He	208802.36	0.4	194783.48	107.2	60	120	
In	115	No Gas	5858035.97	2.2	6067282.66	96.55	60	120	
Tb	159	No Gas	8916328.53	1.7	8945293.53	99.68	60	120	
Tb	159	He	5330848.33	0.8	5228762.33	101.95	60	120	

Sample Report

Sample Name	F145-01A
File Name	H6F14023.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:46:57
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	989.717	98.972	ppb	4.1	1079301.24	50	>LDR
Be	9	6	No Gas	297.362	29.736	ppb	4.8	84639.40	50	
B	11	6	No Gas	2735.760	273.576	ppb	5.6	533820.03	100	>LDR
Na	23	45	H2	3272627.921	327262.792	ppb	0.7	954514240.00	50000	>LDR
Mg	24	45	No Gas	35276.850	3527.685	ppb	4.4	31510586.67	50000	
Al	27	45	No Gas	30431.478	3043.148	ppb	5.1	35022870.31	50000	
Si	28	45	H2	7985.611	798.561	ppb	0.5	723729.73	5000	
P	31	45	No Gas	109.762	10.976	ppb	14.4	53979.28	500	
K	39	45	He	62358.236	6235.824	ppb	0.2	2822922.67	50000	
Ca	40	45	H2	109395.528	10939.553	ppb	0.5	69888496.00	50000	
Ti	47	45	No Gas	304.290	30.429	ppb	4.0	41096.27	500	
V	51	45	He	304.451	30.445	ppb	1.1	129036.76	500	
Cr	52	45	He	311.548	31.155	ppb	1.3	151194.64	500	
Mn	55	45	No Gas	509.459	50.946	ppb	3.7	1097312.00	3000	
Fe	56	45	H2	31304.708	3130.471	ppb	0.9	31762376.00	50000	
Co	59	45	No Gas	307.820	30.782	ppb	3.2	545602.80	500	
Ni	60	45	He	309.935	30.993	ppb	0.8	55399.55	500	
Cu	63	45	He	316.835	31.684	ppb	0.6	148640.31	500	
Zn	66	72	No Gas	624.809	62.481	ppb	3.6	171999.21	500	
As	75	72	He	321.445	32.144	ppb	0.3	24412.35	500	
Se	78	72	H2	301.211	30.121	ppb	0.4	9259.18	500	
Sr	88	72	No Gas	2321.882	232.188	ppb	3.9	5791902.82	500	
Zr	90	72	No Gas	0.221	0.022	ppb	42.6	503.35	50	
Mo	95	115	No Gas	485.627	48.563	ppb	3.1	234969.88	500	
Ag	107	115	No Gas	342.605	34.260	ppb	3.2	409227.94	50	
Cd	111	115	No Gas	304.591	30.459	ppb	2.4	76936.93	500	
Sn	118	115	No Gas	309.928	30.993	ppb	2.6	235023.40	500	
Sb	123	115	No Gas	288.943	28.894	ppb	2.6	260890.44	100	
Ba	137	115	No Gas	410.595	41.060	ppb	2.0	166474.14	1000	
W	182	159	No Gas	3.990	0.399	ppb	9.5	4704.23	50	
Hg	201	159	No Gas	0.073	0.007	ppb	17.7	18.67	5	
Hg	201	159	He	0.045	0.005	ppb	36.4	10.50	5	
Tl	205	159	No Gas	296.466	29.647	ppb	1.4	760034.28	500	
Pb	208	159	No Gas	305.037	30.504	ppb	2.4	1069696.54	500	
U	238	159	No Gas	307.396	30.740	ppb	3.6	1149267.11	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2157316.96	1.7	2071494.35	104.14	60	120	
Sc	45	No Gas	3949327.83	1.3	4025477.17	98.11	60	120	
Sc	45	H2	2234593.42	0.5	2213497.75	100.95	60	120	
Sc	45	He	360386.47	0.8	348770.57	103.33	60	120	
Ge	72	No Gas	911485.48	1.3	883390.69	103.18	60	120	
Ge	72	H2	635522.92	0.6	598767.1	106.14	60	120	
Ge	72	He	214928.45	0.7	194783.48	110.34	60	120	
In	115	No Gas	5759044.67	1.6	6067282.66	94.92	60	120	
Tb	159	No Gas	8898089.09	1.4	8945293.53	99.47	60	120	
Tb	159	He	5465259.00	0.1	5228762.33	104.52	60	120	

Sample Report

Sample Name	F145-01I
File Name	H6F14024.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:49:32
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	690.784	69.078	ppb	4.3	774623.04	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	22.22	50	
B	11	6	No Gas	2440.281	244.028	ppb	7.1	466837.82	100	>LDR
Na	23	45	H2	3227488.872	322748.887	ppb	0.9	913853162.67	50000	>LDR
Mg	24	45	No Gas	4334.842	433.484	ppb	4.6	3773110.92	50000	
Al	27	45	No Gas	10.057	1.006	ppb	4.8	21286.32	50000	
Si	28	45	H2	7684.054	768.405	ppb	0.3	676260.71	5000	
P	31	45	No Gas	124.181	12.418	ppb	7.9	53425.80	500	
K	39	45	He	29823.578	2982.358	ppb	0.4	1321010.29	50000	
Ca	40	45	H2	77310.859	7731.086	ppb	0.2	47956152.00	50000	
Ti	47	45	No Gas	0.635	0.063	ppb	20.8	257.33	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1138.05	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	871.36	500	
Mn	55	45	No Gas	200.844	20.084	ppb	4.0	426240.53	3000	
Fe	56	45	H2	199.760	19.976	ppb	1.0	205099.61	50000	
Co	59	45	No Gas	0.025	0.002	ppb	43.1	290.00	500	
Ni	60	45	He	0.053	0.005	ppb	82.0	48.00	500	
Cu	63	45	He	0.269	0.027	ppb	19.4	1310.73	500	
Zn	66	72	No Gas	3.445	0.344	ppb	4.4	1718.78	500	
As	75	72	He	9.019	0.902	ppb	3.6	843.69	500	
Se	78	72	H2	0.171	0.017	ppb	108.8	13.67	500	
Sr	88	72	No Gas	2002.644	200.264	ppb	4.1	4885061.89	500	
Zr	90	72	No Gas	0.003	0.000	ppb	338.2	140.00	50	
Mo	95	115	No Gas	180.029	18.003	ppb	3.7	85181.11	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	76.67	50	
Cd	111	115	No Gas	0.022	0.002	ppb	244.0	9.65	500	
Sn	118	115	No Gas	0.100	0.010	ppb	78.2	662.24	500	
Sb	123	115	No Gas	0.619	0.062	ppb	13.9	655.58	100	
Ba	137	115	No Gas	105.066	10.507	ppb	2.1	41681.29	1000	
W	182	159	No Gas	3.716	0.372	ppb	7.4	4244.08	50	
Hg	201	159	No Gas	0.049	0.005	ppb	20.0	14.00	5	
Hg	201	159	He	0.031	0.003	ppb	65.0	8.17	5	
Tl	205	159	No Gas	0.002	0.000	ppb	832.4	217.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	834.45	500	
U	238	159	No Gas	0.575	0.058	ppb	8.3	2149.08	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2114408.06	1.4	2071494.35	102.07	60	120	
Sc	45	No Gas	3843707.58	1.1	4025477.17	95.48	60	120	
Sc	45	H2	2169317.83	0.2	2213497.75	98	60	120	
Sc	45	He	345415.47	0.5	348770.57	99.04	60	120	
Ge	72	No Gas	891319.10	1.1	883390.69	100.9	60	120	
Ge	72	H2	617130.77	0.8	598767.1	103.07	60	120	
Ge	72	He	205153.32	1.0	194783.48	105.32	60	120	
In	115	No Gas	5629536.96	1.1	6067282.66	92.79	60	120	
Tb	159	No Gas	8607055.21	1.6	8945293.53	96.22	60	120	
Tb	159	He	5184745.33	0.1	5228762.33	99.16	60	120	

Sample Report

Sample Name	F145-01J
File Name	H6F14025.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:52:08
Sample Type	Sample
Total Dilution	50.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	688.836	13.777	ppb	3.7	262278.26	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	11.11	50	
B	11	6	No Gas	2646.845	52.937	ppb	4.5	106473.71	100	
Na	23	45	H2	3225289.029	64505.781	ppb	0.3	186875984.00	50000	>LDR
Mg	24	45	No Gas	4299.997	86.000	ppb	3.5	775101.50	50000	
Al	27	45	No Gas	7.855	0.157	ppb	12.9	12138.66	50000	
Si	28	45	H2	7577.906	151.558	ppb	1.6	140644.59	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	44224.22	500	
K	39	45	He	29615.551	592.311	ppb	1.5	303199.39	50000	
Ca	40	45	H2	76916.792	1538.336	ppb	0.3	9771491.00	50000	
Ti	47	45	No Gas	0.207	0.004	ppb	918.2	184.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1897.47	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	855.36	500	
Mn	55	45	No Gas	203.038	4.061	ppb	3.0	95762.18	3000	
Fe	56	45	H2	194.632	3.893	ppb	0.6	47755.17	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	148.00	500	
Ni	60	45	He	0.033	0.001	ppb	470.2	40.00	500	
Cu	63	45	He	1.753	0.035	ppb	30.1	1344.06	500	
Zn	66	72	No Gas	4.454	0.089	ppb	20.5	1058.71	500	
As	75	72	He	3.798	0.076	ppb	15.6	252.67	500	
Se	78	72	H2	0.277	0.006	ppb	86.8	10.33	500	
Sr	88	72	No Gas	1998.419	39.968	ppb	2.0	998199.61	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	100.00	50	
Mo	95	115	No Gas	177.580	3.552	ppb	4.2	17539.33	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	37.78	50	
Cd	111	115	No Gas	0.170	0.003	ppb	81.6	13.23	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	605.57	500	
Sb	123	115	No Gas	1.055	0.021	ppb	5.7	308.89	100	
Ba	137	115	No Gas	103.610	2.072	ppb	3.0	8610.64	1000	
W	182	159	No Gas	3.583	0.072	ppb	7.6	913.37	50	
Hg	201	159	No Gas	0.202	0.004	ppb	45.4	12.83	5	
Hg	201	159	He	0.132	0.003	ppb	35.5	7.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	164.45	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	691.12	500	
U	238	159	No Gas	0.577	0.012	ppb	7.4	501.12	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2213167.04	1.0	2071494.35	106.84	60	120	
Sc	45	No Gas	3957301.00	1.5	4025477.17	98.31	60	120	
Sc	45	H2	2216845.42	0.6	2213497.75	100.15	60	120	
Sc	45	He	344674.30	0.7	348770.57	98.83	60	120	
Ge	72	No Gas	912323.75	1.5	883390.69	103.28	60	120	
Ge	72	H2	622038.85	0.8	598767.1	103.89	60	120	
Ge	72	He	207483.46	0.6	194783.48	106.52	60	120	
In	115	No Gas	5868090.91	0.5	6067282.66	96.72	60	120	
Tb	159	No Gas	8883468.81	0.6	8945293.53	99.31	60	120	
Tb	159	He	5345126.33	0.7	5228762.33	102.23	60	120	

Sample Report

Sample Name	F145-02I
File Name	H6F14026.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:54:43
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	332.488	33.249	ppb	4.7	437425.37	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	18.89	50	
B	11	6	No Gas	1021.996	102.200	ppb	7.3	196918.04	100	>LDR
Na	23	45	H2	1817656.168	181765.617	ppb	0.5	521880458.67	50000	>LDR
Mg	24	45	No Gas	79186.258	7918.626	ppb	3.5	69411998.67	50000	
Al	27	45	No Gas	2.510	0.251	ppb	25.0	12942.72	50000	
Si	28	45	H2	16171.189	1617.119	ppb	0.8	1436895.42	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	42674.73	500	
K	39	45	He	12661.092	1266.109	ppb	1.3	599663.31	50000	
Ca	40	45	H2	154634.581	15463.458	ppb	0.4	97217824.00	50000	
Ti	47	45	No Gas	0.657	0.066	ppb	20.1	262.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2004.15	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	901.36	500	
Mn	55	45	No Gas	682.124	68.212	ppb	3.8	1439093.54	3000	
Fe	56	45	H2	53.747	5.375	ppb	0.6	62168.20	50000	
Co	59	45	No Gas	0.213	0.021	ppb	20.4	620.68	500	
Ni	60	45	He	2.031	0.203	ppb	8.7	392.67	500	
Cu	63	45	He	0.319	0.032	ppb	28.6	1353.40	500	
Zn	66	72	No Gas	11.540	1.154	ppb	6.1	3872.56	500	
As	75	72	He	2.191	0.219	ppb	13.1	357.67	500	
Se	78	72	H2	0.164	0.016	ppb	100.1	13.67	500	
Sr	88	72	No Gas	3738.761	373.876	ppb	2.9	9085312.97	500	
Zr	90	72	No Gas	0.008	0.001	ppb	184.9	146.67	50	
Mo	95	115	No Gas	45.984	4.598	ppb	4.5	21781.20	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	41.11	50	
Cd	111	115	No Gas	0.008	0.001	ppb	62.0	6.29	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	533.34	500	
Sb	123	115	No Gas	0.259	0.026	ppb	15.1	338.90	100	
Ba	137	115	No Gas	58.334	5.833	ppb	2.3	23155.11	1000	
W	182	159	No Gas	2.152	0.215	ppb	3.1	2490.26	50	
Hg	201	159	No Gas	0.094	0.009	ppb	19.6	21.67	5	
Hg	201	159	He	0.062	0.006	ppb	37.0	12.17	5	
Tl	205	159	No Gas	0.380	0.038	ppb	4.2	1154.50	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	652.23	500	
U	238	159	No Gas	3.929	0.393	ppb	0.9	14271.68	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2125799.18	1.2	2071494.35	102.62	60	120	
Sc	45	No Gas	3875290.92	2.4	4025477.17	96.27	60	120	
Sc	45	H2	2199255.17	1.0	2213497.75	99.36	60	120	
Sc	45	He	350706.52	0.4	348770.57	100.56	60	120	
Ge	72	No Gas	888022.75	1.6	883390.69	100.52	60	120	
Ge	72	H2	626060.21	0.3	598767.1	104.56	60	120	
Ge	72	He	208038.78	0.6	194783.48	106.81	60	120	
In	115	No Gas	5627144.02	2.1	6067282.66	92.75	60	120	
Tb	159	No Gas	8604911.32	1.3	8945293.53	96.19	60	120	
Tb	159	He	5252953.17	0.2	5228762.33	100.46	60	120	

Sample Report

Sample Name	F145-04I
File Name	H6F14027.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:57:19
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	715.736	71.574	ppb	4.1	810579.59	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	11.11	50	
B	11	6	No Gas	1480.861	148.086	ppb	5.5	287854.12	100	>LDR
Na	23	45	H2	2748522.307	274852.231	ppb	1.6	805023914.67	50000	>LDR
Mg	24	45	No Gas	18811.154	1881.115	ppb	3.8	16639640.33	50000	
Al	27	45	No Gas	3.323	0.332	ppb	15.9	13993.76	50000	
Si	28	45	H2	14120.362	1412.036	ppb	1.4	1280861.17	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	44000.84	500	
K	39	45	He	21759.707	2175.971	ppb	0.2	1004480.06	50000	
Ca	40	45	H2	158263.692	15826.369	ppb	0.2	101526922.67	50000	
Ti	47	45	No Gas	0.405	0.041	ppb	90.8	231.33	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2397.55	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	877.36	500	
Mn	55	45	No Gas	96.220	9.622	ppb	3.4	212287.12	3000	
Fe	56	45	H2	0.624	0.062	ppb	7.3	9325.18	50000	
Co	59	45	No Gas	0.138	0.014	ppb	7.8	493.34	500	
Ni	60	45	He	0.500	0.050	ppb	13.9	128.00	500	
Cu	63	45	He	0.661	0.066	ppb	11.8	1526.08	500	
Zn	66	72	No Gas	4.400	0.440	ppb	6.5	1993.48	500	
As	75	72	He	1.539	0.154	ppb	3.6	313.00	500	
Se	78	72	H2	0.326	0.033	ppb	41.0	18.67	500	
Sr	88	72	No Gas	3404.827	340.483	ppb	2.8	8385144.94	500	
Zr	90	72	No Gas	0.001	0.000	ppb	7327.5	136.67	50	
Mo	95	115	No Gas	50.487	5.049	ppb	2.2	24184.19	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	61.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	3.49	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	527.79	500	
Sb	123	115	No Gas	0.242	0.024	ppb	12.1	327.78	100	
Ba	137	115	No Gas	44.536	4.454	ppb	1.0	17897.89	1000	
W	182	159	No Gas	1.070	0.107	ppb	10.2	1283.40	50	
Hg	201	159	No Gas	0.111	0.011	ppb	8.7	24.67	5	
Hg	201	159	He	0.104	0.010	ppb	8.9	17.67	5	
Tl	205	159	No Gas	0.522	0.052	ppb	6.6	1512.32	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	564.45	500	
U	238	159	No Gas	12.960	1.296	ppb	1.9	47065.81	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2147054.51	1.3	2071494.35	103.65	60	120	
Sc	45	No Gas	3910724.67	0.9	4025477.17	97.15	60	120	
Sc	45	H2	2244079.08	0.9	2213497.75	101.38	60	120	
Sc	45	He	354825.09	0.8	348770.57	101.74	60	120	
Ge	72	No Gas	900006.75	1.3	883390.69	101.88	60	120	
Ge	72	H2	629094.77	0.9	598767.1	105.07	60	120	
Ge	72	He	209958.17	1.0	194783.48	107.79	60	120	
In	115	No Gas	5693675.50	1.7	6067282.66	93.84	60	120	
Tb	159	No Gas	8632103.55	0.8	8945293.53	96.5	60	120	
Tb	159	He	5304927.33	0.6	5228762.33	101.46	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV2
File Name	H6F14028.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:59:54
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	8	No Gas	23.554	ppb	4.7	356414.86	25	94.22	90	110	
Be	9	6	No Gas	23.188	ppb	4.5	67178.36	25	92.75	90	110	
B	11	6	No Gas	48.005	ppb	5.4	95850.13	50	96.01	90	110	
Na	23	45	H2	25578.650	ppb	0.6	73510704.00	25000	102.31	90	110	
Mg	24	45	No Gas	24844.468	ppb	3.6	221746522.67	25000	99.38	90	110	
Al	27	45	No Gas	24767.555	ppb	4.7	284808562.42	25000	99.07	90	110	
Si	28	45	H2	2589.265	ppb	0.5	2292070.33	2500	103.57	90	110	
P	31	45	No Gas	234.654	ppb	2.6	195170.44	250	93.86	90	110	
K	39	45	He	25252.799	ppb	0.4	10727857.67	25000	101.01	90	110	
Ca	40	45	H2	25151.721	ppb	0.2	157738266.67	25000	100.61	90	110	
Ti	47	45	No Gas	244.236	ppb	3.7	328422.36	250	97.69	90	110	
V	51	45	He	247.782	ppb	0.1	969791.25	250	99.11	90	110	
Cr	52	45	He	250.793	ppb	0.5	1148343.50	250	100.32	90	110	
Mn	55	45	No Gas	1469.946	ppb	3.4	31397960.00	1500	98	90	110	
Fe	56	45	H2	25001.152	ppb	1.1	248984016.00	25000	100	90	110	
Co	59	45	No Gas	250.430	ppb	4.2	4434993.67	250	100.17	90	110	
Ni	60	45	He	248.944	ppb	0.3	423413.24	250	99.58	90	110	
Cu	63	45	He	251.932	ppb	0.1	1117153.17	250	100.77	90	110	
Zn	66	72	No Gas	245.788	ppb	3.3	666211.29	250	98.32	90	110	
As	75	72	He	247.380	ppb	0.3	176373.91	250	98.95	90	110	
Se	78	72	H2	245.040	ppb	0.7	73280.33	250	98.02	90	110	
Sr	88	72	No Gas	247.860	ppb	3.0	6109078.79	250	99.14	90	110	
Zr	90	72	No Gas	26.224	ppb	3.9	428285.50	25	104.9	90	110	
Mo	95	115	No Gas	242.404	ppb	2.8	1185001.86	250	96.96	90	110	
Ag	107	115	No Gas	24.371	ppb	3.2	294141.41	25	97.48	90	110	
Cd	111	115	No Gas	239.997	ppb	2.7	612470.34	250	96	90	110	
Sn	118	115	No Gas	240.894	ppb	2.0	1841370.34	250	96.36	90	110	
Sb	123	115	No Gas	47.215	ppb	2.2	430641.56	50	94.43	90	110	
Ba	137	115	No Gas	483.085	ppb	1.7	1978455.48	500	96.62	90	110	
W	182	159	No Gas	25.682	ppb	3.1	296494.91	25	102.73	90	110	
Hg	201	159	No Gas	2.425	ppb	4.7	4337.75	2.5	97	90	110	
Hg	201	159	He	2.435	ppb	1.5	3079.05	2.5	97.4	90	110	
Tl	205	159	No Gas	245.950	ppb	1.8	6288944.20	250	98.38	90	110	
Pb	208	159	No Gas	248.126	ppb	1.6	8667578.39	250	99.25	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	243.424	ppb	3.1	9078257.69	250	97.37	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2195881.72	0.5	2071494.35	106	60	120	
Sc	45	No Gas	3947375.17	0.7	4025477.17	98.06	60	120	
Sc	45	H2	2194017.58	0.7	2213497.75	99.12	60	120	
Sc	45	He	343135.70	0.3	348770.57	98.38	60	120	
Ge	72	No Gas	900740.12	1.0	883390.69	101.96	60	120	
Ge	72	H2	618830.56	1.2	598767.1	103.35	60	120	
Ge	72	He	203254.56	0.3	194783.48	104.35	60	120	
In	115	No Gas	5819019.51	1.0	6067282.66	95.91	60	120	
Tb	159	No Gas	8877090.76	0.8	8945293.53	99.24	60	120	
Tb	159	He	5251162.50	0.1	5228762.33	100.43	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB2
File Name	H6F14029.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 14:02:31
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	124207.27	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	27.78	0.08	
B	11	6	No Gas	3.329	ppb	8.5	7369.73	4	
Na	23	45	H2	59.441	ppb	2.1	444872.72	40	>LOD
Mg	24	45	No Gas	2.353	ppb	10.9	25928.38	10	
Al	27	45	No Gas	2.162	ppb	10.7	34452.97	15	
Si	28	45	H2	1.919	ppb	9.2	6888.37	8	
P	31	45	No Gas	<0.000	ppb	N/A	40899.40	10	
K	39	45	He	6.627	ppb	60.8	53155.38	20	
Ca	40	45	H2	2.082	ppb	3.2	36963.37	25	
Ti	47	45	No Gas	0.030	ppb	32.4	215.33	0.5	
V	51	45	He	<0.000	ppb	N/A	2092.83	0.5	
Cr	52	45	He	<0.000	ppb	N/A	911.36	0.2	
Mn	55	45	No Gas	0.161	ppb	14.7	11989.93	0.2	
Fe	56	45	H2	2.295	ppb	3.3	30673.04	10	
Co	59	45	No Gas	0.016	ppb	7.2	530.01	0.15	
Ni	60	45	He	0.020	ppb	34.1	71.33	0.2	
Cu	63	45	He	0.002	ppb	493.9	1169.39	0.4	
Zn	66	72	No Gas	0.032	ppb	141.7	831.36	2	
As	75	72	He	<0.000	ppb	N/A	135.67	0.2	
Se	78	72	H2	0.048	ppb	11.4	21.33	0.2	
Sr	88	72	No Gas	0.027	ppb	20.4	1074.49	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.083	ppb	26.9	447.78	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	80.00	0.08	
Cd	111	115	No Gas	0.029	ppb	19.1	78.42	0.2	
Sn	118	115	No Gas	0.070	ppb	11.4	1162.28	0.2	
Sb	123	115	No Gas	0.019	ppb	6.5	290.01	0.4	
Ba	137	115	No Gas	0.051	ppb	14.1	265.56	0.2	
W	182	159	No Gas	0.007	ppb	50.0	163.33	0.3	
Hg	201	159	No Gas	0.023	ppb	30.9	46.00	0.1	
Hg	201	159	He	0.014	ppb	12.4	22.00	0.1	
Tl	205	159	No Gas	0.044	ppb	26.7	1354.52	0.1	
Pb	208	159	No Gas	0.010	ppb	93.9	2071.18	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.033	ppb	3.4	1295.63	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2232694.98	1.3	2071494.35	107.78	60	120	
Sc	45	No Gas	3870513.42	1.5	4025477.17	96.15	60	120	
Sc	45	H2	2146867.58	0.5	2213497.75	96.99	60	120	
Sc	45	He	336370.55	0.5	348770.57	96.44	60	120	
Ge	72	No Gas	841761.04	1.4	883390.69	95.29	60	120	
Ge	72	H2	575319.19	0.1	598767.1	96.08	60	120	
Ge	72	He	188449.27	1.2	194783.48	96.75	60	120	
In	115	No Gas	5914720.76	1.5	6067282.66	97.49	60	120	
Tb	159	No Gas	8890018.81	1.5	8945293.53	99.38	60	120	
Tb	159	He	5236662.67	0.5	5228762.33	100.15	60	120	

Sample Report

Sample Name	F145-06I
File Name	H6F14030.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:05:07
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	925.858	92.586	ppb	4.1	976713.02	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	14.45	50	
B	11	6	No Gas	2329.827	232.983	ppb	6.0	436500.19	100	>LDR
Na	23	45	H2	4317057.661	431705.766	ppb	1.0	1234435925.33	50000	>LDR
Mg	24	45	No Gas	4744.875	474.488	ppb	3.5	4057326.00	50000	
Al	27	45	No Gas	12.316	1.232	ppb	18.2	23373.20	50000	
Si	28	45	H2	9309.803	930.980	ppb	0.2	826348.46	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	42991.69	500	
K	39	45	He	32957.022	3295.702	ppb	0.5	1480202.87	50000	
Ca	40	45	H2	125027.686	12502.769	ppb	0.9	78312645.33	50000	
Ti	47	45	No Gas	1.047	0.105	ppb	9.1	306.00	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	910.03	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	944.70	500	
Mn	55	45	No Gas	299.352	29.935	ppb	2.4	619960.27	3000	
Fe	56	45	H2	73.539	7.354	ppb	0.4	81615.93	50000	
Co	59	45	No Gas	0.090	0.009	ppb	31.8	394.67	500	
Ni	60	45	He	0.358	0.036	ppb	19.4	102.00	500	
Cu	63	45	He	0.649	0.065	ppb	43.3	1506.09	500	
Zn	66	72	No Gas	6.720	0.672	ppb	1.4	2558.24	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	142.67	500	
Se	78	72	H2	0.330	0.033	ppb	4.9	18.33	500	
Sr	88	72	No Gas	3172.532	317.253	ppb	3.7	7625684.98	500	
Zr	90	72	No Gas	0.166	0.017	ppb	40.4	396.67	50	
Mo	95	115	No Gas	113.000	11.300	ppb	3.4	52371.69	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	84.44	50	
Cd	111	115	No Gas	0.048	0.005	ppb	76.0	15.67	500	
Sn	118	115	No Gas	0.295	0.030	ppb	25.0	790.03	500	
Sb	123	115	No Gas	0.217	0.022	ppb	7.9	295.56	100	
Ba	137	115	No Gas	42.051	4.205	ppb	2.0	16366.99	1000	
W	182	159	No Gas	1.646	0.165	ppb	2.9	1903.48	50	
Hg	201	159	No Gas	0.169	0.017	ppb	17.0	34.33	5	
Hg	201	159	He	0.092	0.009	ppb	24.0	15.83	5	
Tl	205	159	No Gas	0.038	0.004	ppb	68.3	304.45	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1107.80	500	
U	238	159	No Gas	1.116	0.112	ppb	0.8	4059.56	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2070651.68	1.7	2071494.35	99.96	60	120	
Sc	45	No Gas	3776252.92	1.6	4025477.17	93.81	60	120	
Sc	45	H2	2190872.58	0.6	2213497.75	98.98	60	120	
Sc	45	He	351552.74	0.5	348770.57	100.8	60	120	
Ge	72	No Gas	878384.40	1.0	883390.69	99.43	60	120	
Ge	72	H2	614036.13	0.6	598767.1	102.55	60	120	
Ge	72	He	208211.42	0.2	194783.48	106.89	60	120	
In	115	No Gas	5513512.42	0.9	6067282.66	90.87	60	120	
Tb	159	No Gas	8512489.94	1.0	8945293.53	95.16	60	120	
Tb	159	He	5208206.33	0.4	5228762.33	99.61	60	120	

Sample Report

Sample Name	F145-08I
File Name	H6F14031.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 14:07:43
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	125.365	12.536	ppb	3.6	255808.39	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	16.67	50	
B	11	6	No Gas	459.009	45.901	ppb	3.4	94555.74	100	
Na	23	45	H2	368523.072	36852.307	ppb	1.0	107700976.00	50000	
Mg	24	45	No Gas	22137.102	2213.710	ppb	3.1	20211528.67	50000	
Al	27	45	No Gas	8.399	0.840	ppb	6.9	20401.72	50000	
Si	28	45	H2	12278.587	1227.859	ppb	0.8	1109455.33	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	46319.00	500	
K	39	45	He	5413.169	541.317	ppb	1.5	288500.87	50000	
Ca	40	45	H2	69858.779	6985.878	ppb	0.3	44623141.33	50000	
Ti	47	45	No Gas	0.928	0.093	ppb	2.4	310.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2968.33	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	856.70	500	
Mn	55	45	No Gas	187.128	18.713	ppb	2.8	417667.19	3000	
Fe	56	45	H2	29.235	2.924	ppb	9.2	38286.43	50000	
Co	59	45	No Gas	0.045	0.004	ppb	11.6	341.33	500	
Ni	60	45	He	0.157	0.016	ppb	58.5	67.33	500	
Cu	63	45	He	0.737	0.074	ppb	15.1	1553.42	500	
Zn	66	72	No Gas	3.131	0.313	ppb	6.8	1717.44	500	
As	75	72	He	4.660	0.466	ppb	4.7	543.34	500	
Se	78	72	H2	0.641	0.064	ppb	13.9	29.00	500	
Sr	88	72	No Gas	1261.895	126.190	ppb	2.4	3233570.29	500	
Zr	90	72	No Gas	0.031	0.003	ppb	17.7	193.33	50	
Mo	95	115	No Gas	7.482	0.748	ppb	6.9	3790.54	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	52.22	50	
Cd	111	115	No Gas	0.013	0.001	ppb	189.6	7.84	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	598.90	500	
Sb	123	115	No Gas	0.251	0.025	ppb	1.9	352.23	100	
Ba	137	115	No Gas	182.128	18.213	ppb	1.6	76588.66	1000	
W	182	159	No Gas	0.809	0.081	ppb	3.3	1043.38	50	
Hg	201	159	No Gas	0.139	0.014	ppb	7.7	31.17	5	
Hg	201	159	He	0.111	0.011	ppb	42.4	18.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	208.89	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	815.56	500	
U	238	159	No Gas	2.481	0.248	ppb	1.9	9538.17	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2264757.41	1.0	2071494.35	109.33	60	120	
Sc	45	No Gas	4036547.92	1.4	4025477.17	100.28	60	120	
Sc	45	H2	2233754.17	0.3	2213497.75	100.92	60	120	
Sc	45	He	353211.12	0.8	348770.57	101.27	60	120	
Ge	72	No Gas	936367.10	1.3	883390.69	106	60	120	
Ge	72	H2	645859.19	0.7	598767.1	107.86	60	120	
Ge	72	He	210232.77	0.6	194783.48	107.93	60	120	
In	115	No Gas	5970571.57	1.5	6067282.66	98.41	60	120	
Tb	159	No Gas	9084422.97	1.6	8945293.53	101.56	60	120	
Tb	159	He	5343600.17	0.7	5228762.33	102.2	60	120	

Sample Report

Sample Name	F145-09I
File Name	H6F14032.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:10:18
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	347.830	34.783	ppb	5.7	459491.58	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	14.44	50	
B	11	6	No Gas	948.016	94.802	ppb	8.1	185717.84	100	>LDR
Na	23	45	H2	1840184.954	184018.495	ppb	0.9	548567125.33	50000	>LDR
Mg	24	45	No Gas	82309.982	8230.998	ppb	4.0	73448666.67	50000	
Al	27	45	No Gas	9.023	0.902	ppb	7.8	20668.78	50000	
Si	28	45	H2	13063.803	1306.380	ppb	1.4	1206301.46	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	44551.31	500	
K	39	45	He	11906.177	1190.618	ppb	1.1	598239.46	50000	
Ca	40	45	H2	211187.528	21118.753	ppb	0.2	137851600.00	50000	
Ti	47	45	No Gas	0.716	0.072	ppb	18.5	275.33	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2734.94	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	976.04	500	
Mn	55	45	No Gas	1035.577	103.558	ppb	4.0	2219646.83	3000	
Fe	56	45	H2	3.861	0.386	ppb	6.7	12844.04	50000	
Co	59	45	No Gas	0.893	0.089	ppb	6.9	1835.46	500	
Ni	60	45	He	1.197	0.120	ppb	15.1	261.33	500	
Cu	63	45	He	1.127	0.113	ppb	9.7	1814.12	500	
Zn	66	72	No Gas	8.293	0.829	ppb	1.5	3099.02	500	
As	75	72	He	0.214	0.021	ppb	45.4	224.00	500	
Se	78	72	H2	0.349	0.035	ppb	41.3	20.00	500	
Sr	88	72	No Gas	4944.471	494.447	ppb	3.9	12390563.67	500	>LDR
Zr	90	72	No Gas	0.029	0.003	ppb	36.7	186.67	50	
Mo	95	115	No Gas	19.564	1.956	ppb	3.1	9603.47	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	44.45	50	
Cd	111	115	No Gas	0.071	0.007	ppb	60.8	22.62	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	596.68	500	
Sb	123	115	No Gas	0.184	0.018	ppb	21.6	282.22	100	
Ba	137	115	No Gas	30.101	3.010	ppb	0.7	12382.58	1000	
W	182	159	No Gas	1.924	0.192	ppb	5.6	2320.22	50	
Hg	201	159	No Gas	0.109	0.011	ppb	21.2	25.33	5	
Hg	201	159	He	0.106	0.011	ppb	6.7	18.50	5	
Tl	205	159	No Gas	0.012	0.001	ppb	137.4	252.23	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	706.67	500	
U	238	159	No Gas	18.550	1.855	ppb	2.0	69650.13	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2160536.30	1.3	2071494.35	104.3	60	120	
Sc	45	No Gas	3944454.17	2.5	4025477.17	97.99	60	120	
Sc	45	H2	2283555.75	1.1	2213497.75	103.17	60	120	
Sc	45	He	370019.43	0.7	348770.57	106.09	60	120	
Ge	72	No Gas	915558.19	1.9	883390.69	103.64	60	120	
Ge	72	H2	650855.42	0.9	598767.1	108.7	60	120	
Ge	72	He	218180.42	0.9	194783.48	112.01	60	120	
In	115	No Gas	5819899.67	2.6	6067282.66	95.92	60	120	
Tb	159	No Gas	8927783.26	1.9	8945293.53	99.8	60	120	
Tb	159	He	5465412.67	1.1	5228762.33	104.53	60	120	

Sample Report

Sample Name	F145-10I
File Name	H6F14033.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:12:54
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	546.449	54.645	ppb	4.1	676730.91	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	12.22	50	
B	11	6	No Gas	1095.058	109.506	ppb	6.6	222604.63	100	>LDR
Na	23	45	H2	2472473.785	247247.379	ppb	1.3	752339072.00	50000	>LDR
Mg	24	45	No Gas	6709.196	670.920	ppb	3.9	6325558.83	50000	
Al	27	45	No Gas	7.301	0.730	ppb	3.6	19727.41	50000	
Si	28	45	H2	7097.750	709.775	ppb	0.9	671683.98	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	49073.79	500	
K	39	45	He	13668.003	1366.800	ppb	0.5	688038.40	50000	
Ca	40	45	H2	164664.328	16466.433	ppb	0.8	109730461.33	50000	
Ti	47	45	No Gas	0.537	0.054	ppb	23.1	265.33	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2276.86	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1086.71	500	
Mn	55	45	No Gas	269.333	26.933	ppb	3.5	616272.25	3000	
Fe	56	45	H2	19.050	1.905	ppb	2.3	29185.09	50000	
Co	59	45	No Gas	0.093	0.009	ppb	6.5	442.68	500	
Ni	60	45	He	0.188	0.019	ppb	10.9	77.33	500	
Cu	63	45	He	0.353	0.035	ppb	49.1	1464.08	500	
Zn	66	72	No Gas	2.185	0.218	ppb	0.8	1474.08	500	
As	75	72	He	1.143	0.114	ppb	20.4	296.33	500	
Se	78	72	H2	1.001	0.100	ppb	26.2	41.00	500	
Sr	88	72	No Gas	3357.551	335.755	ppb	2.9	8741035.76	500	
Zr	90	72	No Gas	0.052	0.005	ppb	93.0	233.34	50	
Mo	95	115	No Gas	76.149	7.615	ppb	3.4	38366.40	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	61.11	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	2.01	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	552.24	500	
Sb	123	115	No Gas	0.095	0.010	ppb	15.2	206.67	100	
Ba	137	115	No Gas	56.108	5.611	ppb	3.9	23718.35	1000	
W	182	159	No Gas	0.973	0.097	ppb	7.9	1246.73	50	
Hg	201	159	No Gas	0.124	0.012	ppb	18.8	28.67	5	
Hg	201	159	He	0.093	0.009	ppb	16.0	16.83	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	163.33	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	507.78	500	
U	238	159	No Gas	3.071	0.307	ppb	3.4	11881.34	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2243503.07	1.1	2071494.35	108.3	60	120	
Sc	45	No Gas	4165105.58	1.5	4025477.17	103.47	60	120	
Sc	45	H2	2331173.33	0.5	2213497.75	105.32	60	120	
Sc	45	He	375177.60	0.9	348770.57	107.57	60	120	
Ge	72	No Gas	951353.12	1.4	883390.69	107.69	60	120	
Ge	72	H2	658400.08	0.4	598767.1	109.96	60	120	
Ge	72	He	219250.23	1.2	194783.48	112.56	60	120	
In	115	No Gas	5991970.37	0.7	6067282.66	98.76	60	120	
Tb	159	No Gas	9154246.58	1.1	8945293.53	102.34	60	120	
Tb	159	He	5478473.00	1.3	5228762.33	104.78	60	120	

Sample Report

Sample Name	F145-11I
File Name	H6F14034.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:15:29
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	1321.496	132.150	ppb	4.7	1423593.21	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	15.56	50	
B	11	6	No Gas	2985.020	298.502	ppb	6.4	592219.04	100	>LDR
Na	23	45	H2	7058330.567	705833.057	ppb	0.8	2197960618.67	50000	>LDR
Mg	24	45	No Gas	23645.715	2364.571	ppb	5.1	21679768.67	50000	
Al	27	45	No Gas	4.519	0.452	ppb	4.5	15912.51	50000	
Si	28	45	H2	5901.964	590.196	ppb	0.8	572666.96	5000	
P	31	45	No Gas	107.319	10.732	ppb	9.6	55243.56	500	
K	39	45	He	62509.079	6250.908	ppb	0.6	3022234.00	50000	
Ca	40	45	H2	419131.779	41913.178	ppb	0.1	285854666.67	50000	
Ti	47	45	No Gas	0.803	0.080	ppb	23.9	294.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1035.37	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1020.04	500	
Mn	55	45	No Gas	1840.822	184.082	ppb	3.5	4045714.25	3000	
Fe	56	45	H2	1938.240	193.824	ppb	0.3	2108589.33	50000	
Co	59	45	No Gas	0.337	0.034	ppb	3.2	874.70	500	
Ni	60	45	He	0.196	0.020	ppb	40.7	80.67	500	
Cu	63	45	He	<0.000	<0.000	ppb	N/A	1281.40	500	
Zn	66	72	No Gas	6.626	0.663	ppb	5.7	2660.93	500	
As	75	72	He	8.467	0.847	ppb	5.4	881.03	500	
Se	78	72	H2	0.153	0.015	ppb	95.2	14.00	500	
Sr	88	72	No Gas	10176.955	1017.695	ppb	4.0	25689952.87	500	>LDR
Zr	90	72	No Gas	0.011	0.001	ppb	388.0	156.67	50	
Mo	95	115	No Gas	44.874	4.487	ppb	3.1	21941.50	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	54.45	50	
Cd	111	115	No Gas	0.004	0.000	ppb	893.6	5.38	500	
Sn	118	115	No Gas	0.137	0.014	ppb	41.7	712.24	500	
Sb	123	115	No Gas	0.203	0.020	ppb	10.5	298.89	100	
Ba	137	115	No Gas	66.807	6.681	ppb	2.8	27377.77	1000	
W	182	159	No Gas	0.341	0.034	ppb	31.7	473.35	50	
Hg	201	159	No Gas	0.126	0.013	ppb	21.1	27.83	5	
Hg	201	159	He	0.100	0.010	ppb	18.0	17.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	154.44	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	650.01	500	
U	238	159	No Gas	0.393	0.039	ppb	7.9	1518.98	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2193330.25	1.5	2071494.35	105.88	60	120	
Sc	45	No Gas	4053082.50	1.2	4025477.17	100.69	60	120	
Sc	45	H2	2386150.17	0.6	2213497.75	107.8	60	120	
Sc	45	He	384941.09	1.7	348770.57	110.37	60	120	
Ge	72	No Gas	922511.39	1.0	883390.69	104.43	60	120	
Ge	72	H2	657655.94	0.9	598767.1	109.84	60	120	
Ge	72	He	224841.69	0.8	194783.48	115.43	60	120	
In	115	No Gas	5811984.49	0.8	6067282.66	95.79	60	120	
Tb	159	No Gas	8766203.54	1.3	8945293.53	98	60	120	
Tb	159	He	5451643.50	0.7	5228762.33	104.26	60	120	

Sample Report

Sample Name	F145-08
File Name	H6F14035.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:18:04
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	122.843	122.843	ppb	4.2	1370534.11	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	28.89	50	
B	11	6	No Gas	418.247	418.247	ppb	6.8	853489.65	100	>LDR
Na	23	45	H2	352646.534	352646.534	ppb	0.5	1093251712.00	50000	>LDR
Mg	24	45	No Gas	21117.604	21117.604	ppb	4.6	199304261.33	50000	
Al	27	45	No Gas	7.472	7.472	ppb	2.7	101712.39	50000	
Si	28	45	H2	12348.767	12348.767	ppb	0.9	11811959.33	5000	>LDR
P	31	45	No Gas	39.537	39.537	ppb	5.6	76091.83	500	
K	39	45	He	5261.311	5261.311	ppb	0.7	2513535.33	50000	
Ca	40	45	H2	68049.189	68049.189	ppb	0.3	461972640.00	50000	>LDR
Ti	47	45	No Gas	0.729	0.729	ppb	4.4	1224.72	500	
V	51	45	He	2.263	2.263	ppb	1.0	14409.56	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1307.40	500	
Mn	55	45	No Gas	175.748	175.748	ppb	3.5	3977234.67	3000	
Fe	56	45	H2	26.663	26.663	ppb	0.8	296676.94	50000	
Co	59	45	No Gas	0.091	0.091	ppb	2.1	1970.14	500	
Ni	60	45	He	0.193	0.193	ppb	5.2	404.68	500	
Cu	63	45	He	0.385	0.385	ppb	3.8	3189.71	500	
Zn	66	72	No Gas	2.351	2.351	ppb	3.5	7512.75	500	
As	75	72	He	5.602	5.602	ppb	1.0	4546.76	500	
Se	78	72	H2	0.653	0.653	ppb	6.8	216.67	500	
Sr	88	72	No Gas	1213.729	1213.729	ppb	4.3	31348592.09	500	>LDR
Zr	90	72	No Gas	0.043	0.043	ppb	20.2	873.37	50	
Mo	95	115	No Gas	7.526	7.526	ppb	4.2	37397.03	500	
Ag	107	115	No Gas	0.007	0.007	ppb	43.1	188.89	50	
Cd	111	115	No Gas	0.005	0.005	ppb	35.9	17.44	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	558.90	500	
Sb	123	115	No Gas	0.125	0.125	ppb	7.4	1274.51	100	
Ba	137	115	No Gas	174.469	174.469	ppb	2.3	725642.40	1000	
W	182	159	No Gas	0.889	0.889	ppb	4.6	10374.29	50	
Hg	201	159	No Gas	0.005	0.005	ppb	39.7	14.33	5	
Hg	201	159	He	0.004	0.004	ppb	12.3	9.67	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	186.67	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1194.46	500	
U	238	159	No Gas	2.381	2.381	ppb	3.3	89130.40	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2256665.20	1.8	2071494.35	108.94	60	120	
Sc	45	No Gas	4172478.00	1.7	4025477.17	103.65	60	120	
Sc	45	H2	2375300.92	0.9	2213497.75	107.31	60	120	
Sc	45	He	378974.58	0.7	348770.57	108.66	60	120	
Ge	72	No Gas	943676.58	1.7	883390.69	106.82	60	120	
Ge	72	H2	657883.00	0.7	598767.1	109.87	60	120	
Ge	72	He	220910.66	0.4	194783.48	113.41	60	120	
In	115	No Gas	5908030.13	2.0	6067282.66	97.38	60	120	
Tb	159	No Gas	8902783.26	1.1	8945293.53	99.52	60	120	
Tb	159	He	5454457.50	0.6	5228762.33	104.32	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV3
File Name	H6F14036.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:20:41
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.625	ppb	3.7	382087.56	25	94.5	90	110	
Be	9	6	No Gas	23.365	ppb	4.8	72417.67	25	93.46	90	110	
B	11	6	No Gas	54.117	ppb	2.7	115515.35	50	108.23	90	110	
Na	23	45	H2	25459.562	ppb	0.3	77826266.67	25000	101.84	90	110	
Mg	24	45	No Gas	24991.356	ppb	3.0	239124016.00	25000	99.97	90	110	
Al	27	45	No Gas	24899.823	ppb	3.7	306957182.09	25000	99.6	90	110	
Si	28	45	H2	2567.780	ppb	0.7	2417715.50	2500	102.71	90	110	
P	31	45	No Gas	239.710	ppb	3.3	212664.96	250	95.88	90	110	
K	39	45	He	25700.417	ppb	0.9	11550931.33	25000	102.8	90	110	
Ca	40	45	H2	25049.801	ppb	0.2	167095861.33	25000	100.2	90	110	
Ti	47	45	No Gas	244.698	ppb	2.9	352747.03	250	97.88	90	110	
V	51	45	He	247.397	ppb	0.1	1024497.31	250	98.96	90	110	
Cr	52	45	He	251.647	ppb	0.3	1219130.67	250	100.66	90	110	
Mn	55	45	No Gas	1471.062	ppb	3.9	33685876.67	1500	98.07	90	110	
Fe	56	45	H2	24947.729	ppb	0.9	264272522.67	25000	99.79	90	110	
Co	59	45	No Gas	247.685	ppb	2.7	4702122.67	250	99.07	90	110	
Ni	60	45	He	247.082	ppb	0.1	444643.69	250	98.83	90	110	
Cu	63	45	He	253.113	ppb	0.6	1187535.62	250	101.25	90	110	
Zn	66	72	No Gas	246.631	ppb	4.0	710568.90	250	98.65	90	110	
As	75	72	He	248.338	ppb	0.3	187271.63	250	99.34	90	110	
Se	78	72	H2	246.882	ppb	0.5	77965.11	250	98.75	90	110	
Sr	88	72	No Gas	251.239	ppb	4.1	6582188.35	250	100.5	90	110	
Zr	90	72	No Gas	26.240	ppb	3.9	455529.22	25	104.96	90	110	
Mo	95	115	No Gas	244.532	ppb	3.0	1265597.14	250	97.81	90	110	
Ag	107	115	No Gas	24.437	ppb	2.4	312260.09	25	97.75	90	110	
Cd	111	115	No Gas	241.797	ppb	2.7	653323.05	250	96.72	90	110	
Sn	118	115	No Gas	244.620	ppb	2.1	1979713.19	250	97.85	90	110	
Sb	123	115	No Gas	47.680	ppb	3.3	460452.76	50	95.36	90	110	
Ba	137	115	No Gas	490.662	ppb	2.6	2127656.10	500	98.13	90	110	
W	182	159	No Gas	25.434	ppb	1.4	310585.92	25	101.74	90	110	
Hg	201	159	No Gas	2.417	ppb	3.6	4573.00	2.5	96.68	90	110	
Hg	201	159	He	2.469	ppb	0.4	3259.09	2.5	98.76	90	110	
Tl	205	159	No Gas	242.369	ppb	2.6	6555720.44	250	96.95	90	110	
Pb	208	159	No Gas	245.352	ppb	1.6	9066389.16	250	98.14	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	239.968	ppb	1.8	9486164.07	250	95.99	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2349645.63	0.1	2071494.35	113.43	60	120	
Sc	45	No Gas	4232030.17	0.9	4025477.17	105.13	60	120	
Sc	45	H2	2333642.58	0.2	2213497.75	105.43	60	120	
Sc	45	He	363053.80	0.2	348770.57	104.1	60	120	
Ge	72	No Gas	957752.67	0.5	883390.69	108.42	60	120	
Ge	72	H2	653461.96	0.6	598767.1	109.13	60	120	
Ge	72	He	214981.91	0.2	194783.48	110.37	60	120	
In	115	No Gas	6161252.95	0.5	6067282.66	101.55	60	120	
Tb	159	No Gas	9390168.24	1.2	8945293.53	104.97	60	120	
Tb	159	He	5483170.00	0.3	5228762.33	104.87	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB3
File Name	H6F14037.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 14:23:18
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	129943.12	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	33.33	0.08	
B	11	6	No Gas	4.830	ppb	8.4	10897.57	4	>LOD
Na	23	45	H2	115.958	ppb	1.9	641199.56	40	>LOD
Mg	24	45	No Gas	5.283	ppb	4.9	54856.97	10	
Al	27	45	No Gas	4.850	ppb	5.8	68883.41	15	
Si	28	45	H2	2.345	ppb	1.7	7714.14	8	
P	31	45	No Gas	<0.000	ppb	N/A	44617.48	10	
K	39	45	He	17.392	ppb	18.8	81783.11	20	
Ca	40	45	H2	5.308	ppb	0.7	60334.74	25	
Tl	47	45	No Gas	0.078	ppb	21.8	296.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1690.77	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1039.38	0.2	
Mn	55	45	No Gas	0.311	ppb	7.7	16090.79	0.2	>LOD
Fe	56	45	H2	5.135	ppb	1.3	62033.60	10	
Co	59	45	No Gas	0.043	ppb	5.9	1054.71	0.15	
Ni	60	45	He	0.051	ppb	9.4	132.67	0.2	
Cu	63	45	He	0.129	ppb	10.3	1845.46	0.4	
Zn	66	72	No Gas	0.068	ppb	46.2	972.70	2	
As	75	72	He	<0.000	ppb	N/A	165.67	0.2	
Se	78	72	H2	0.068	ppb	30.1	28.67	0.2	
Sr	88	72	No Gas	0.064	ppb	11.8	2016.82	0.2	
Zr	90	72	No Gas	0.003	ppb	78.8	180.00	2	
Mo	95	115	No Gas	0.107	ppb	18.9	595.57	0.2	
Ag	107	115	No Gas	0.001	ppb	69.3	116.67	0.08	
Cd	111	115	No Gas	0.052	ppb	11.2	148.21	0.2	
Sn	118	115	No Gas	0.101	ppb	4.3	1477.86	0.2	
Sb	123	115	No Gas	0.022	ppb	7.0	342.23	0.4	
Ba	137	115	No Gas	0.108	ppb	8.5	528.90	0.2	
W	182	159	No Gas	0.014	ppb	19.5	256.67	0.3	
Hg	201	159	No Gas	0.020	ppb	20.7	43.67	0.1	
Hg	201	159	He	0.011	ppb	23.4	18.67	0.1	
Tl	205	159	No Gas	0.077	ppb	17.5	2272.43	0.1	
Pb	208	159	No Gas	0.029	ppb	21.4	2869.03	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.058	ppb	3.8	2340.22	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2340458.31	0.9	2071494.35	112.98	60	120	
Sc	45	No Gas	4116968.67	0.8	4025477.17	102.27	60	120	
Sc	45	H2	2282195.58	0.6	2213497.75	103.1	60	120	
Sc	45	He	360693.69	1.1	348770.57	103.42	60	120	
Ge	72	No Gas	887416.94	1.1	883390.69	100.46	60	120	
Ge	72	H2	613688.59	0.9	598767.1	102.49	60	120	
Ge	72	He	201704.37	0.6	194783.48	103.55	60	120	
In	115	No Gas	6239183.47	1.1	6067282.66	102.83	60	120	
Tb	159	No Gas	9252703.24	1.1	8945293.53	103.44	60	120	
Tb	159	He	5495885.50	0.4	5228762.33	105.11	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6F14054.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 15:13:17
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.295	ppb	61.5	118766.86	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	26.67	0.4	-50	50	
B	11	6	No Gas	5.156	ppb	3.8	10120.33	10	-50	50	> +/- 20%
Na	23	45	H2	106590.213	ppb	0.8	314842037.33	100000	80	120	
Mg	24	45	No Gas	104434.583	ppb	3.6	919916757.33	100000	80	120	
Al	27	45	No Gas	103803.971	ppb	4.4	1178048889.11	100000	80	120	
Si	28	45	H2	5.499	ppb	7.5	10514.64	50	-50	50	
P	31	45	No Gas	103862.287	ppb	3.4	64763164.00	100000	80	120	
K	39	45	He	108585.507	ppb	0.7	47738102.67	100000	80	120	
Ca	40	45	H2	106743.685	ppb	0.9	689981162.67	100000	80	120	
Ti	47	45	No Gas	2164.149	ppb	3.6	2870584.75	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1834.12	1	-50	50	> +/- 20%
Cr	52	45	He	1.978	ppb	1.5	10954.38	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.410	ppb	5.0	17318.97	1	-50	50	
Fe	56	45	H2	105997.436	ppb	0.6	1088183296.00	100000	80	120	
Co	59	45	No Gas	0.147	ppb	3.8	2819.63	0.75	-50	50	
Ni	60	45	He	0.159	ppb	18.2	321.34	1	-50	50	
Cu	63	45	He	0.071	ppb	18.8	1555.42	2	-50	50	
Zn	66	72	No Gas	2.221	ppb	3.5	6781.04	20	-50	50	
As	75	72	He	<0.000	ppb	N/A	168.67	1	-50	50	
Se	78	72	H2	0.229	ppb	8.9	78.33	1	-50	50	
Sr	88	72	No Gas	1.158	ppb	2.7	28861.19	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.191	ppb	4.9	3240.40	10	-50	50	
Mo	95	115	No Gas	2148.640	ppb	2.9	9935384.88	2000	80	120	
Ag	107	115	No Gas	0.298	ppb	3.3	3499.35	0.4	-50	50	> +/- 20%
Cd	111	115	No Gas	0.093	ppb	33.8	227.57	1	-50	50	
Sn	118	115	No Gas	0.090	ppb	9.6	1224.50	1	-50	50	
Sb	123	115	No Gas	0.064	ppb	4.4	657.79	1	-50	50	
Ba	137	115	No Gas	0.387	ppb	3.9	1551.20	1	-50	50	
W	182	159	No Gas	0.132	ppb	10.7	1526.76	1	-50	50	
Hg	201	159	No Gas	0.020	ppb	0.8	38.33	0.5	-50	50	
Hg	201	159	He	0.015	ppb	30.5	22.17	0.5	-50	50	
Tl	205	159	No Gas	0.008	ppb	19.2	401.12	0.5	-50	50	
Pb	208	159	No Gas	0.062	ppb	8.7	3690.22	0.5	-50	50	

LY 06|22|22

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.005	ppb	2.7	251.12	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2044058.34	0.7	2071494.35	98.68	60	120	
Sc	45	No Gas	3894860.75	1.9	4025477.17	96.76	60	120	
Sc	45	H2	2261711.75	0.7	2213497.75	102.18	60	120	
Sc	45	He	356403.72	0.7	348770.57	102.19	60	120	
Ge	72	No Gas	896002.75	1.8	883390.69	101.43	60	120	
Ge	72	H2	629544.35	0.4	598767.1	105.14	60	120	
Ge	72	He	211817.77	0.5	194783.48	108.75	60	120	
In	115	No Gas	5504142.97	2.6	6067282.66	90.72	60	120	
Tb	159	No Gas	8391782.72	2.5	8945293.53	93.81	60	120	
Tb	159	He	5068825.17	0.9	5228762.33	96.94	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6F14055.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 15:15:53
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.150	ppb	3.6	300333.38	20	80	120	
Be	9	6	No Gas	19.191	ppb	3.0	51720.84	20	80	120	
B	11	6	No Gas	21.279	ppb	3.4	39853.29	20	80	120	
Na	23	45	H2	104727.961	ppb	1.5	305399925.33	100000	80	120	
Mg	24	45	No Gas	100493.998	ppb	4.0	905712874.67	100000	80	120	
Al	27	45	No Gas	100318.531	ppb	4.1	1164698355.98	100000	80	120	
Si	28	45	H2	216.832	ppb	1.2	200312.98	200	80	120	
P	31	45	No Gas	99170.031	ppb	4.9	63269284.00	100000	80	120	
K	39	45	He	105861.899	ppb	0.8	46236705.33	100000	80	120	
Ca	40	45	H2	104274.289	ppb	1.5	665443029.33	100000	80	120	
Ti	47	45	No Gas	2097.072	ppb	4.2	2845860.92	2000	80	120	
V	51	45	He	20.056	ppb	0.7	85011.06	20	80	120	
Cr	52	45	He	22.327	ppb	0.5	106905.56	20	80	120	
Mn	55	45	No Gas	20.254	ppb	4.1	445480.20	20	80	120	
Fe	56	45	H2	103711.229	ppb	0.7	1051115178.67	100000	80	120	
Co	59	45	No Gas	19.805	ppb	3.7	354325.88	20	80	120	
Ni	60	45	He	19.824	ppb	1.0	34829.05	20	80	120	
Cu	63	45	He	19.757	ppb	1.2	91525.08	20	60	120	
Zn	66	72	No Gas	21.639	ppb	3.6	60075.08	20	80	120	
As	75	72	He	19.644	ppb	0.6	14872.84	20	80	120	
Se	78	72	H2	20.538	ppb	0.6	6158.74	20	80	120	
Sr	88	72	No Gas	21.542	ppb	3.9	537476.71	20	80	120	
Zr	90	72	No Gas	6.549	ppb	4.7	108312.13	20	80	120	> +/- 20%
Mo	95	115	No Gas	2081.810	ppb	4.0	9851337.11	2000	80	120	
Ag	107	115	No Gas	19.760	ppb	2.7	230916.62	20	80	120	
Cd	111	115	No Gas	19.883	ppb	3.7	49128.95	20	80	120	
Sn	118	115	No Gas	20.800	ppb	2.5	154484.54	20	80	120	
Sb	123	115	No Gas	20.253	ppb	2.5	178864.86	20	80	120	
Ba	137	115	No Gas	20.781	ppb	3.1	82462.77	20	80	120	
W	182	159	No Gas	18.901	ppb	2.8	212773.34	20	80	120	
Hg	201	159	No Gas	1.965	ppb	2.5	3427.97	2	80	120	
Hg	201	159	He	1.952	ppb	0.9	2383.56	2	80	120	
Tl	205	159	No Gas	19.345	ppb	2.6	482477.08	20	80	120	
Pb	208	159	No Gas	19.542	ppb	1.4	666920.02	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.152	ppb	1.5	696094.82	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2041925.73	2.2	2071494.35	98.57	60	120	
Sc	45	No Gas	3984735.50	2.8	4025477.17	98.99	60	120	
Sc	45	H2	2232852.25	1.1	2213497.75	100.87	60	120	
Sc	45	He	354092.58	0.9	348770.57	101.53	60	120	
Ge	72	No Gas	911097.42	2.6	883390.69	103.14	60	120	
Ge	72	H2	619654.56	1.0	598767.1	103.49	60	120	
Ge	72	He	213129.50	0.7	194783.48	109.42	60	120	
In	115	No Gas	5634919.42	3.8	6067282.66	92.87	60	120	
Tb	159	No Gas	8653517.44	3.6	8945293.53	96.74	60	120	
Tb	159	He	5070729.17	0.7	5228762.33	96.98	60	120	

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SMSA-05-01-06

ALL SAMPLES BHKZ

Book #: EIM-092
Batch: IMF024W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.3 °C		93.2 °C

Standards	ID	Amount Added (mL/g)
LCS-1	SM6A-23-01-12	.15
LCS-2	↓ -01-13	.15
MS	SAMESPIKESOLUVOLAS/CS	1,2
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SWIA-011-06-05	.5+1.0
HCl	↓ -06-02	.25+.25
H_2O_2	N/A	N/A
HNO_3(1:1)	↓	↓
Au	SM6A-23-01-21	.1
pH Strip (0-14)	HC160347	N/A
Digestate Location	METALS	
Extract Location	N/A	
☑ Reagent Water ID: SWIA-011-11-03		
☑ Thermometer ID: 216024281E14		
☑ Pipette ID: 74276633I		
☐ Pipette ID:		
☐ Pipette ID:		
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask		
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask		

Prepared By: CK
Standard Added By: CK Witnessed By: LY
Extract Rcvd By: LY Checked By: CK

EMAX LABORATORIES

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
22IMF024W01	IMF024WB	50	ml	6/21/22 11:31	50	50	50	1	
22IMF024W02	IMF024WL	50	ml	6/21/22 11:31	50	50	50	1	
22IMF024W03	IMF024WC	50	ml	6/21/22 11:31	50	50	50	1	
22IMF024W04	F145-01	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W05	F145-01M	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W06	F145-01S	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W07	F145-02	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W08	F145-04	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W09	F145-06	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W10	F145-08	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W11	F145-09	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W12	F145-10	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W13	F145-11	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W14	F146-01	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W15	F146-02	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W16	F146-03	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W17	F146-04	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W18	F146-06	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W19	F146-08	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W20	F146-09	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W21	F146-10	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED

CK 6-21-22

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/21/22 11:56 Prepared By: CKaing

☑ Digestion Ended @ 6/21/22 14:21 Checked By: CK

Comments: Date 6-21-22

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ASTM 11	SWIA-011-11-03	NA	1000	NA
AU	SM6A-23-01-21	1000	2.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-51-01
Name	SP (6020)
Final Volume (mL)	1000
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	30
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	10
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☐ ICP-06
☑ A42780077	☐ GFAA-07
☐	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	0.025	0.0005
ICAL2	↓ 01-03	↓	↓	↓
ICAL3	↓ 01-04	1000	↓	0.05
W	SM6B-25-50-02	1.0	0.25	0.0005
Zn	↓ 49-02	↓	↓	↓
Zr	SM6A-007-05-06	100	0.025	0.005
P	↓ 06-03	↓	0.125	0.025
Si	SM6A-23-01-08	1000	0.05	0.1
Hg	SM6B-25-48-01	0.25	0.1	0.00005
AU	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-51-02
Name	SI (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☑ GFAA-07
☑ M2761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	0.05	0.001
ICAL2	01-03	↓	↓	↓
ICAL3	01-04	1000	↓	0.1
Zn	SM1A-025-03-09	↓	0.0045	0.009
P	SM6A-007-06-03	100	0.2	0.04
Zr	↓ 05-06		0.04	0.008
W	SM6A-23-01-09	↓	0.005	0.001
Si	01-08	1000	0.1	0.2
Hg	SM6B-25-48-01	0.25	0.2	0.0001
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-52-01
Name	S2 (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☑ GFAA-07
☑ AM2761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL4	SM6A-23-01-05	mixed	5.0	mixed
ICAL5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.05	0.01
W	SM6A-23-01-09	↓	0.025	0.005
Hg	SM6B-25-48-02	2.5	0.1	0.0005
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-52-02
Name	S3 (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☑ AM2761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL 4	SM6A-23-01-05	mixed	25	mixed
ICAL 5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.125	0.025
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-48-02	2.5	0.5	0.0025
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-53-01
Name	SY (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-06-11-03
Preservative #1	HNO3 LY 06/21/22
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☑ AY2761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL 4	SM6A-23-01-05	mixed	50	mixed
ICAL 5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.25	0.05
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-48-02	2.5	1.0	0.005
Au	SM6A-23-01-21	1000	↓	2.0
				LY 06/21/22

Standard ID	SM6B-25-53-02
Name	SS (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☐ ICP-06
☑ A42780077	☐ GFAA-07
☑ AY2761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL4	SM6A-23-01-05	mixed	25	mixed
ICAL5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.125	0.025
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-48-02	2.5	0.5	0.0025
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-54-01
Name	CCV (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☑ A42761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Internal Stnd	SM6A-23-01-18	100	1.0	2.0
Triton X-100	↓ 01-22	NA	0.05	NA
				LY 06/22/22

Standard ID	SM6B-25-54-02
Name	ISTD
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/22/22
Exp. Date	09/22/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☐ GFAA-07
☑ A42761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Al	SM1A-018-17-05	10,000	1.5	30
Ca	17-06			
Fe	17-07			
Mg	17-09			
K	17-08			
Na	SM1A-025-03-05			
Si	SM6A-007-07-19	1000		3.0
Mn	SM1A-025-02-10		1.0	2.0
P	SM6A-23-01-14		0.15	0.3
Ti	SM1A-025-03-07			
V	03-08			
Cr	02-06			
Co	02-07			
Ni	04-03			
Cu	02-08			
Zn	03-09			
As	02-01			
Se	03-02			
Sr	03-04			
Mo	03-01			

Standard ID	SM6B-25-16-01
Name	ICV
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04|21|22
Exp. Date	07|18|22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☑ GFAA-07
☑ ~~A42761607~~	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Cd	SM1A-025-02-05	1000	0.15	0.3
Sn	03-06			
Ba	02-02			
Tl	04-06			
Pb	02-09			
U	04-04			
Sb	01-10		0.03	0.06
Li	SM1A-018-18-01		0.015	0.03
Be	SM1A-025-02-03			
B	02-04			
Ag	03-03			
Zr	SM6A-23-01-01	100	0.15	
W	SM6A-007-05-16	1000	0.015	
Hg	07-15	10	0.15	0.003
Au	07-25	1000	1.0	2.0
				LY 04|21|22

LY 04|21|22

Standard ID	SM6B-25-16-~~02~~-01
Name	ICV cont.
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04|21|22
Exp. Date	07|18|22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☑ GFAA-07
☑ ~~A42761607~~	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICSA	SM6A-007-07-24	mixed	5.0	mixed
AU	↓ 07-25	1000	0.1	2.0
				LY 06/16/22

Standard ID	SM6B-25-47-01
Name	ICSA
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/16/22
Exp. Date	06/30/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☐	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICSA	SM6A-007-07-24	mixed	5.0	mixed
ICAL1	SM6A-23-01-02	10	0.1	0.02
ICAL2	↓ 01-03	↓	↓	↓
Zr	SM6A-007-05-06	100	0.01	
W	SM6A-23-01-09	↓	↓	↓
Si	↓ 01-08	1000	↓	0.2
Hg	SM6B-25-01-02	2.5	0.04	0.002
AU	SM6A-007-07-25	1000	0.1	2.0
				LY 06/16/22

Standard ID	SM6B-25-47-02
Name	ICSAB
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/16/22
Exp. Date	06/30/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☑ GFAA-07
☐	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL4	SM6A-23-01-05	mixed	2.5	mixed
ICAL5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.0125	0.025
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-01-02	2.5	0.05	0.0025
Au	SM6A-007-07-25	1000	0.1	2.0
				LY 06/06/22

Standard ID	SM6B-25-46-01
Name	CCV-2008
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/06/22
Exp. Date	06/20/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☑ ICP-06

☑ A42780077 ☐ GFAA-07

☐ ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Tune soln 3	SM6A-23-01-11	10	8.0	1.6
				LY 06/15/22

Standard ID	SM6B-25-46-02
Name	EPA Tune
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/15/22
Exp. Date	09/15/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☑ A42780077 ☐ GFAA-07

☐ ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Sr	SM1A-025-03-04	1000	0.05	1.0
				LY 04/21/22

Standard ID	SM6B-25-17-01
Name	Sr @1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SW1A-011-10-03
Preservative #1	HNO_3
ID	SW1A-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SW1A-011-06-02
Volume (mL)	0.5
Prep. Date	04/21/22
Exp. Date	07/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☑ ICP-06

☐ A42780077 ☐ GFAA-07

☐ ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	0.1	0.001
ICAL2	01-03	↓	↓	↓
ICAL3	01-04	1000	↓	0.1
Zn	SM1A-025-03-09	↓	0.009	0.01
B	02-04	↓	↓	↓
Sr	SM6B-25-17-01	1.0	1.0	0.002
P	SM6A-007-06-03	100	0.5	0.05
Zr	05-06	↓	0.05	0.005
W	SM6A-23-01-09	↓	0.02	0.002
Si	01-08	1000	0.1	0.1
Hg	SM6B-25-01-01	0.25	0.4	0.0001
Ag	SM6A-007-07-25	1000	2.0	2.0
				LY 04/21/22

Standard ID	SM6B-25-17-02
Name	MRL1
Final Volume (mL)	1000
Solvent	Reagent Water
Solvent ID	SW1A-011-10-03
Preservative #1	HNO_3
ID	SW1A-011-06-05
Volume (mL)	30
Preservative #2	HCl
ID	SW1A-011-06-02
Volume (mL)	10
Prep. Date	04/21/22
Exp. Date	07/01/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☑ ICP-06

☐ A42780077 ☑ GFAA-07

☑ A4276160 7 ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
MIX 7A	SM6B-25-02-01	1/100	0.2	0.0004/0.04
Zn	↓ 02-02	1.0	1.75	0.0035
AU	SM6A-007-07-25	1000	1.0	2.0
				LY 04/21/22

Standard ID	SM6B-25-18-01
Name	MRL2
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04/21/22
Exp. Date	07/01/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☑ A42780077 ☐ GFAA-07

☑ AU2761607 ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL3	SM6A-23-01-04	1000	0.25	0.5
AU	SM6A-007-07-25	↓	1.0	2.0
				LY 04/21/22

Standard ID	SM6B-25-18-02
Name	MRL3 (CAT)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04/21/22
Exp. Date	07/20/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ AU2761607 ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Hg	SM6A-007-06-05	100	0.125	0.25
Au	SM6A-23-01-21	1000	0.1	2.0
				LY 06/21/22

Standard ID	SM6B-25-48-01
Name	Hg @ 0.25 ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☐ GFAA-07
☑ AM2761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Hg	SM6A-007-06-05	100	1.25	2.5
Au	SM6A-23-01-21	1000	0.1	2.0
				LY 06/21/22

Standard ID	SM6B-25-48-02
Name	Hg @ 2.5 ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☐	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	1.0	1.0
ICAL2	01-03	↓	↓	↓
ICAL3	01-04	100	↓	100
				LY 06/21/22

Standard ID	SM6B-25-49-01
Name	MIX 7A
Final Volume (mL)	10
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	~~10~~ 0.3
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.1
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

LY 06/21/22

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ AM2761607 ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Zn	SMIA-025-03-09	1000	0.05	1.0
				LY 06/21/22

Standard ID	SM6B-25-49-02
Name	Zn @ 1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☑ ICP-06

☐ A42780077 ☐ GFAA-07

☐ ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Zr	SM6A-007-05-06	100	0.5	1.0
				LY 06/21/22

Standard ID	SM6B-25-50-01
Name	Zr @ 1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	06/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ A42761607 ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
W	SM6A-23-01-09	100	0.5	1.0
				LY 06/21/22

Standard ID	SM6B-25-50-02
Name	W @ 1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ A42761607 ☐

Comments:

200.8 tune chk SMGA-23-01-11

rcvd. 09|22|21

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: ICP-MS Tuning Solution 3

Product Number:	**ICP-MS-TS-3-100**
Lot Number:	**2029303-100**
Matrix:	2% HNO3
Purity:	99.98%-99.999%

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID
Be	10.0 ± 0.1	3105a
Co	10.0 ± 0.1	3113
In	10.0 ± 0.1	3124a
Mg	10.0 ± 0.1	3131a
Pb	10.0 ± 0.1	3128

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: September 2021
Expiration Date: September 30, 2022
Certificate Issue Date: October 22, 2020

Moven Mutuvari

Moven Mutuvari, Ph.D, VP Manufacturing

[CAL] SM6A-23-01-00 02
LY 09/09/24

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number: **SM-2208-001-250**
Lot Number: **2122427-250**
Matrix: 2% HNO3 / Tr HF
Purity: 99.97%-99.9999%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID	Element	(µg/mL)	SRM ID
As	10.0 ± 0.1	3103a	Sr	10.0 ± 0.1	3153a
B	10.0 ± 0.1	3107	Ti	10.0 ± 0.1	3162a
Mo	10.0 ± 0.1	3134	Tl	10.0 ± 0.1	3158
Sb	10.0 ± 0.1	3102a	V	10.0 ± 0.1	3165
Se	10.0 ± 0.1	3149	Zn	10.0 ± 0.1	3168a
Sn	10.0 ± 0.1	3161a			

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mututuvari, Ph.D, VP Manufacturing

rcvd. 09/09/24 LY

ICAL 2 SM6A-23-01-03

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number: **SM-2208-002-250**
Lot Number: **2122428-250**
Matrix: 2% HNO3
Purity: 99.96%-99.9996%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID	Element	(µg/mL)	SRM ID
Ag	10.0 ± 0.1	3151	Cu	10.0 ± 0.1	3114
Ba	10.0 ± 0.1	3104a	Li	10.0 ± 0.1	3129a
Be	10.0 ± 0.1	3105a	Mn	10.0 ± 0.2	3132
Cd	10.0 ± 0.1	3108	Ni	10.0 ± 0.1	3136
Co	10.0 ± 0.1	3113	Pb	10.0 ± 0.1	3128
Cr	10.0 ± 0.1	3112a	U	10.0 ± 0.1	3164

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mutuvari, Ph.D, VP Manufacturing

rcvd. 09/09/21 LY

ICAL 3 SMBA-23-01-04

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number:	**SM-2208-003-250**
Lot Number:	**2122431-250**
Matrix:	4% HNO3
Purity:	99.98%-99.9995%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID
Al	1000 ± 6	3101a
Ca	1000 ± 6	3109a
Fe	1000 ± 6	3126a
K	1000 ± 10	3141a
Mg	1000 ± 6	3131a
Na	1000 ± 6	3152a

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mututuvari, Ph.D, VP Manufacturing

rcvd. 09/09/21 LY

ICAL 4 SMBA-23-01-05

high-purity standards

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number: **SM-2208-005-A-500**
Lot Number: **2122405-500**
Matrix: 2% HNO3
Purity: 99.0%-99.9999%

ANAB ANSI National Accreditation Board ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ANSI National Accreditation Board ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID	Element	(mg/L)	SRM ID
Al	500 ± 5	3101a	Mg	500 ± 5	3131a
As	5.00 ± 0.05	3103a	Mn	30.0 ± 0.5	3132
B	1.00 ± 0.01	3107	Na	500 ± 5	3152a
Ba	10.0 ± 0.1	3104a	Ni	5.00 ± 0.05	3136
Be	0.50 ± 0.01	3105a	P	5.00 ± 0.08	3139a
Ca	500 ± 5	3109a	Pb	5.00 ± 0.05	3128
Cd	5.00 ± 0.05	3108	Se	5.00 ± 0.05	3149
Co	5.00 ± 0.05	3113	Sr	5.00 ± 0.05	3153a
Cr	5.00 ± 0.05	3112a	Tl	5.00 ± 0.05	3158
Cu	5.00 ± 0.05	3114	U	5.00 ± 0.05	3164
Fe	500 ± 5	3126a	V	5.00 ± 0.05	3165
K	500 ± 5	3141a	Zn	5.00 ± 0.05	3168a
Li	0.5 ± 0.01	3129a			

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mututuvari
Moven Mututuvari, Ph.D, VP Manufacturing

rcvd. 09/09/21 LY

ICAL 5 SM6A-23-01-06

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number:	**SM-2208-005-B-500**
Lot Number:	**2122406-500**
Matrix:	2% HNO3 / Tr HF
Purity:	99.98%-99.999%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID
Ag	0.500 ± 0.005	3151
Mo	5.00 ± 0.05	3134
Sb	1.00 ± 0.01	3102a
Si	50.0 ± 0.5	3150
Sn	5.00 ± 0.05	3161a
Ti	5.00 ± 0.05	3162a

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mutuvari, Ph.D, VP Manufacturing

rcvd 09/09/21 LY

SM6A-23-01-18

Agilent Technologies

Certificate of Analysis

rwd-03/30/22 VH

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525 **Lot Number:** 58-130CRY2

Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat'l Formula	Start Mat'l Purity	Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat'l Formula	Start Mat'l Purity
Bi	7440-69-9	100 µg/mL	99.2 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.5 µg/mL	3130a*	Lu_2O_3	99.99+
Ge	7440-56-4	100 µg/mL	99.0 µg/mL	3120a*	GeO2	99.99+	Rh	7440-16-6	100 µg/mL	101 µg/mL	3144*	Rh(NO3)3-H2O	99.99+
In	7440-74-6	100 µg/mL	99.3 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	100 µg/mL	3148a*	Sc_2O_3	99.99+
Li^6	7439-93-2	100 µg/mL	99.7 µg/mL	3129a*	$^6Li_2CO_3$	99.99+	Tb	7440-27-9	100 µg/mL	99.0 µg/mL	3157a*	Tb_4O_7	99.99+

* - indicates NIST SRM † - indicates CRM (when NIST SRM is not available)

Purity grades:

Starting Materials: Shown above

Matrix:

10% HNO_3: HNO_3 (CAS No. 7697-37-2) high purity grade

Traceability:

This standard has been produced gravimetrically and volumetrically using ISO 9001 quality procedures. Agilent ICP / ICP-MS Spectrometer was used to determine the concentration of the main elements via NIST SRMs shown above, as well as the impurities. Other reference standards used: 57-198CR, 51-164CR, 57-135CR.

Trace Metallic Impurities in the Actual Solution, in µg/L, via Agilent ICP-MS Analysis, results are accurate to ±10%:

Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<0.06	Co	<0.2	Hf	0.4	Nb	0.2	Ru	<0.3	Ti	<1
Al	3	Cr	<2	Hg	<0.3	Nd	<0.03	Sb	0.2	Tl	0.4
As	<5	Cs	<0.2	Ho	<0.02	Ni	<0.8	Se	<10	Tm	0.04
Au	<2	Cu	<0.7	Ir	7	P	<200	Si	200	U	<0.06
B	6	Dy	<0.07	K	<100	Pb	0.8	Sm	<0.03	V	<0.3
Ba	2	Er	0.3	La	0.1	Pd	<0.08	Sn	<0.3	W	<0.05
Be	<0.6	Eu	0.04	Mg	3	Pr	<0.02	Sr	5	Y	1
Ca	50	Fe	5	Mn	<0.5	Pt	<0.1	Ta	<0.1	Yb	<0.5
Cd	0.2	Ga	0.09	Mo	<0.01	Rb	<0.09	Te	<0.7	Zn	3
Ce	0.08	Gd	<0.1	Na	<30	Re	<0.05	Th	0.4	Zr	3

Balances are calibrated regularly with weight sets traceable to NIST.

Agilent reference standards are guaranteed stable and accurate to ±0.5% of measured analyte concentration. This uncertainty is at 95% confidence interval, a coverage factor of 2. For these solutions we use the highest purity acids applicable, 18 megohm double deionized water and acid-leached, triple rinsed bottles. All glassware used is class A. This standard was manufactured following the guidelines set forth under ISO 17025 and ISO 17034 regulations.

Date of release: March 15, 2022

Date of expiration: September 30, 2023

Brijender S Tonk

QC Coordinator

Visit Agilent on the world wide web: www.agilent.com/chem/supplies

AU SM6A-007-07-25

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAU1
Lot Number:	R2-AU695955
Matrix:	10% (v/v) HCl
Value / Analyte(s):	1 000 µg/mL ea: Gold
Starting Material:	H[AuCl4]
Starting Material Lot#:	2340
Starting Material Purity:	99.9983%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 5 µg/mL

Density: 1.022 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3121 Lot Number: 991806

Assay Method #2 **1001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

exp. 07|20|2022 W

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	0.029000	M	Eu	<	0.000210	O	Na	0.003300	M	Se	<	0.014000	M	Zn	0.000370	
M	Al	< 0.001900	M	Fe		0.002100	M	Nb	< 0.000110	O	Si		0.003300	M	Zr	<	0.001700
M	As	< 0.005700	M	Ga	<	0.001100	M	Nd	< 0.000110	M	Sm	<	0.000110				
s	Au	<	M	Gd	<	0.000110	M	Ni	< 0.002500	M	Sn	<	0.001600				
M	B	< 0.005000	M	Ge	<	0.004300	M	Os	< 0.000110	M	Sr	<	0.000810				
M	Ba	< 0.001300	M	Hf	<	0.000310	O	P	< 0.052000	M	Ta	<	0.000110				
M	Be	< 0.000610	M	Hg	<	0.001200	M	Pb	< 0.001900	M	Tb	<	0.000110				
M	Bi	< 0.002700	M	Ho	<	0.000110	M	Pd	0.003600	M	Te	<	0.002600				
O	Ca	0.001400	M	In		0.000071	M	Pr	< 0.000110	M	Th	<	0.004100				
M	Cd	< 0.000410	M	Ir	<	0.000210	M	Pt	0.008800	M	Ti	<	0.003100				
M	Ce	< 0.000210	O	K	<	0.011000	M	Rb	< 0.001500	M	Tl	<	0.000110				
M	Co	< 0.000210	M	La	<	0.000110	M	Re	< 0.000110	M	Tm	<	0.000110				
O	Cr	< 0.005200	O	Li		0.000063	M	Rh	< 0.001500	M	U	<	0.000110				
M	Cs	< 0.000810	M	Lu	<	0.000110	M	Ru	< 0.001700	O	V	<	0.002700				
O	Cu	0.001000	O	Mg		0.000230	O	S	< 0.052000	M	W	<	0.003900				
M	Dy	< 0.000110	O	Mn	<	0.002100	M	Sb	0.003200	M	Y	<	0.000110				
M	Er	< 0.000110	M	Mo	<	0.001400	O	Sc	< 0.001400	M	Yb	<	0.000110				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 196.97 +3 6 Au(Cl)63

Chemical Compatibility -Stable in HCl, and HNO3, as the chloride complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels. 2-10 ppb Au is stable for #1day maximum in 1% HNO3 / LDPE container. 100 ppb is stable for #2 days maximum in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 10% HCl / LDPE container.

Au Containing Samples (Preparation and Solution) - Metal (Aqua Regia); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 197 amu	5 ppt	N/A	181Ta16O
ICP-OES 208.209 nm	0.04/0.01 µg/mL	1	Ir, Re
ICP-OES 242.795 nm	0.02/0.003 µg/mL	1	Mn, Os, Th, Ta, Pt, Co, F
ICP-OES 267.595 nm	0.03/0.003 µg/mL	1	Nb, Ta, U, Cr, Th, Rh, Ru

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 01, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 01, 2024

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



SM6A-23-01-21 rcvd. 05|13|22

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAU1
Lot Number:	S2-AU706428
Matrix:	10% (v/v) HCl
Value / Analyte(s):	1 000 µg/mL ea: Gold
Starting Material:	HAuCl4
Starting Material Lot#:	2426
Starting Material Purity:	99.9985%

exp. 05|13|23

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 5 µg/mL**
ICP Assay NIST SRM 3121 Lot Number: 170531

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag		0.022000	M	Eu	<	0.000011	O	Na		0.003500	M	Se	<	0.013000	M	Zn		0.002700
M	Al		0.000960	O	Fe		0.001600	M	Nb	<	0.000011	O	Si	<	0.005000	M	Zr	<	0.000210
M	As	<	0.002100	M	Ga	<	0.000150	M	Nd	<	0.000011	M	Sm	<	0.000011				
s	Au	<		M	Gd	<	0.000011	M	Ni	<	0.000650	M	Sn		0.000420				
O	B	<	0.003000	M	Ge	<	0.000130	M	Os	<	0.001200	M	Sr	<	0.000062				
M	Ba	<	0.000045	M	Hf	<	0.000011	O	P	<	0.026000	M	Ta	<	0.000011				
O	Be	<	0.000072	M	Hg	<	0.001200	M	Pb	<	0.000031	M	Tb	<	0.000011				
M	Bi	<	0.000011	M	Ho	<	0.000011	M	Pd		0.001300	M	Te	<	0.000240				
O	Ca		0.007500	M	In	<	0.000098	M	Pr	<	0.000011	M	Th	<	0.000190				
M	Cd	<	0.000021	M	Ir	<	0.000170	M	Pt		0.005100	O	Ti	<	0.000380				
M	Ce	<	0.000041	M	K	<	0.004500	M	Rb	<	0.000011	M	Tl	<	0.000011				
M	Co	<	0.000038	M	La	<	0.000011	M	Re	<	0.000011	M	Tm	<	0.000011				
O	Cr	<	0.001600	O	Li	<	0.000079	M	Rh		0.000070	M	U	<	0.000011				
M	Cs	<	0.000060	M	Lu	<	0.000011	M	Ru	<	0.000065	O	V	<	0.000710				
M	Cu		0.002900	O	Mg		0.000880	O	S	<	0.022000	M	W	<	0.000140				
M	Dy	<	0.000011	M	Mn	<	0.000130	M	Sb	<	0.000031	M	Y	<	0.000011				
M	Er	<	0.000011	M	Mo	<	0.000046	M	Sc	<	0.000120	M	Yb	<	0.000011				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 196.97 +3 6 Au(Cl)63

Chemical Compatibility -Stable in HCl, and HNO3, as the chloride complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels. 2-10 ppb Au is stable for #1day maximum in 1% HNO3 / LDPE container. 100 ppb is stable for #2 days maximum in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 10% HCl / LDPE container.

Au Containing Samples (Preparation and Solution) - Metal (Aqua Regia); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 197 amu	5 ppt	N/A	181Ta16O
ICP-OES 208.209 nm	0.04/0.01 µg/mL	1	Ir, Re
ICP-OES 242.795 nm	0.02/0.003 µg/mL	1	Mn, Os, Th, Ta, Pt, Co, F
ICP-OES 267.595 nm	0.03/0.003 µg/mL	1	Nb, Ta, U, Cr, Th, Rh, Ru

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 04, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 04, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

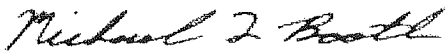
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



SM6A-007-06-03

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Rcvd. 05/16/19 W

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-41W-0.01X-1
Description: Phosphorous ICP-MS Standard
Element: Phosphorus (P)
SRM: 3139a
Lot: 218035007
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

GHS

Signal Word: Warning

Date Certified: Mar 7, 2018
Expiration: Mar 7, 2023
Density: 1.000 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463

ANAB ACCREDITED TESTING LABORATORY AT-1339

ilac-MRA

Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	nd<0.02	Pb	nd<0.2	Sc	nd<0.02	Ti	nd<0.02
Al	N/A	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	nd<0.2	Se	N/A	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	nd<0.02	Pr	nd<0.2	Si	nd<0.2	Tm	nd<0.02
Au	nd<0.02	Cs	N/A	Hg	nd<0.2	Mo	nd<0.02	Pt	nd<0.2	Sm	nd<0.2	U	nd<0.2
B	nd<0.2	Cu	N/A	Ho	nd<0.02	Na	nd<0.02	Rb	N/A	Sn	nd<0.02	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	nd<0.2	Nb	nd<0.2	Re	nd<0.2	Sr	nd<0.02	W	nd<0.2
Be	nd<0.02	Er	nd<0.02	Ir	N/A	Nd	nd<0.02	Rh	nd<0.2	Ta	nd<0.2	Y	nd<0.02
Bi	nd<0.2	Eu	nd<0.02	K	nd<0.2	Ni	nd<0.02	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	nd<0.02	Fe	nd<0.02	La	nd<0.02	Os	N/A	S	N/A	Te	nd<0.2	Zn	nd<0.02
Cd	nd<0.02	Ga	nd<0.02	Li	nd<0.02	P	*	Sb	nd<0.2	Th	nd<0.02	Zr	nd<0.02

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 822-275872-11

All glassware used in preparation is Class A and calibrated regularly.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

AccuStandard

SM6A-23-01-08

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

rcvd. 09/21/21 LY

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-52W-0.1X-1
Description: Silicon ICP-MS Standard
Element: Silicon (Si)
SRM: 3150
Lot: 221025136
Matrix: Water, tr HF
Hazards: *Refer to SDS for complete safety information*



Signal Word: Warning

Date Certified: Feb 24, 2021
Expiration: Feb 24, 2026
Density: 1.004 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Certified Concentration: 1000 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	nd<0.02	Pb	N/A	Sc	nd<0.02	Ti	nd<0.02
Al	N/A	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	nd<0.2	Se	N/A	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	nd<0.02	Pr	nd<0.2	Si	*	Tm	nd<0.02
Au	nd<0.02	Cs	N/A	Hg	nd<0.2	Mo	nd<0.02	Pt	nd<0.2	Sm	nd<0.2	U	nd<0.2
B	nd<0.2	Cu	nd<0.02	Ho	nd<0.02	Na	nd<0.02	Rb	N/A	Sn	N/A	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	nd<0.2	Nb	nd<0.2	Re	nd<0.2	Sr	nd<0.02	W	nd<0.2
Be	nd<0.02	Er	nd<0.02	Ir	N/A	Nd	nd<0.02	Rh	nd<0.2	Ta	N/A	Y	nd<0.02
Bi	nd<0.2	Eu	nd<0.02	K	nd<0.2	Ni	N/A	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	nd<0.02	Fe	N/A	La	nd<0.02	Os	N/A	S	N/A	Te	N/A	Zn	nd<0.02
Cd	N/A	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	N/A	Th	nd<0.02	Zr	nd<0.02

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

Customer Copy

For use in routine laboratory analysis.

SMeA-007-05-06

125 Market Street
New Haven, CT 06513
USA

AccuStandard®, Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-71N-0.01X-1
Description: Zirconium ICP-MS Standard
Element: Zirconium (Zr)
SRM: 3169
Lot: 215095138-01
Matrix: 2-5% Nitric acid
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Oct 20, 2017
Expiration: Oct 20, 2022
Density: 1.011 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	N/A	Pb	nd<0.2	Sc	nd<0.02	Ti	nd<0.02
Al	nd<0.02	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	N/A	Se	nd<0.2	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	N/A	Pr	N/A	Si	nd<0.2	Tm	N/A
Au	nd<0.02	Cs	N/A	Hg	N/A	Mo	nd<0.02	Pt	N/A	Sm	nd<0.2	U	N/A
B	nd<0.2	Cu	N/A	Ho	N/A	Na	N/A	Rb	N/A	Sn	N/A	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	N/A	Nb	nd<0.2	Re	N/A	Sr	nd<0.02	W	nd<0.2
Be	N/A	Er	N/A	Ir	nd<0.2	Nd	N/A	Rh	N/A	Ta	nd<0.2	Y	N/A
Bi	nd<0.2	Eu	N/A	K	nd<0.2	Ni	nd<0.02	Ru	nd<0.02	Tb	N/A	Yb	nd<0.02
Ca	nd<0.02	Fe	nd<0.02	La	nd<0.02	Os	N/A	S	N/A	Te	N/A	Zn	nd<0.02
Cd	nd<0.02	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	nd<0.2	Th	N/A	Zr	*

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.

We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

SM6A-23-01-09

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

rcvd 09/21/21 LY

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-65W-0.01X-1
Description: Tungsten ICP-MS Standard
Element: Tungsten (W)
SRM: 3163
Lot: 221045158
Matrix: Water, tr NH4OH
Hazards: *Refer to SDS for complete safety information*

None Required

Signal Word: Warning

Date Certified: May 4, 2021
Expiration: May 4, 2026
Density: 1.000 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	N/A	Lu	N/A	Pb	N/A	Sc	nd<0.02	Ti	N/A
Al	N/A	Co	N/A	Ge	N/A	Mg	N/A	Pd	nd<0.2	Se	N/A	Tl	N/A
As	N/A	Cr	N/A	Hf	nd<0.02	Mn	N/A	Pr	nd<0.2	Si	N/A	Tm	nd<0.02
Au	N/A	Cs	N/A	Hg	N/A	Mo	N/A	Pt	nd<0.2	Sm	nd<0.2	U	N/A
B	N/A	Cu	nd<0.02	Ho	nd<0.02	Na	N/A	Rb	N/A	Sn	N/A	V	nd<0.02
Ba	N/A	Dy	nd<0.02	In	N/A	Nb	N/A	Re	N/A	Sr	nd<0.02	W	*
Be	N/A	Er	nd<0.02	Ir	N/A	Nd	nd<0.02	Rh	N/A	Ta	N/A	Y	nd<0.02
Bi	N/A	Eu	nd<0.02	K	N/A	Ni	nd<0.02	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	N/A	Fe	N/A	La	nd<0.02	Os	N/A	S	N/A	Te	N/A	Zn	N/A
Cd	N/A	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	N/A	Th	N/A	Zr	N/A

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

Reusable

SM6A-007-06-05

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

received: 07/09/19
LY

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-34N-0.01X-1
Description: Mercury ICP-MS Standard
Element: Mercury (Hg)
SRM: 3133
Lot: 218115112
Matrix: 2-5% Nitric acid
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Nov 26, 2018
Expiration: Nov 26, 2023
Density: 1.028 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	nd<0.02	Pb	nd<0.2	Sc	nd<0.02	Ti	nd<0.02
Al	nd<0.02	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	nd<0.2	Se	nd<0.2	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	nd<0.02	Pr	nd<0.2	Si	nd<0.2	Tm	nd<0.02
Au	nd<0.02	Cs	N/A	Hg	*	Mo	nd<0.02	Pt	nd<0.2	Sm	nd<0.2	U	nd<0.2
B	nd<0.2	Cu	N/A	Ho	nd<0.02	Na	nd<0.02	Rb	N/A	Sn	nd<0.02	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	nd<0.2	Nb	nd<0.2	Re	nd<0.2	Sr	nd<0.02	W	nd<0.2
Be	nd<0.02	Er	nd<0.02	Ir	nd<0.2	Nd	nd<0.02	Rh	nd<0.2	Ta	N/A	Y	nd<0.02
Bi	nd<0.2	Eu	nd<0.02	K	nd<0.2	Ni	nd<0.02	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	nd<0.02	Fe	N/A	La	nd<0.02	Os	N/A	S	N/A	Te	nd<0.2	Zn	nd<0.02
Cd	nd<0.02	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	nd<0.2	Th	nd<0.02	Zr	nd<0.02

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A and calibrated regularly.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

ICSA SM6A-007-07-24

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

Toll: 800.669.6799 - 540.585.3030
Fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	S2-MEB700788
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride,
	2 000 µg/mL ea: Carbon,
	1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	20 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 000 ± 4 µg/mL	Calcium, Ca	1 000 ± 4 µg/mL
Carbon, C	2 000 ± 4 µg/mL	Chloride, Cl	10 000.0 ± 50.0 µg/mL
Iron, Fe	1 000 ± 4 µg/mL	Magnesium, Mg	1 000 ± 4 µg/mL
Molybdenum, Mo	20.00 ± 0.10 µg/mL	Phosphorus, P	1 000 ± 6 µg/mL
Potassium, K	1 000 ± 4 µg/mL	Sodium, Na	1 000 ± 4 µg/mL
Sulfur, S	1 000 ± 4 µg/mL	Titanium, Ti	20.00 ± 0.13 µg/mL

Density: 1.031 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	M2-S657208
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag		0.003000	M	Cu		0.009200	M	La	<	0.000110	M	Pr	<	0.000110	M	Ta	<	0.000610
s	Al	<		M	Dy	<	0.000110	O	Li		0.004300	M	Pt	<	0.000110	M	Tb	<	0.000110
O	As	<	0.022000	M	Er	<	0.000110	M	Lu	<	0.000110	M	Rb	<	0.008200	M	Te	<	0.001800
M	Au	<	0.002900	M	Eu	<	0.000110	s	Mg	<		M	Re	<	0.000110	M	Th	<	0.000110
M	B	<	0.001800	s	Fe	<		O	Mn		0.005200	M	Rh	<	0.000110	s	Ti	<	
M	Ba		0.003000	M	Ga		0.036000	s	Mo	<		M	Ru	<	0.000100	M	Tl	<	0.000110
M	Be	<	0.000310	M	Gd	<	0.000110	s	Na	<		s	S	<		M	Tm	<	0.000110
M	Bi	<	0.000310	M	Ge	<	0.001100	M	Nb	<	0.000110	M	Sb	<	0.000610	M	U	<	0.000110
s	Ca	<		M	Hf	<	0.000210	M	Nd	<	0.000410	M	Sc	<	0.000610	O	V	<	0.002100
M	Cd	<	0.029000	M	Hg	<	0.000300	O	Ni		0.002200	M	Se	<	0.002900	M	W	<	0.002400
M	Ce	<	0.000110	M	Ho	<	0.000110	M	Os	<	0.000700	O	Si	<	0.021000	M	Y	<	0.000210
M	Co		0.001400	M	In	<	0.000110	s	P	<		M	Sm	<	0.000110	M	Yb	<	0.000110
M	Cr		0.023000	M	Ir	<	0.000100	M	Pb	<	0.000110	M	Sn	<	0.000810	M	Zn		0.002800
M	Cs	<	0.000510	s	K	<		M	Pd	<	0.000110	O	Sr		0.009100	M	Zr		0.001700

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 08, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- January 08, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



SMIA-018-17-05
Rec 5/24/21 NT
Exp 11/18/22

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M11

Aluminum (Al) – 10,000 µg/mL

Lot #: 1077245-30

Matrix: 10% HNO_3

Element	Certified Concentration & Uncertainty
Al	10,010 ± 50 µg/mL (w/v)
	9402 ± 48 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	MAJOR	Co	<10	Ge	<5	Mg	76	Pd	<5	Si	<1000	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	24	Hg	<5	Mo	<5	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	830	Rb	<5	Sr	120	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	265	Li	<20	P	<1000	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMIA-025-01-10

rcvd 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100023

Antimony (Sb) – 1000 µg/mL

Lot #: 1129139-6

Matrix: 5% HNO_3/0.1% HF

Element	Certified Concentration & Uncertainty
Sb	999.0 ± 5.0 µg/mL (w/v)
	979.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb). The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	2	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	MAJOR	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	7	Cr	<0.5	Hg	8	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	1	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	1	W	1
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	33	La	6	Ni	<2	Rh	<0.5	Ta	2	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021 exp. 06/09/23

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 800.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CMIA-025-02-01

rcvd. 12/22/24

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100031

Arsenic (As) – 1000 µg/mL

Lot #: 1103713-64

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
As	1003 ± 5 µg/mL (w/v)
	989.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure arsenic (As) metal. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3103a, lot #100818**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	MAJOR	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	1	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	1	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

EXP. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMA-025-02-02

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100041

Barium (Ba) – 1000 µg/mL

Lot #: 1112442-51

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Ba	996.0 ± 5.0 µg/mL (w/v)
	983.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure barium nitrate [$Ba(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3104a, lot #140909**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	MAJOR	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	11	Y	<5
Ca	<250	Fe	<100	La	13	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<2
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

Exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-028-02-03

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100051

Beryllium (Be) – 1000 µg/mL

Lot #: 1072683-57

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Be	999.0 ± 5.0 µg/mL (w/v)
	980.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to, **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure beryllium acetate [$Be_4O(C_2H_3O_2)_6$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3105a, lot #090514**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	0.5	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 800.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-02-04

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100074

Boron (B) – 1000 µg/mL

Lot #: 1024903-65

Matrix: H_2O

Element	Certified Concentration & Uncertainty
B	1008 ± 2 µg/mL (w/v)
	1010 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure boric acid (H_3BO_3) dissolved and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3107, lot #110830**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	12	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	MAJOR	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

EXP. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CM IA-025-02-05

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100081

Cadmium (Cd) – 1000 µg/mL

Lot #: 1199704-7

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Cd	999.0 ± 3.0 µg/mL (w/v)
	994.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9997% pure cadmium (Cd) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3108, lot #130116**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	8	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	4	Mn	1	Pd	0.9	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	0.7	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	MAJOR	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	3
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-018-17-06
Rec 5/24/21 HT
Exp 11/18/22

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M91

Calcium (Ca) – 10,000 µg/mL

Lot #: 1072921-36

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Ca	10,040 ± 20 µg/mL (w/v)
	9657 ± 20 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	31	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	302	Y	<5
Ca	MAJOR	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

CMA-025-02-06

rcvd - 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000121

Chromium (Cr) – 1000 µg/mL

Lot #: 1123848-53

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Cr	1003 ± 5 µg/mL (w/v)
	995.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure chromium (Cr). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3112a, lot #170630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	14	Te	53
Al	3	Cs	<0.5	Hf	11	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	3	Cr	MAJOR	Hg	<0.5	Mn	<1	Pd	0.6	Se	<2	Tl	0.7
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	2
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	2	W	7
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	0.8	Tb	<0.5	Zn	3
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-025-02-07

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000131

Cobalt (Co) – 1000 µg/mL

Lot #: 1107088-60

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Co	1002 ± 2 µg/mL (w/v)
	997.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.998% pure cobalt (Co) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3113, lot #190630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	MAJOR	Ge	<0.5	Lu	<0.2	P	<100	Sb	22	Te	<1
Al	6	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	5
As	81	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	4	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	2	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	3	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

EXP. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CMIA-025-02-08

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000141

Copper (Cu) – 1000 µg/mL

Lot #: 1074805-71

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Cu	1004 ± 3 µg/mL (w/v)
	996.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9% pure copper (Cu) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3114, lot #121207**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	MAJOR	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-018-17-07
Rec 5/24/21 NT
Exp 11/18/22

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M261

Iron (Fe) – 10,000 µg/mL

Lot #: 1114187-4

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Fe	10,040 ± 30 µg/mL (w/v)
	9648 ± 32 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	46	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	35	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	3	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	MAJOR	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMA-025-02-09

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000281

Lead (Pb) – 1000 µg/mL

Lot #: 1046594-72

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Pb	994.0 ± 2.0 µg/mL (w/v)
	992.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lead (Pb) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3128, lot #101026**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	MAJOR	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SM1A-018-18-01 Rec 6/23/21 TH

Product #: S4400-1000291

Lithium (Li) – 1000 µg/mL

Lot #: 1094768-6

Matrix: 3% HNO_3

Element	Certified Concentration & Uncertainty
Li	993 ± 5 µg/mL (w/v)
	983 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lithium carbonate (Li_2CO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3129a, lot #100714**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	42	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	27	Cs	0.6	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	44	Pt	<0.5	Sm	<0.2	V	<1
Ba	2	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	0.7	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	2	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	MAJOR	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	3
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

expiry 9/15/22

March 15, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-018-17-09
Rec 5/24/21 NT
Exp 11/18/22

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M311

Magnesium (Mg) – 10,000 µg/mL

Lot #: 1075232-33

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Mg	9902 ± 42 µg/mL (w/v)
	9424 ± 40 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	MAJOR	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	19	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	103	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	23	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMIA-025-02-10

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000321

Manganese (Mn) – 1000 µg/mL

Lot #: 1063019-60

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Mn	**991.0 ± 6.0 µg/mL (w/v)**
	986.0 ± 6.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure manganese (Mn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3132, lot #050429**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	3	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	43	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	17	Hg	<0.5	Mn	MAJOR	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	0.9	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

06/09/23

exp. ~~06/09/21~~ LH 12/22/21

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SM1A-025-03-01

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000343

Molybdenum (Mo) – 1000 µg/mL

Lot #: 1138256-5

Matrix: 2% HNO_3/0.1% HF

Element	Certified Concentration & Uncertainty
Mo	1001 ± 3 µg/mL (w/v)
	981.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure molybdenum (Mo). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3134, lot #130418**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	6.626	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	81.41
As	<2	Cr	5.808	Hg	<0.5	Mn	1.573	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	MAJOR	Pr	<0.2	Si	<100	Tm	<0.2
B	9.551	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	50.33
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	29.52	La	0.597	Ni	5.983	Rh	<0.5	Ta	1.802	Yb	<0.2
Cd	79.26	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CPI INTERNATIONAL

SM1A-025-04-03

Certificate of Analysis

Rec 2/4/22 TH

Nickel ICP Standard - 1000 ug/mL

Catalog Number: TM-014L, TM-014L-25
Lot Number: 200305
Manufacture Date: 03/05/20
Certified Date: 03/10/20

Expiration: 08/01/2023
Matrix: 5% Nitric Acid
Hazards: Irritant, Corrosive (See MSDS)

Bulk Number	Analyte	CAS #	Purity	Certified Concentration (ug/mL Ni)
W-1775H-06	Nickel (II) nitrate hexahydrate	13478-00-7	99.999%	1000 ± 5.75

Density: 1.043 g/mL at 22.2°C

Packaging, Storage, Instructions For Use

Store tightly capped at room temperature (15-30°C).

This certified reference material (CRM) is packaged in low density polyethylene. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. A 1 mL sample size is recommended. Smaller sample volumes may negatively affect estimated uncertainty.

Traceability Information

Analyte Source Materials: The highest purity analyte source materials are used in the manufacture of this CRM. The actual purity is referenced above. Analyte source material purity and associated uncertainty has been analytically verified against appropriate NIST SRMs, if available.

Method: Certified concentration confirmed by ICP against NIST SRM # 3136 with n=5.

Balance: All analytical balances are calibrated on a semiannual basis by an ISO 17025 accredited calibration laboratory and are traceable to NIST. Traceable Calibration Certificate available upon request.

All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request.

Thermometer: All thermometers are NIST traceable through thermometers that are calibrated annually by an ISO 17025 accredited calibration laboratory.

Glassware: All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. Volumetric pipetors are calibrated every four months by an ISO 17025 accredited calibration laboratory.

CPI INTERNATIONAL

Catalog Number: TM-014L, TM-014L-25
Lot Number: 200305

Intended Uses

- Calibration of analytical instruments
- Validation of analytical methods
- Preparation of working level reference materials, i.e. "check standards"
- Detection limit studies

Trace Metal Impurity Analysis

Impurity information is captured by ICP analysis and is reported below in ug/L. The values below are typical of a Nickel solution at 10,000 ug/mL.

Aluminum <1	Cadmium <0.5	Lead <8	Nickel **M**	Thallium <15
Antimony <20	Calcium **N**	Magnesium **N**	Potassium **N**	Tin <10
Arsenic <10	Chromium <1.5	Manganese <0.3	Selenium <20	Titanium <1
Barium <0.3	Cobalt <2	Mercury **N**	Silver <3	Vanadium <2
Beryllium <0.1	Iron <1	Molybdenum <5	Strontium <0.1	Zinc <2
Copper <3				

N = Not Tested For **M** = Major Element

Uncertainty

The ± uncertainty associated with the certified concentration is the expanded uncertainty at 95% confidence interval (CI) with K=2. This expanded uncertainty incorporates contributions from manufacturing, homogeneity, and stability.

Homogeneity

This CRM was thoroughly mixed in production. Batch homogeneity was established through analysis of samples chosen at random. A minimum 1 mL sample size is recommended.

Stability/Expiration

The stability of this CRM is based on short-term and long-term monitoring of the certified concentration. The expiration date is guaranteed to be valid from the manufacture date and is based on results of long-term monitoring.

Ewart Morris

Ewart Morris, Inorganics Technical Manager

Mark Hammersla

Mark Hammersla, President

JMA-018-17-08
Rec 5/24/21 HT
Exp 11/18/22

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M411

Potassium (K) – 10,000 µg/mL

Lot #: 1053109-57

Matrix: 1% HNO_3

Element	Certified Concentration & Uncertainty
K	9958 ± 49 µg/mL (w/v)
	9715 ± 48 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.99% pure potassium nitrate (KNO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	22	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	86	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	245	Sn	25	W	<5
Bi	67	Eu	<2	K	MAJOR	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMIA-025-03-02

rcvd - 12/22/21

12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000491

Selenium (Se) – 1000 µg/mL

Lot #: 1135995-21

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Se	1010 ± 7 µg/mL (w/v)
	1001 ± 7 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure selenium (Se). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3149, lot #100901**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	0.9	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	2	Hg	<0.5	Mn	<1	Pd	<0.5	Se	MAJOR	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-03-03

rcvd 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000511

Silver (Ag) – 1000 µg/mL

Lot #: 1106123-69

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Ag	1009 ± 5 µg/mL (w/v)
	1001 ± 4 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #160729**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	0.5	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	0.9	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	1	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-03-05

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M521

Sodium (Na) – 10,000 µg/mL

Lot #: 1055526-56

Matrix: 3% HNO_3

Element	Certified Concentration & Uncertainty
Na	9911 ± 46 µg/mL (w/v)
	9623 ± 45 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #120715** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	103	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	40	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	6	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	MAJOR	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	5	Nb	<5	Rb	13	Sn	23	W	<5
Bi	5	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021 exp. 06/09/23

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-025-03-04

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000531

Strontium (Sr) – 1000 µg/mL

Lot #: 1096004-52

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Sr	997.0 ± 6.0 µg/mL (w/v)
	993.0 ± 6.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	2	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	104	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	MAJOR	Y	3
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	2	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	0.6	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SM1A-025-04-06 Product #: S4400-1000581

Thallium (Tl) – 1000 µg/mL

Lot #: 1124114-23

Rec 2/15/22 TH

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Tl	996.0 ± 5.0 µg/mL (w/v)
	992.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #151215**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	1	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	5	Te	27
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	10	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	3	Mn	<1	Pd	<0.5	Se	<2	Tl	MAJOR
Au	<0.5	Cu	6	Ho	<0.2	Mo	13	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	1	W	<0.5
Bi	0.8	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	0.9	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2021
Certification Date

exp 6/17/23 TH

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SM1A-025-03-06

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000613

Tin (Sn) – 1000 µg/mL

Lot #: 1128650-10

Matrix: 2% HNO_3/0.5% HF

Element	Certified Concentration & Uncertainty
Sn	1005 ± 4 µg/mL (w/v)
	986.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure tin (Sn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3161a, lot #140917**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	13	Co	33	Ge	<0.5	Lu	<0.2	P	<100	Sb	5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Ti	<2
As	<2	Cr	3	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	3
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	MAJOR	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	0.7
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	2	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-03-07

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000623

Titanium (Ti) – 1000 µg/mL

Lot #: 1038255-56

Matrix: 2% HNO_3/0.5% HF

Element	Certified Concentration & Uncertainty
Ti	998 ± 3 µg/mL (w/v)
	979 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99+% pure titanium (Ti) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3162a, lot #130925**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	56	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	0.7	Te	<1
Al	9	Cs	<0.5	Hf	1	Mg	<5	Pb	<1	Sc	<5	Ti	MAJOR
As	<2	Cr	2	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	36	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	6
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	15	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 16/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-025-04-04

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000641

Uranium (U) – 1000 µg/mL

Lot #: 1112440-15

Matrix: 2% HNO_3

Rec 2/7/22 TH

Element	Certified Concentration & Uncertainty
U	996.0 ± 5.0 µg/mL (w/v)
	990.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% Uranyl (VI) Nitrate Hexahydrate [$UO_2(NO_3)_2{\cdot}6H_2O$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3164**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	2	Hf	<0.2	Mg	<5	Pb	4	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	54	Pt	<0.5	Sm	<0.2	V	<1
Ba	5	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	1
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2021
Certification Date

exp 6/17/23

TH 2/7/22

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-025-03-08

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000651

Vanadium (V) – 1000 µg/mL

Lot #: 1199921-3

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
V	1002 ± 5 µg/mL (w/v)
	990.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure vanadium pentoxide (V_2O_5). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3165, lot #160906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	5	Pb	<1	Sc	<5	Ti	13
As	<2	Cr	152	Hg	<0.5	Mn	8	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	MAJOR
Ba	1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	2	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	267	Fe	140	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	0.8	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A w025-03-09

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000681

Zinc (Zn) – 1000 µg/mL

Lot #: 1095528-74

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Zn	998.0 ± 2.0 µg/mL (w/v)
	989.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp · 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

hps high-purity standards

SMGA-007-07-19
rcvd. 03/04/21 LY

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description: Silicon

Product Number:	**100050-3-100**
Lot Number:	**2012025-100**
Matrix:	1% HNO3 / Tr HF
Density:	1.008 g/mL ± 0.002 g/mL @ 21.5°C ± 0.3°C

Certified Value:

Element	µg/mL	SRM ID
Si	1000 ± 5	3150

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Uncertified Values:

Trace Metal Impurity Scan: The data reported are based upon a scan of this specific lot via ICP-OES/ICP-MS analysis. The values are reported in µg/L.

Ag	<0.02	Cu	<0.02	Li	<0.02	Rb	<0.02	Th	<0.02
Al	2	Dy	<0.02	Lu	<0.02	Re	<0.02	Ti	12
As	<0.05	Er	<0.02	Mg	<0.6	Rh	<0.02	Tl	<0.02
Au	<0.02	Eu	<0.02	Mn	<0.3	Ru	<0.02	Tm	<0.02
B	<50	Fe	<1	Mo	<0.02	Sb	<0.2	U	<0.05
Ba	<0.6	Ga	<0.02	Na	<3	Sc	<0.02	V	<0.05
Be	<0.02	Gd	<0.02	Nb	<1	Se	<0.1	W	<0.02
Bi	<0.02	Ge	<1	Nd	<0.02	Si	M	Y	<0.02
Ca	<2	Hf	<0.02	Ni	<0.02	Sm	<0.02	Yb	<0.02
Cd	<1	Ho	<0.02	Os	<0.02	Sn	<0.5	Zn	<0.02
Ce	<0.02	In	<0.02	Pb	<0.05	Sr	<0.02	Zr	<0.2
Co	<0.05	Ir	<0.02	Pd	<0.02	Ta	na		
Cr	<0.05	K	<1	Pr	<0.02	Tb	<0.02		
Cs	<0.6	La	<0.02	Pt	<0.02	Te	<0.02		

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for eighteen months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date:	February 2021
Expiration Date:	August 31, 2022
Certificate Issue Date:	May 13, 2020

Moven Mututuvari

Moven Mututuvari, Ph. D, VP Manufacturing

SMBA-23-01-14

rcvd. 12/22/21 LY

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000391

Phosphorus (P) – 1000 µg/mL

Lot #: 1134200-4

Matrix: 0.05% HNO_3

Element	Certified Concentration & Uncertainty
P	999.4 ± 5.0 µg/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using phosphoric acid (H_3PO_4) diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3139a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 10, 2021 **Certification Date**

Exp. 06/10/23 LY 12/22/21

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM6A-23-01-01
rcvd - 08|19|21 LY

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-100PPM691-100

Zirconium (Zr) – 100 µg/mL

Lot #: 10085420-5

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Zr	99.98 ± 0.50 µg/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or fumace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 100 µg/mL by gravimetric methods using a single-element concentrate diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3169**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

August 13, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

exp. 02|13|23 LY

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMbA-007-05-16
Rvd. 08/29/18 LV

Agilent

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-074
Lot Number: CR-3874

Lot Issue Date: 24-Aug 2017
Expiration Date: 30-Sep 2024

Product Name: Tungsten ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Analyte Concentration	Traceability & Method
tungsten	ammonium metatungstate	RM12633	99.999%	1000 ± 2 µg/mL	NIST SRM 3163; ICP-OES

Solvent: trace ammonium hydroxide in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 0.9992 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*___	Al	<0.005 ND	*___	Ga	<0.005 ND	n___	Nb		n___	S	
*___	Sb	<0.005 ND	n___	Ge		n___	Os		n___	Ta	
*___	As	<0.005 ND	n___	Au		*___	Pd	<0.005 ND	n___	Te	
*___	Ba	<0.005 ND	n___	Hf		*___	P	<0.005 ND	n___	Tb	
*___	Be	<0.005 ND	n___	Ho		*___	Pt	<0.005 ND	*___	Tl	<0.005 ND
*___	Bi	<0.005 ND	*___	In	<0.005 ND	*__	K	<0.005 ND	*___	Th	<0.005 ND
*___	B	<0.005 ND	n___	Ir		n___	Pr		n___	Tm	
*___	Cd	<0.005 ND	*___	Fe	<0.005 ND	*___	Re		*___	Sn	<0.005 ND
*___	Cs	<0.005 ND	*___	La	<0.005 ND	*___	Rh	<0.005 ND	*___	Ti	<0.005 ND
*___	Ca	<0.005 ND	*___	Pb	<0.005 ND	n___	Rb		s___	W	
n___	Ce		*___	Li	<0.005 ND	n___	Ru		n___	U	
*___	Cr	<0.005 ND	n___	Lu		n___	Sm		*___	V	<0.005 ND
*___	Co	<0.005 ND	*___	Mg	<0.005 ND	n___	Sc		n___	Yb	
*___	Cu	<0.005 ND	*___	Mn	<0.005 ND	*___	Se	<0.005 ND	n___	Y	
n___	Dy		*___	Hg	<0.005 ND	*___	Si	<0.005 ND	*___	Zn	<0.005 ND
*___	Er	<0.005 ND	*___	Mo	<0.005 ND	*___	Ag	<0.005 ND	n___	Zr	
*___	Eu	<0.005 ND	n___	Nd		*___	Na	<0.005 ND			
*___	Gd	<0.005 ND	*___	Ni	<0.005 ND	*___	Sr	<0.005 ND			

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

SM6A-007-07-15

rcvd. 01|25|21 LY

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10PPM331-100

Mercury (Hg) – 10.0 µg/mL

Lot #: 1082269-9

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Hg	10.00 ± 0.10 µg/mL (w/v)
	9.933 ± 0.100 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10.0 µg/mL by gravimetric methods using single-element concentrate. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3133, lot #160921**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	MAJOR	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

exp. 07|18|22

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 18, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901
www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

ICV 1

SM6A-23-01-12
rcvd. 12/20/21 vy

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Custom Inorganic Standard

Product Number: **HPS-2208-006-500**
Lot Number: **2134407-500**
Matrix: 2% HNO3 / Tr HF
Purity: 99.0%-99.9999%

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

Certified Values:

Element	(mg/L)	SRM ID	Element	(mg/L)	SRM ID
Ag	10.0 ± 0.1	3151	Ni	10.0 ± 0.1	3136
As	10.0 ± 0.1	3103a	Pb	10.0 ± 0.1	3128
B	10.0 ± 0.1	3107	Sb	10.0 ± 0.1	3102a
Ba	10.0 ± 0.1	3104a	Se	10.0 ± 0.1	3149
Be	10.0 ± 0.1	3105a	Sn	10.0 ± 0.1	3161a
Cd	10.0 ± 0.1	3108	Sr	10.0 ± 0.1	3153a
Co	10.0 ± 0.1	3113	Ti	10.0 ± 0.1	3162a
Cr	10.0 ± 0.1	3112a	Tl	10.0 ± 0.1	3158
Cu	10.0 ± 0.1	3114	U	10.0 ± 0.1	3164
Li	10.0 ± 0.1	3129a	V	10.0 ± 0.1	3165
Mn	10.0 ± 0.2	3132	Zn	20.0 ± 0.2	3168a
Mo	10.0 ± 0.1	3134			

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: December 2021
Expiration Date: December 31, 2022
Certificate Issue Date: December 15, 2021

Moven Mutuvari
Moven Mutuvari, Ph.D, VP Manufacturing

SMBA-23-01-13

ICV 2

rcv9 - 12/20/21 LY

hps high-purity standards

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Interference Check Standard 7

Product Number:	**INFCS-7-500**
Lot Number:	**2111116-500**
Matrix:	5% HNO3
Purity:	99.98%-99.9995%
Density:	1.046 g/mL ± 0.002 g/mL @ 21.8°C ± 0.3°C

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP)
Accreditation
Certificate Number
AR-1436

Certified Values:

Element	(mg/L)	SRM ID
Al	1000 ± 6	3101a
Ca	1000 ± 6	3109a
Fe	1000 ± 6	3126a
K	1000 ± 10	3141a
Mg	1000 ± 10	3131a
Na	1000 ± 6	3152a

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: December 2021
Expiration Date: December 31, 2022
Certificate Issue Date: April 23, 2021

Moven Mututuvari

Moven Mututuvari, Ph.D, VP Manufacturing

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD E218.6
HEXAVALENT CHROMIUM

SDG#: 22F145

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F145

METHOD E218.6
HEXAVALENT CHROMIUM

A total of thirteen (13) water samples were received on 06/16/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. Hexavalent Chromium was not detected in HCF011WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. HCF011WL/HCF011WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two (2) sets of MS/MSD were analyzed. Hexavalent Chromium was within MS QC limits in F145-04M/-04S and F145-08M/-08S. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

Samples F145-04/-04M/-04S were reported at 5X dilution due to matrix interference.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

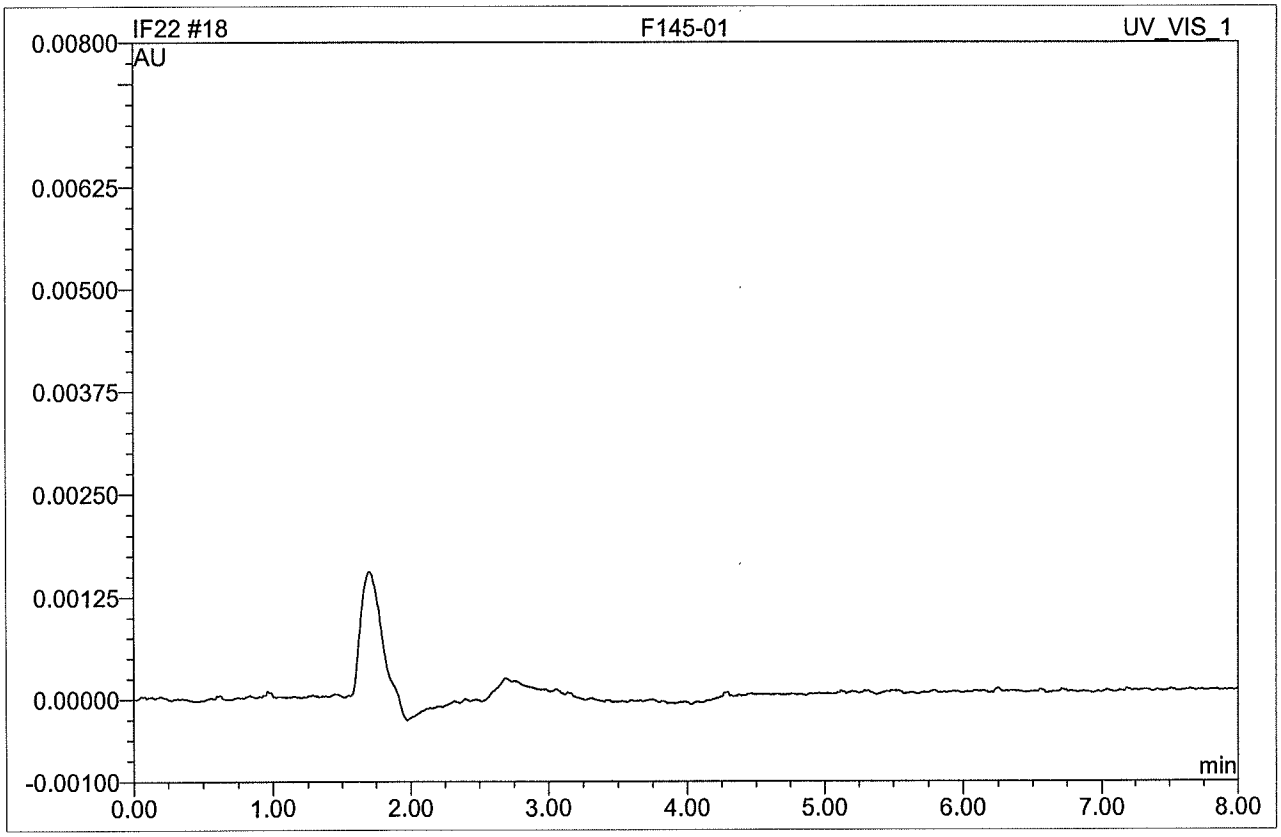
Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22F145

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCF011WB	ND	1	NA	0.2	0.05	06/22/2209:51	NA	IF22003	IF22001	HCF011W	NA	NA
LCS1W	HCF011WL	1.95	1	NA	0.2	0.05	06/22/2210:01	NA	IF22004	IF22001	HCF011W	NA	NA
LCD1W	HCF011WC	1.93	1	NA	0.2	0.05	06/22/2210:12	NA	IF22005	IF22001	HCF011W	NA	NA
MW-92-122-Q222	F145-01	ND	1	NA	0.2	0.05	06/22/2210:22	NA	IF22006	IF22001	HCF011W	06/15/2207:54	06/16/22
MW-54-085-Q222	F145-02	ND	1	NA	0.2	0.05	06/22/2210:32	NA	IF22007	IF22001	HCF011W	06/15/2211:18	06/16/22
MW-54-085-EB-Q222	F145-03	ND	1	NA	0.2	0.05	06/22/2210:43	NA	IF22008	IF22001	HCF011W	06/15/2210:50	06/16/22
MW-54-140-EB-Q222	F145-05	ND	1	NA	0.2	0.05	06/22/2211:34	NA	IF22012	IF22001	HCF011W	06/15/2210:05	06/16/22
MW-54-140-Q222	F145-04I	ND	5	NA	1	0.25	06/22/2212:06	NA	IF22015	IF22013	HCF011W	06/15/2210:30	06/16/22
MW-54-140-Q222MS	F145-04M	5.14	5	NA	1	0.25	06/22/2212:17	NA	IF22016	IF22013	HCF011W	06/15/2210:30	06/16/22
MW-54-140-Q222MSD	F145-04S	5.06	5	NA	1	0.25	06/22/2212:27	NA	IF22017	IF22013	HCF011W	06/15/2210:30	06/16/22
MW-54-195-Q222	F145-06	ND	1	NA	0.2	0.05	06/22/2212:38	NA	IF22018	IF22013	HCF011W	06/15/2209:58	06/16/22
MW-54-195-EB-Q222	F145-07	ND	1	NA	0.2	0.05	06/22/2212:48	NA	IF22019	IF22013	HCF011W	06/15/2209:35	06/16/22
MW-91-045-Q222	F145-08	ND	1	NA	0.2	0.05	06/22/2212:58	NA	IF22020	IF22013	HCF011W	06/15/2209:43	06/16/22
MW-91-045-Q222MS	F145-08M	1.02	1	NA	0.2	0.05	06/22/2213:10	NA	IF22021	IF22013	HCF011W	06/15/2209:43	06/16/22
MW-91-045-Q222MSD	F145-08S	1.02	1	NA	0.2	0.05	06/22/2213:20	NA	IF22022	IF22013	HCF011W	06/15/2209:43	06/16/22
MW-91-120-Q222	F145-09	ND	1	NA	0.2	0.05	06/22/2213:31	NA	IF22023	IF22013	HCF011W	06/15/2209:12	06/16/22
MW-91-170-Q222	F145-10	ND	1	NA	0.2	0.05	06/22/2213:41	NA	IF22024	IF22013	HCF011W	06/15/2208:30	06/16/22
MW-91-320-Q222	F145-11	ND	1	NA	0.2	0.05	06/22/2214:12	NA	IF22027	IF22025	HCF011W	06/15/2207:53	06/16/22
EB-740-Q222	F145-12	0.293	1	NA	0.2	0.05	06/22/2214:23	NA	IF22028	IF22025	HCF011W	06/15/2209:50	06/16/22
EB-741-Q222	F145-13	ND	1	NA	0.2	0.05	06/22/2214:33	NA	IF22029	IF22025	HCF011W	06/15/2211:30	06/16/22

IF22 006 F145-01

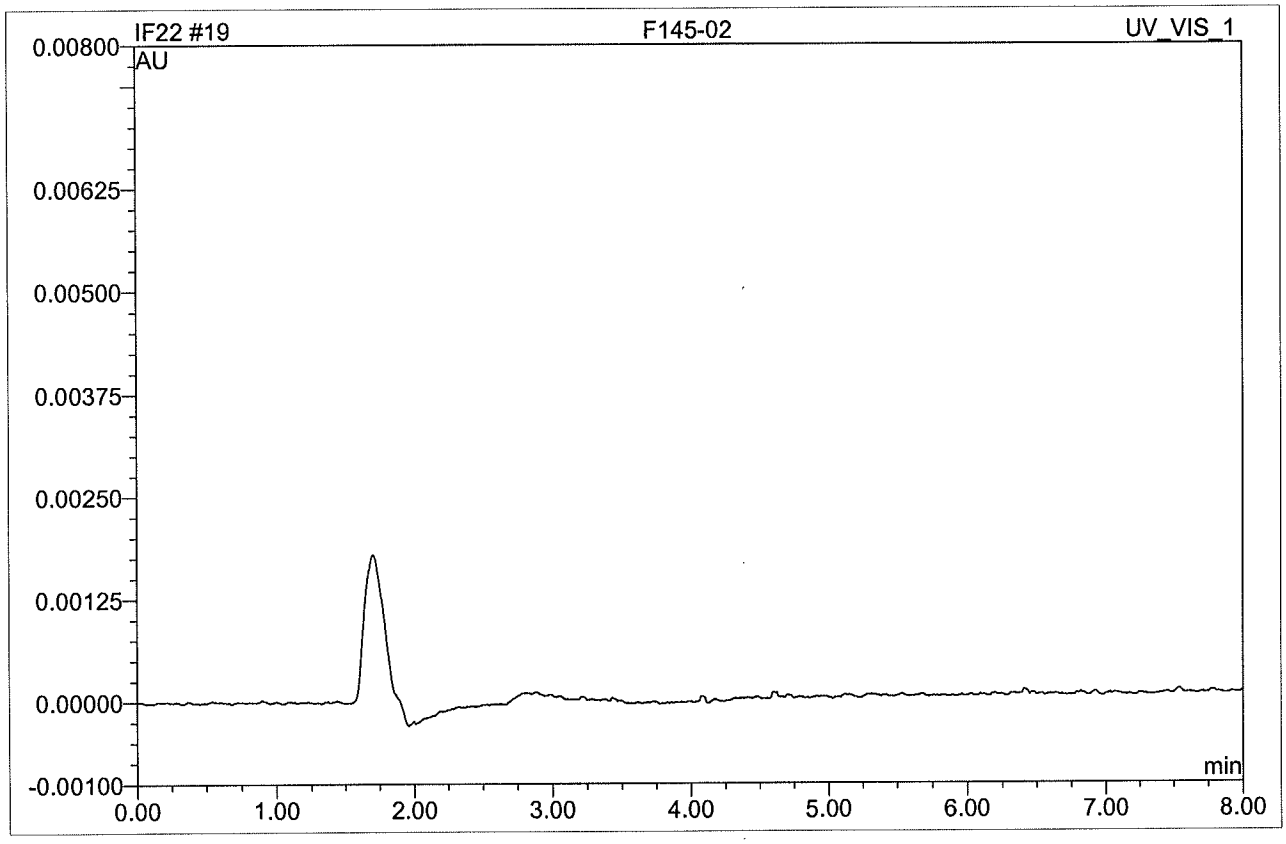
Sample Name:	**F145-01**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 10:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 007 F145-02

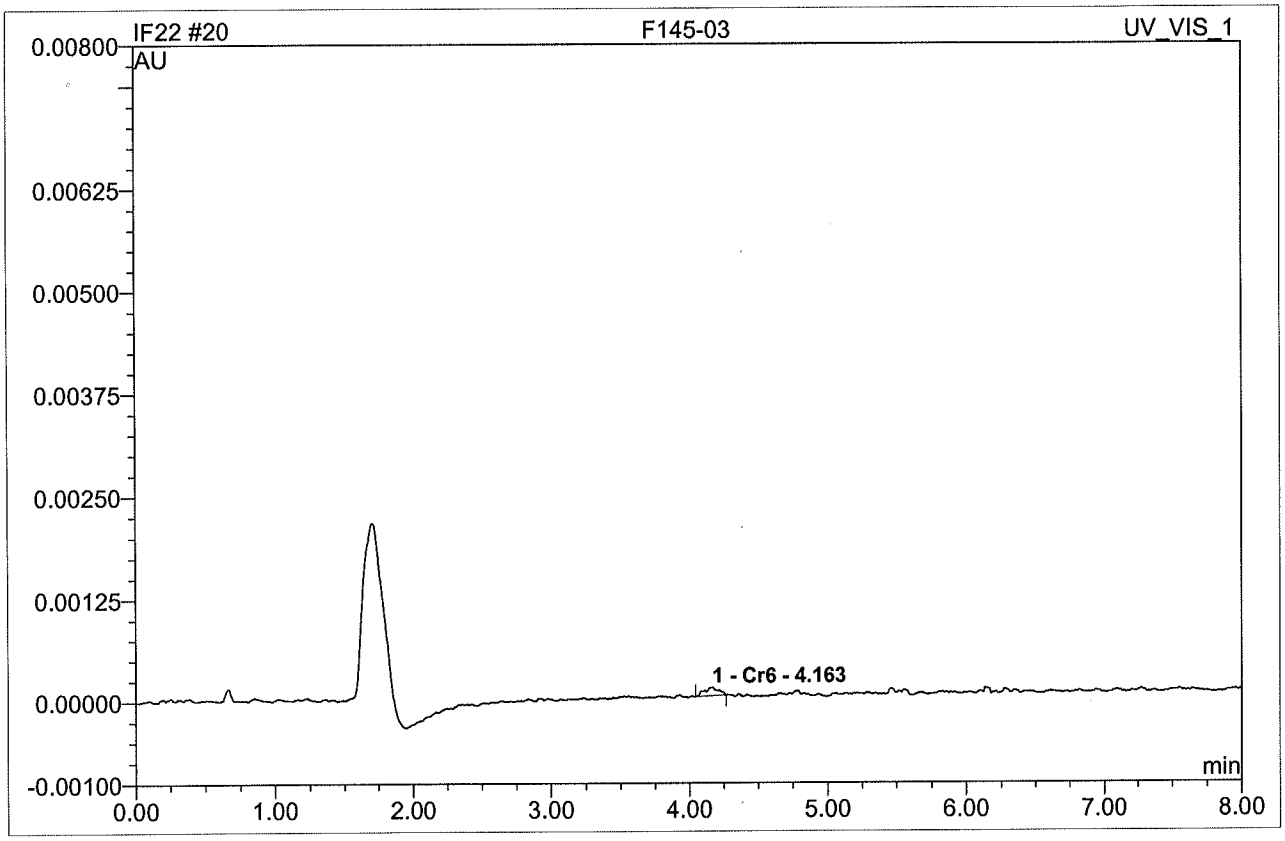
Sample Name:	**F145-02**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 10:32**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 008 F145-03

Sample Name:	**F145-03**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 10:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

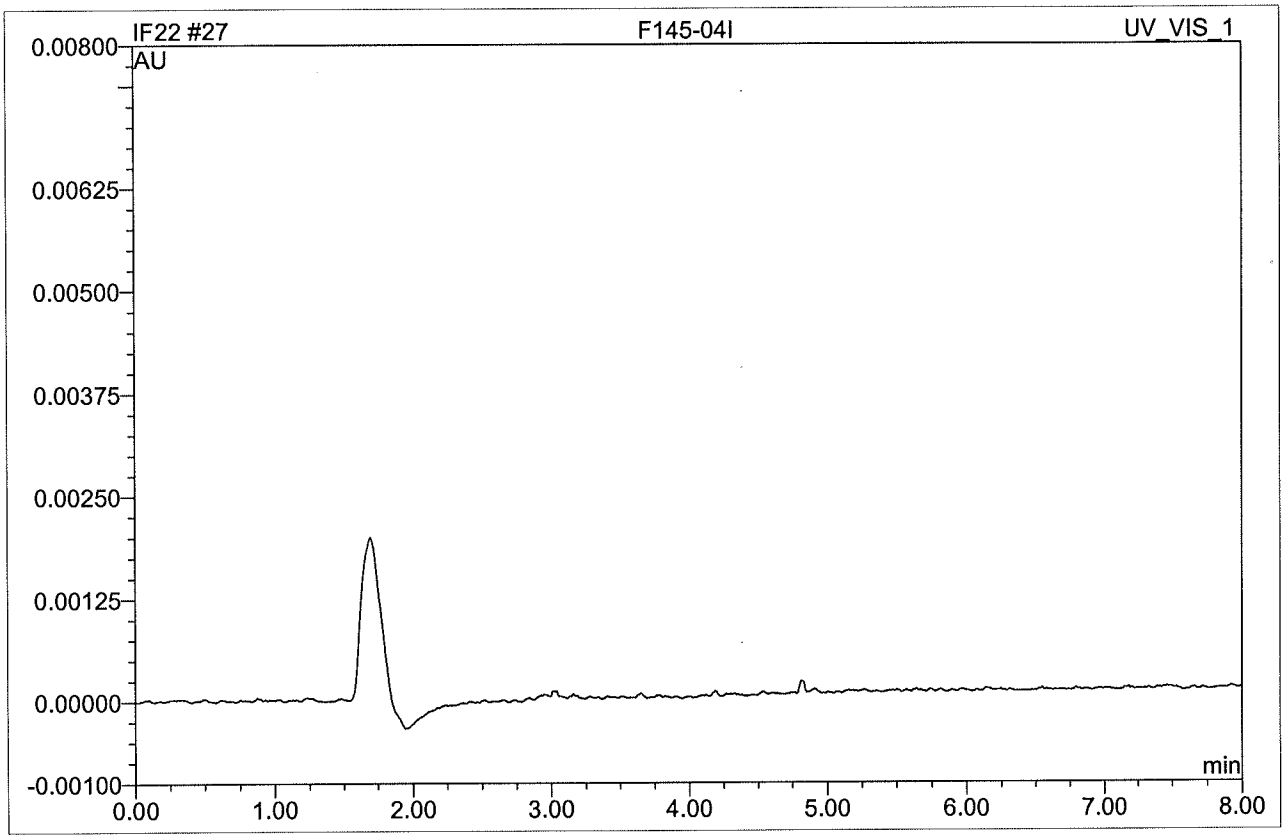


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.16	Cr6	0.0000980	0.0000120	100.00	0.125	BMB
Total:			0.000	0.000	100.00	0.125	

IF22 015 F145-04I

1mLto5mL

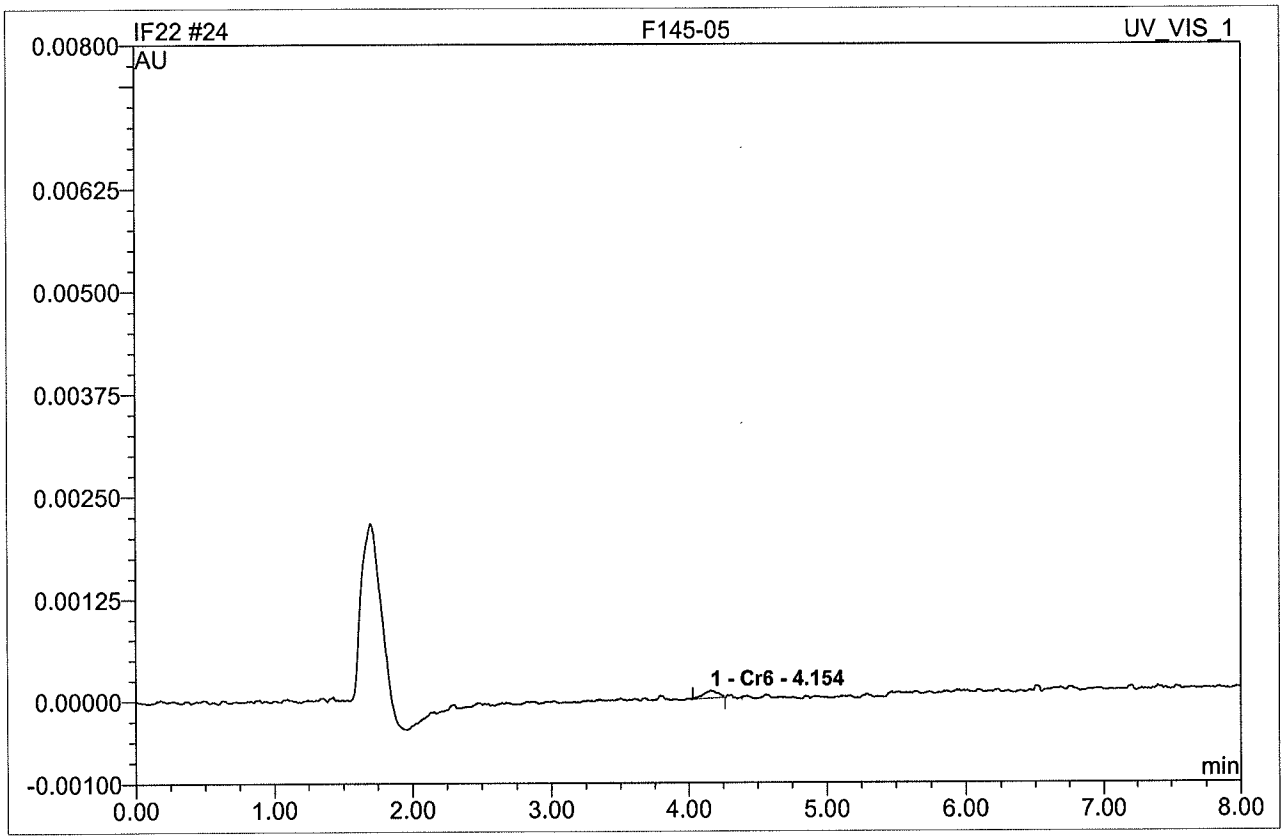
Sample Name:	**F145-04I**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2022 12:06**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 012 F145-05

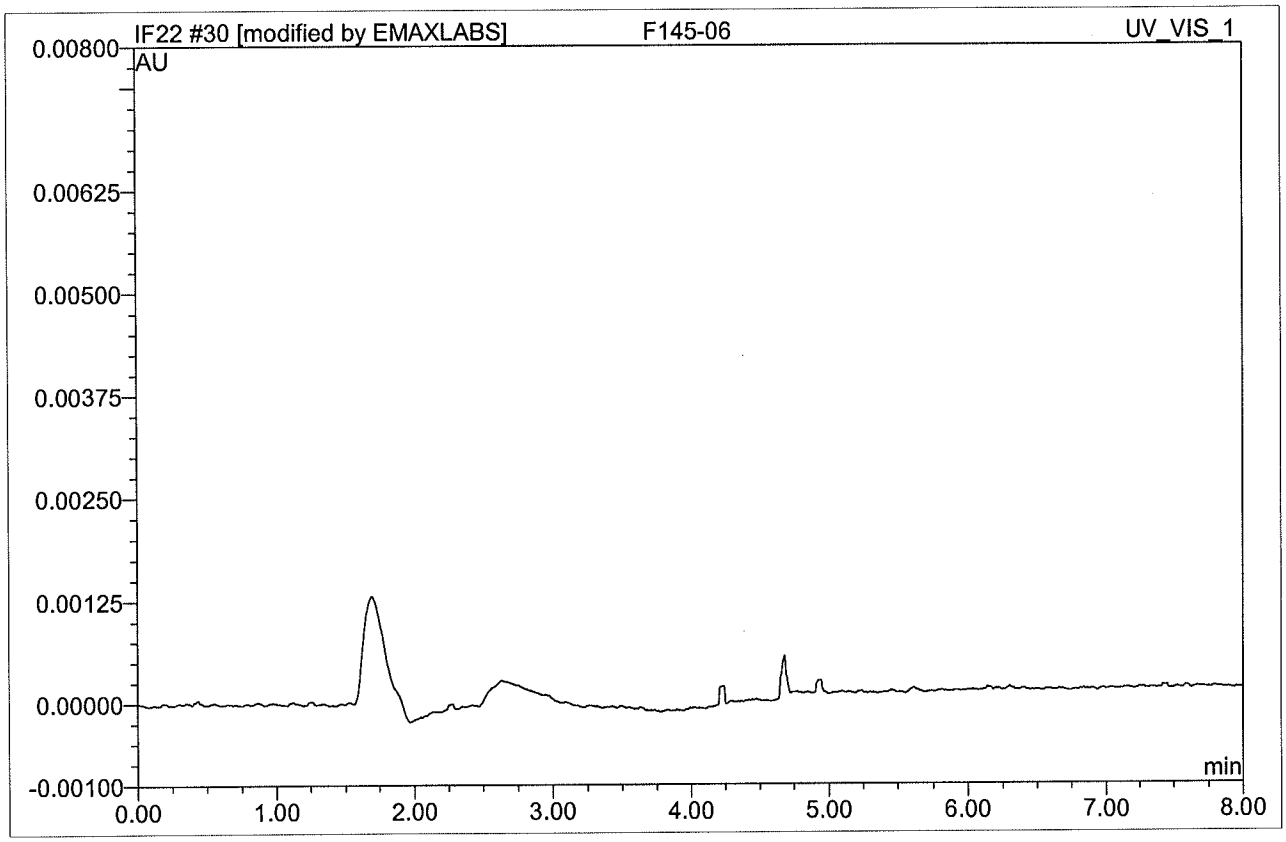
Sample Name:	**F145-05**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 11:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.15	Cr6	0.0000910	0.0000111	100.00	0.117	BMB
Total:			0.000	0.000	100.00	0.117	

IF22 018 F145-06

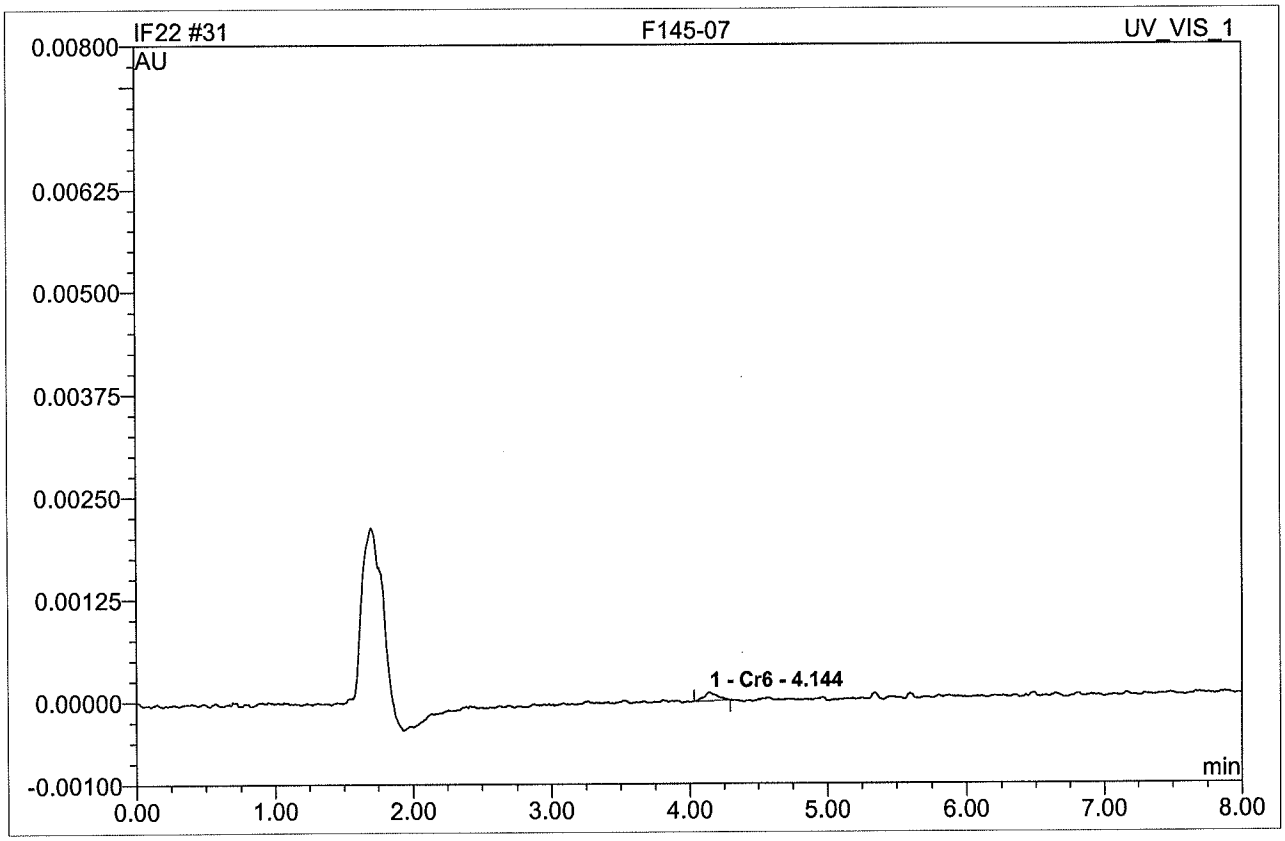
Sample Name:	**F145-06**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 12:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 019 F145-07

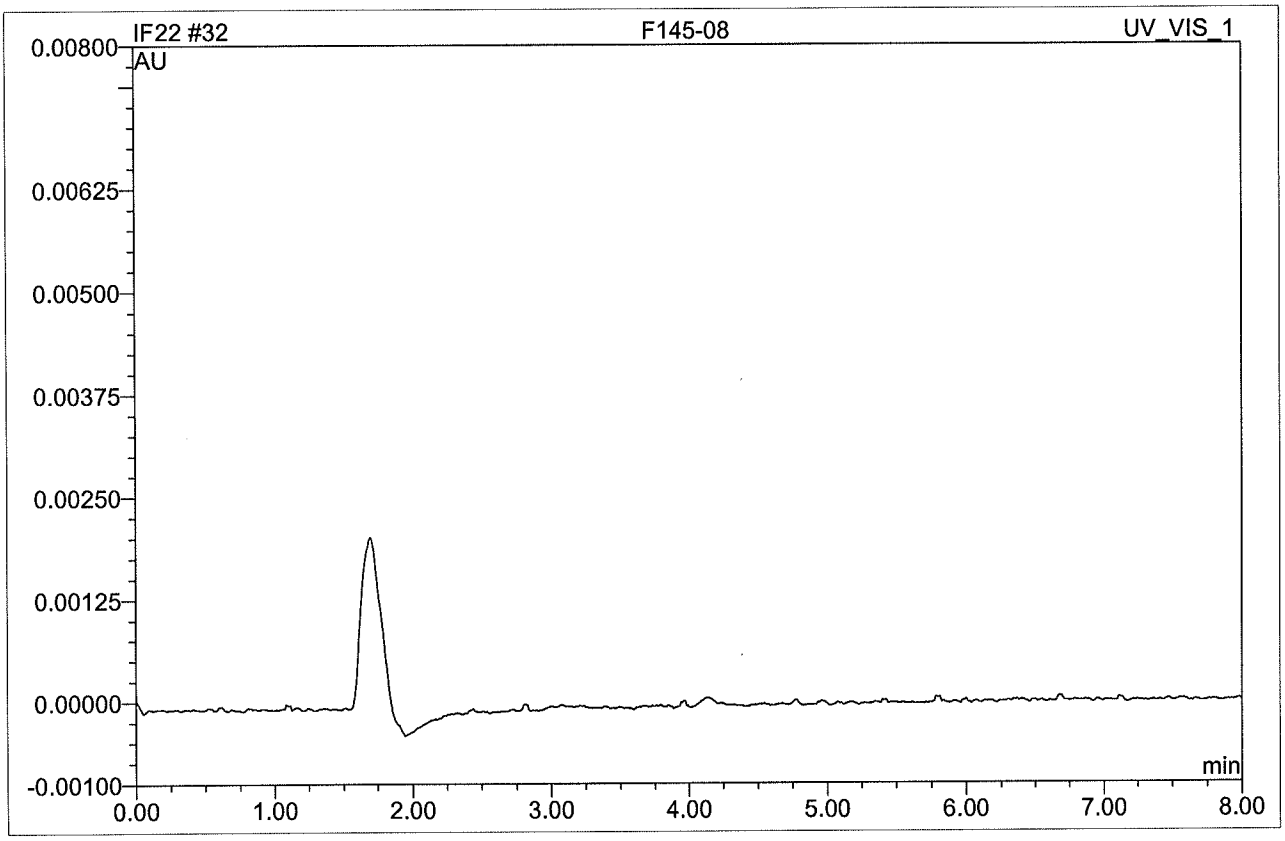
Sample Name:	**F145-07**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 12:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.14	Cr6	0.0001060	0.0000118	100.00	0.123	BMB
Total:			0.000	0.000	100.00	0.123	

IF22 020 F145-08

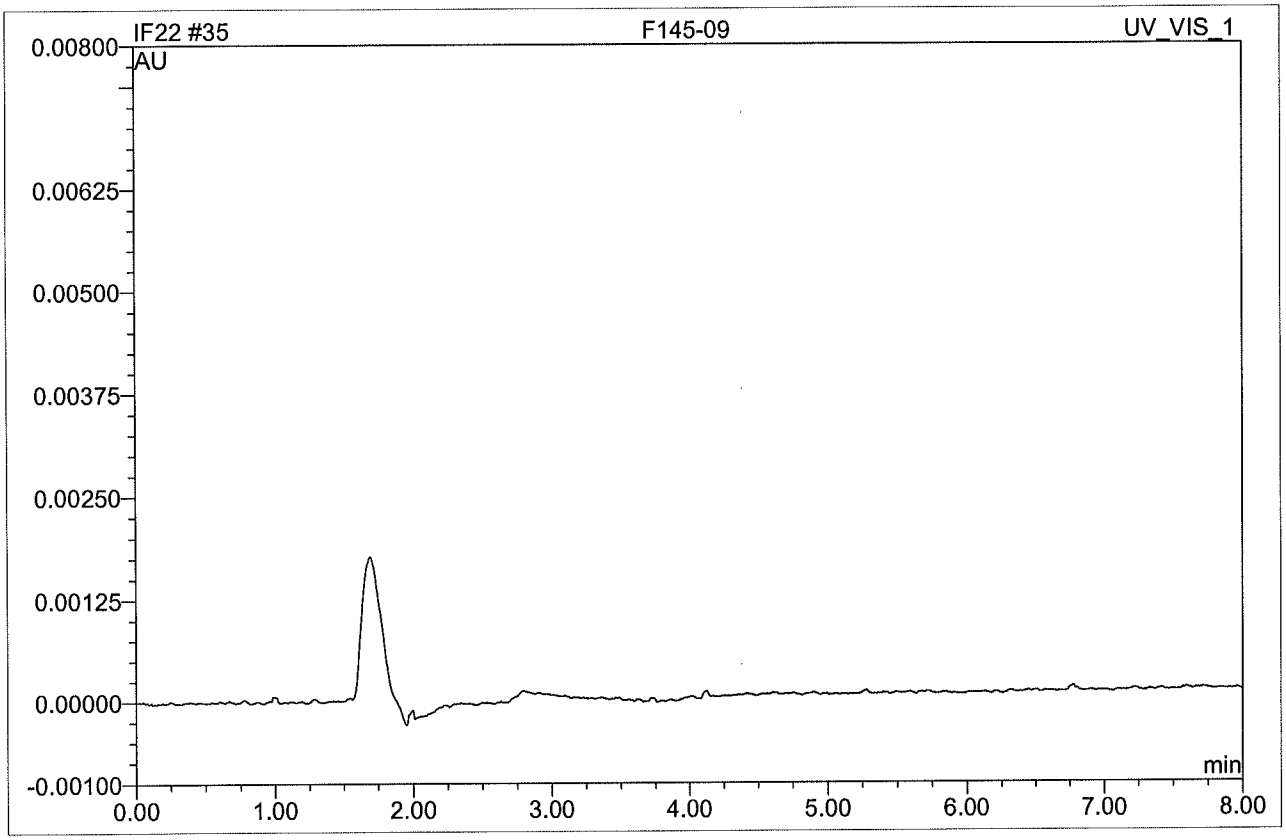
Sample Name:	**F145-08**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 12:58**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 023 F145-09

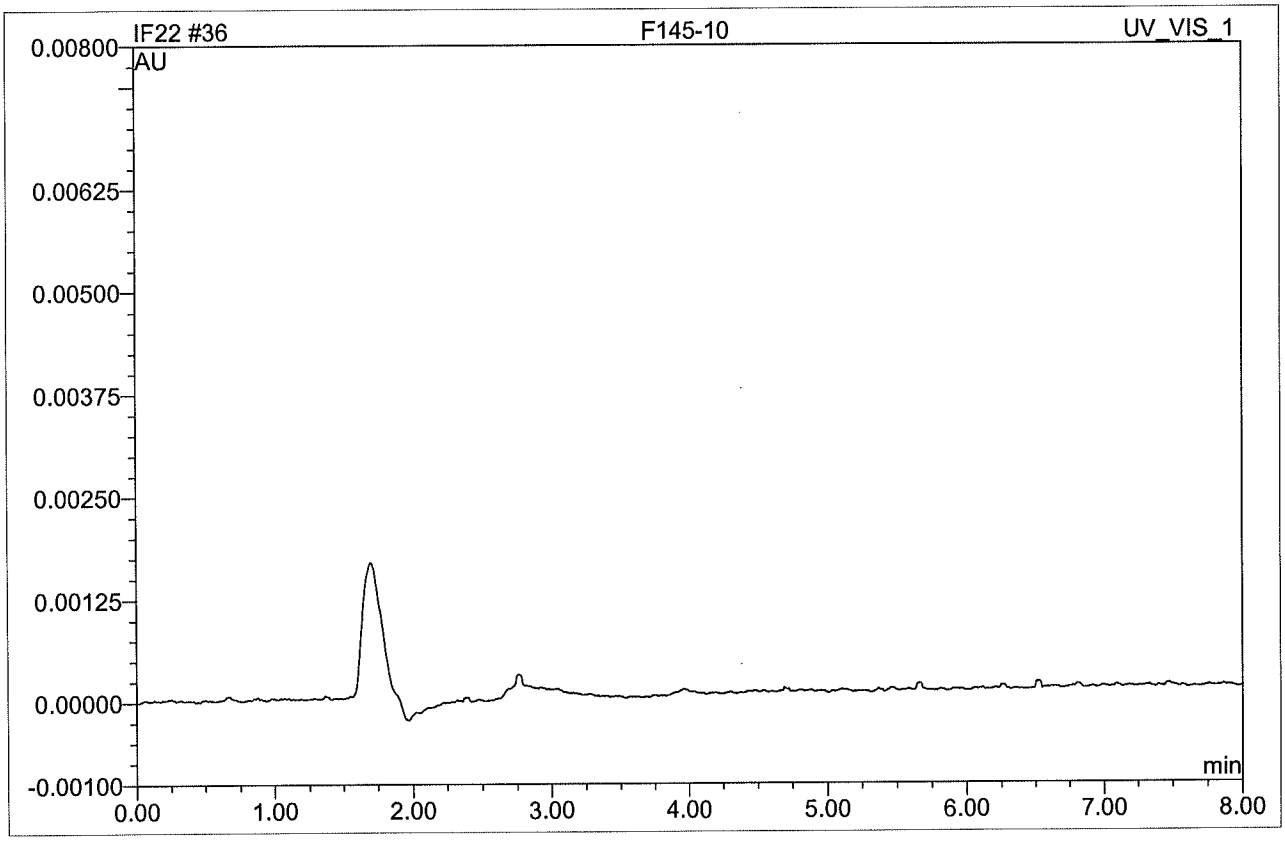
Sample Name:	**F145-09**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 13:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 024 F145-10

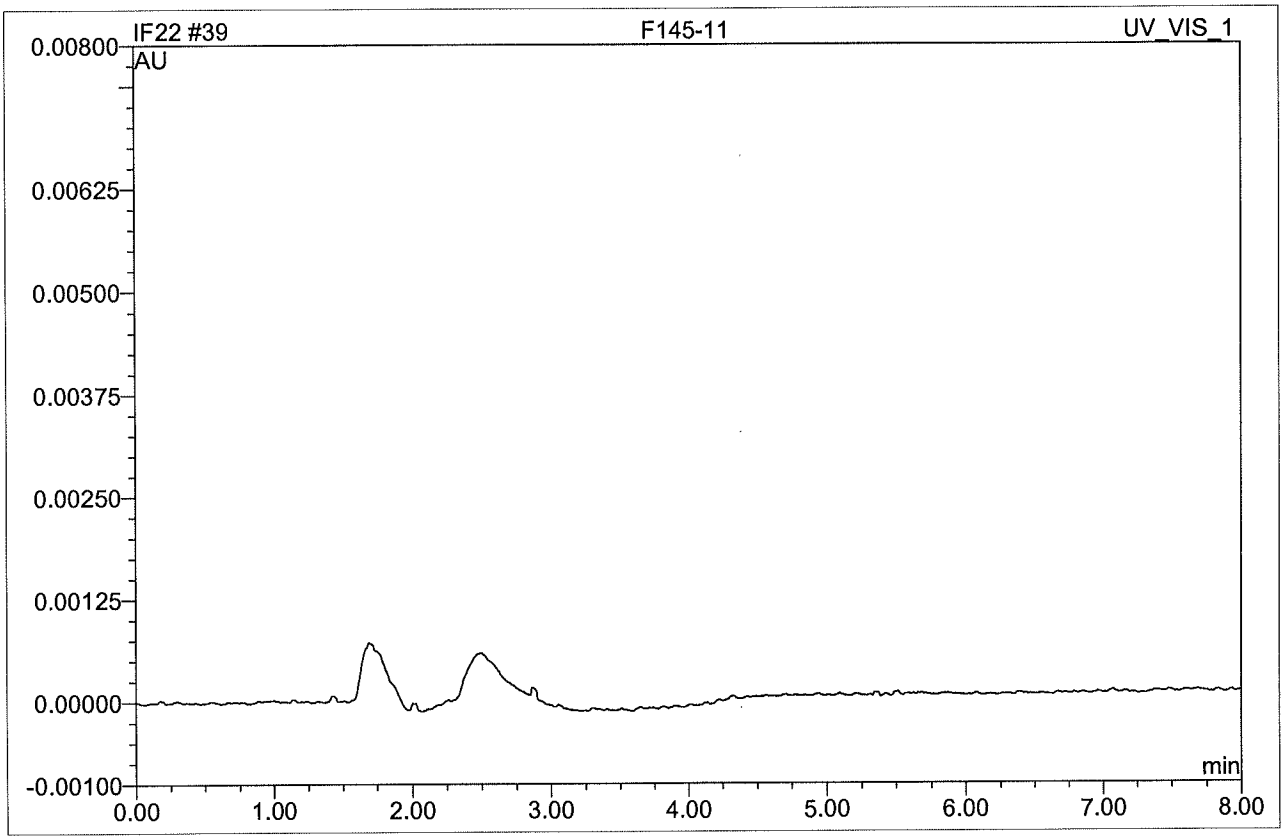
Sample Name:	**F145-10**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 13:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 027 F145-11

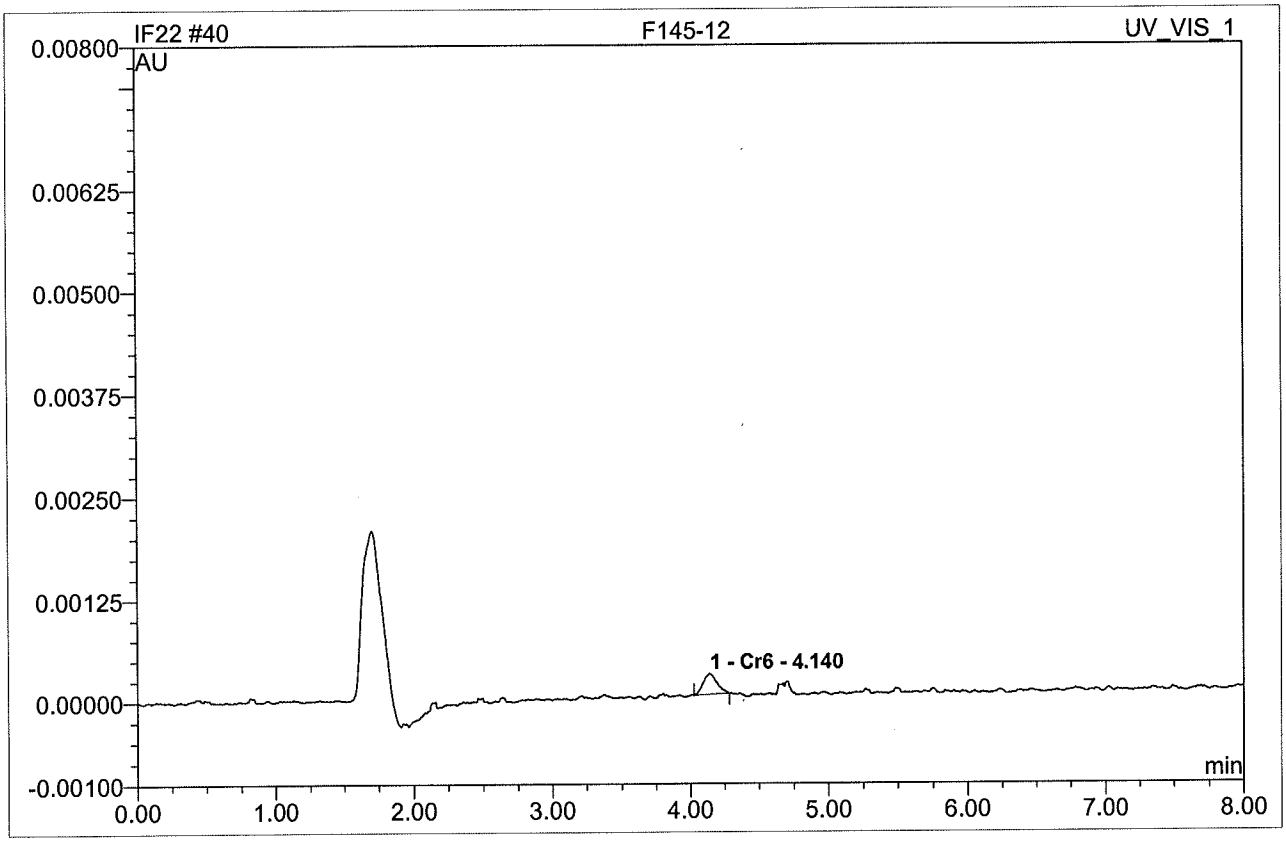
Sample Name:	**F145-11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 14:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 028 F145-12

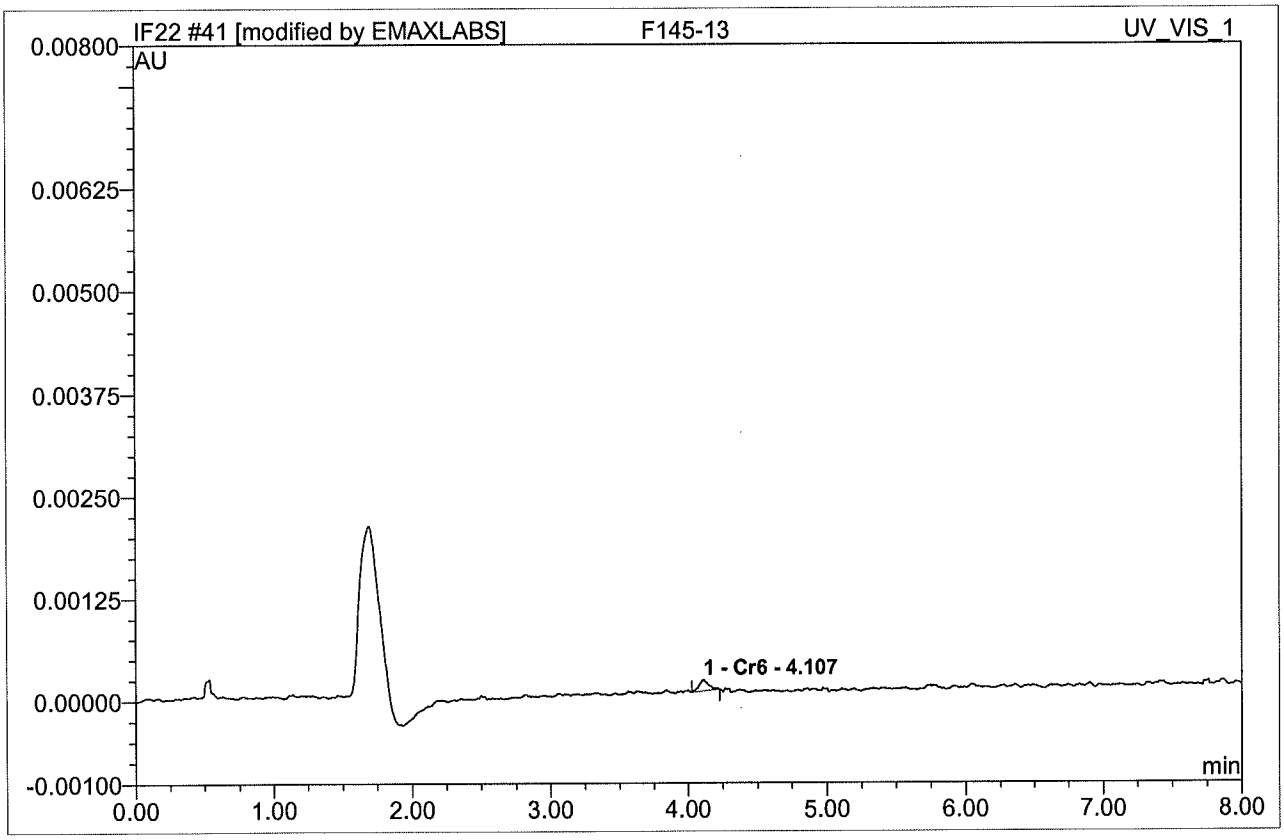
Sample Name:	**F145-12**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 14:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.14	Cr6	0.0002500	0.0000291	100.00	0.293	BMB
Total:			0.000	0.000	100.00	0.293	

IF22 029 F145-13

Sample Name:	**F145-13**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 14:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.11	Cr6	0.0001390	0.0000109	100.00	0.115	BMB*
Total:			0.000	0.000	100.00	0.115	

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCF011WB	HCF011WL	HCF011WC
LAB FILE ID	: IF22003	IF22004	IF22005
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2209:51	06/22/2210:01	06/22/2210:12
PREP BATCH	: HCF011W	HCF011W	HCF011W
CALIBRATION REF	: IF22001	IF22001	IF22001

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	1.95	97.5	2.00	1.93	96.5	1	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 5	5	5
SAMPLE ID	: MW-54-140-Q222	MW-54-140-Q222MS	MW-54-140-Q222MSD
LAB SAMPLE ID	: F145-04I	F145-04M	F145-04S
LAB FILE ID	: IF22015	IF22016	IF22017
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2212:06	06/22/2212:17	06/22/2212:27
PREP BATCH	: HCF011W	HCF011W	HCF011W
CALIBRATION REF	: IF22013	IF22013	IF22013

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	5.00	5.14	103	5.00	5.06	101	2	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F145
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-91-045-Q222	MW-91-045-Q222MS	MW-91-045-Q222MSD
LAB SAMPLE ID	: F145-08	F145-08M	F145-08S
LAB FILE ID	: IF22020	IF22021	IF22022
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2212:58	06/22/2213:10	06/22/2213:20
PREP BATCH	: HCF011W	HCF011W	HCF011W
CALIBRATION REF	: IF22013	IF22013	IF22013

ACCESSION:

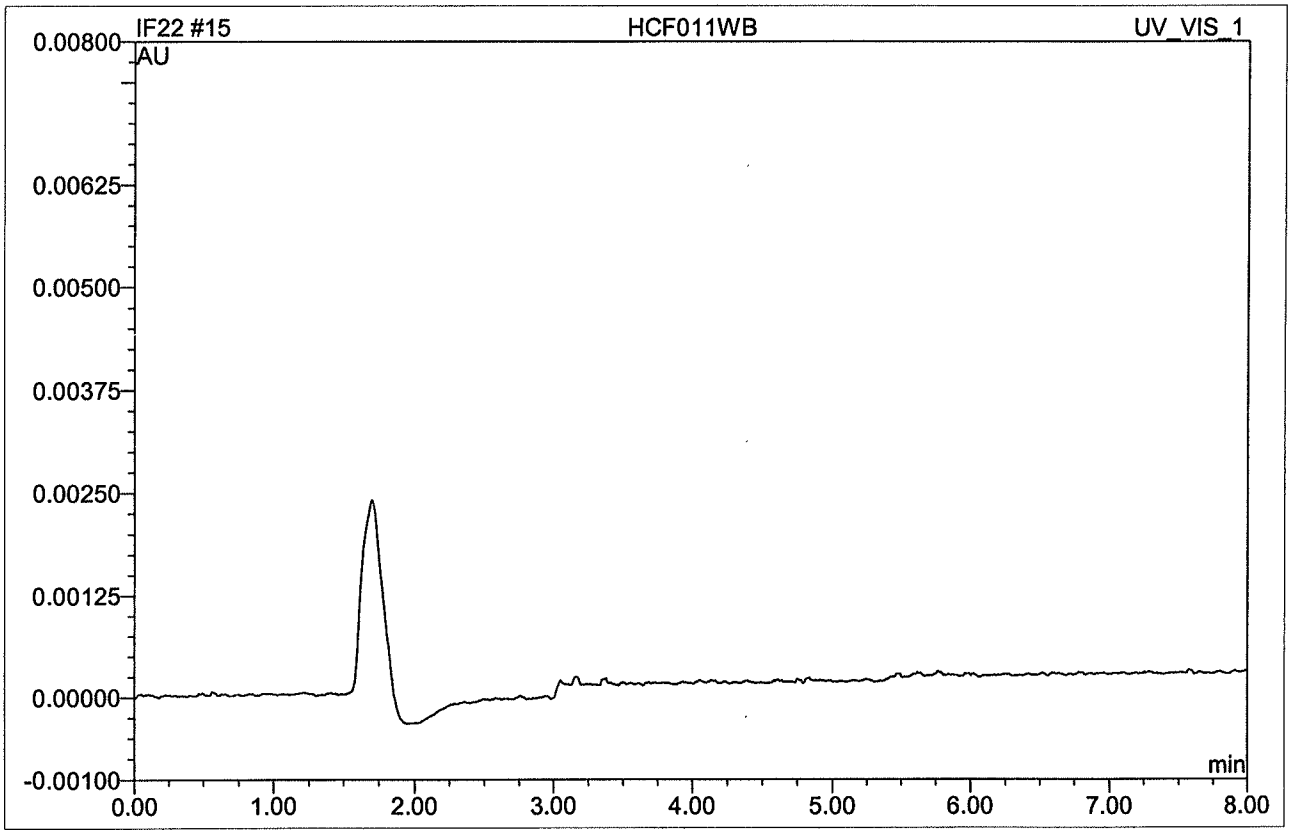
PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	1.02	102	1.00	1.02	102	0	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

QC DATA

IF22 003 HCF011WB

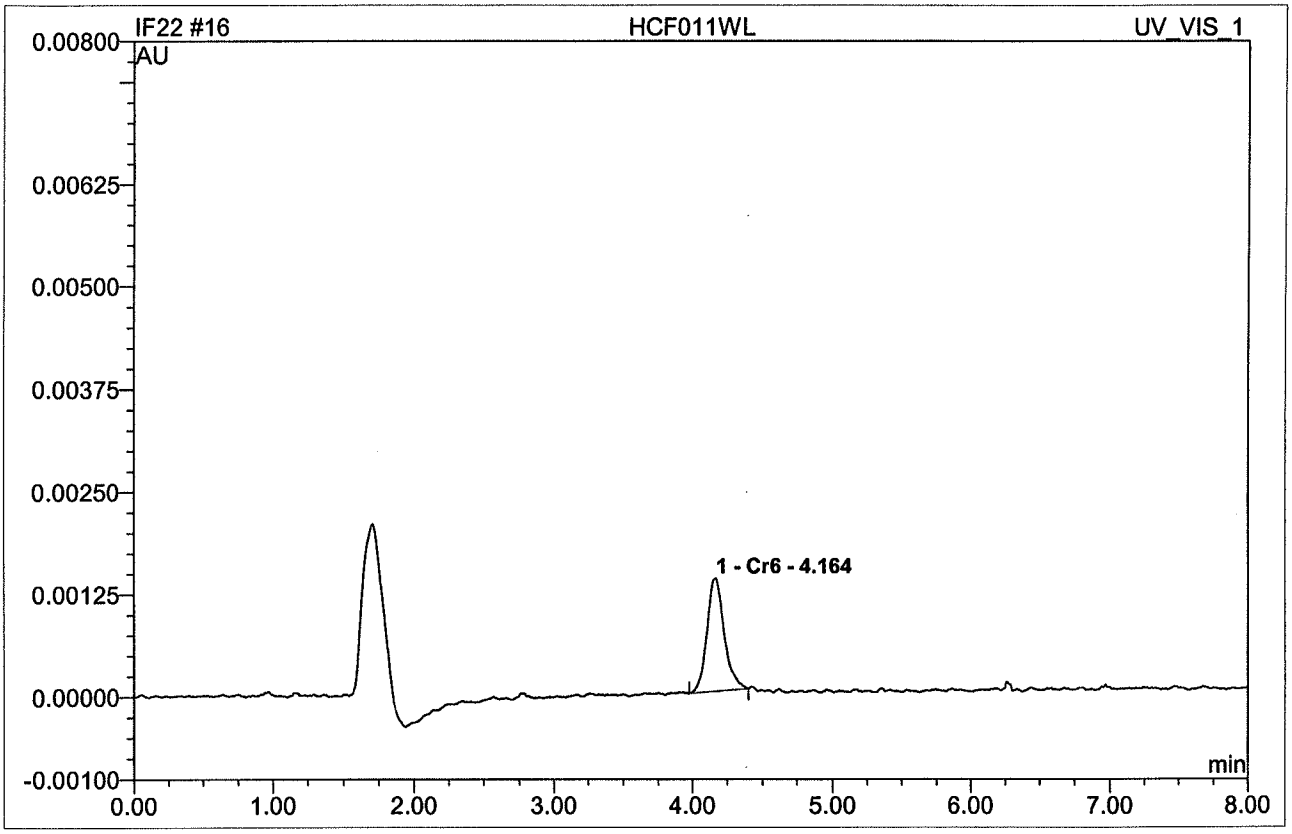
Sample Name:	**HCF011WB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 9:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 004 HCF011WL

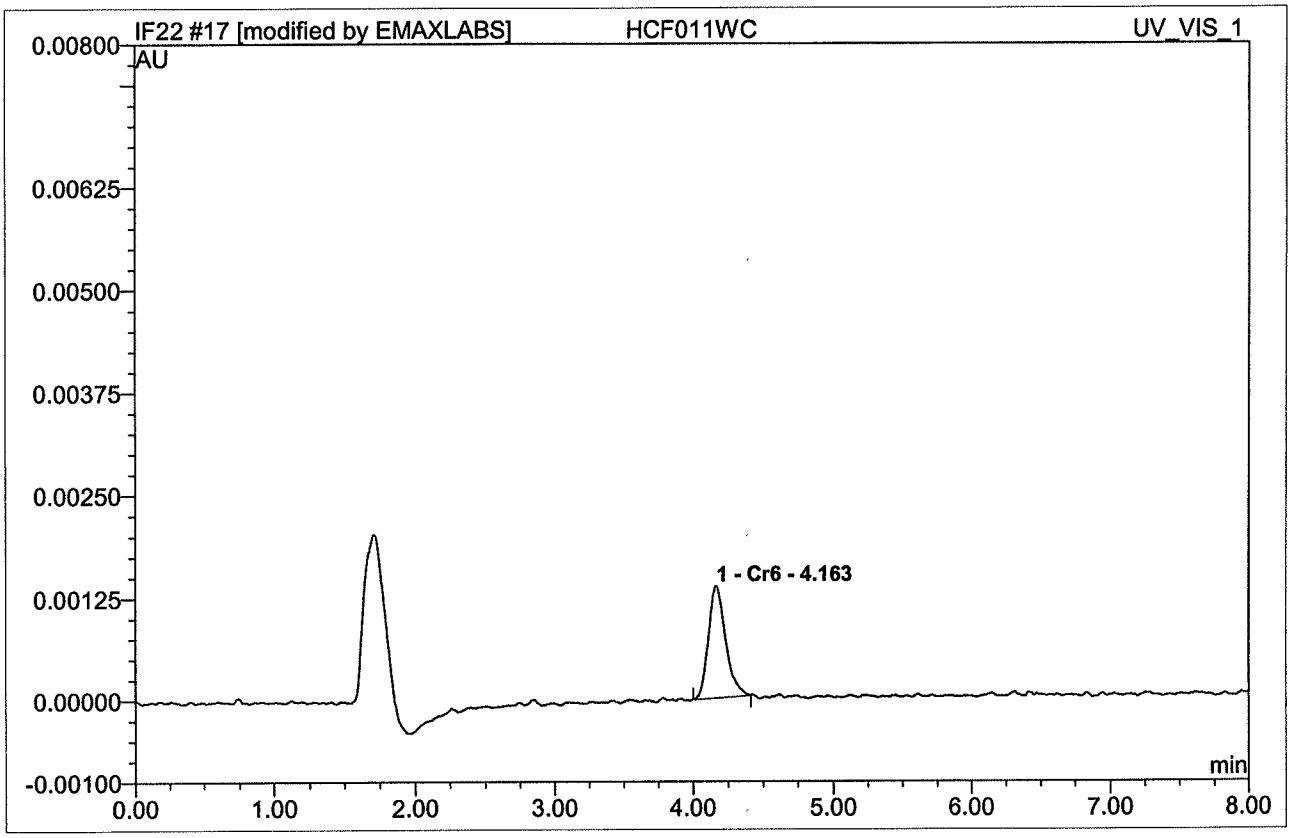
Sample Name:	**HCF011WL**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 10:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.16	Cr6	0.0013790	0.0001979	100.00	1.948	BMB
Total:			0.001	0.000	100.00	1.948	

IF22 005 HCF011WC

Sample Name:	**HCF011WC**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 10:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

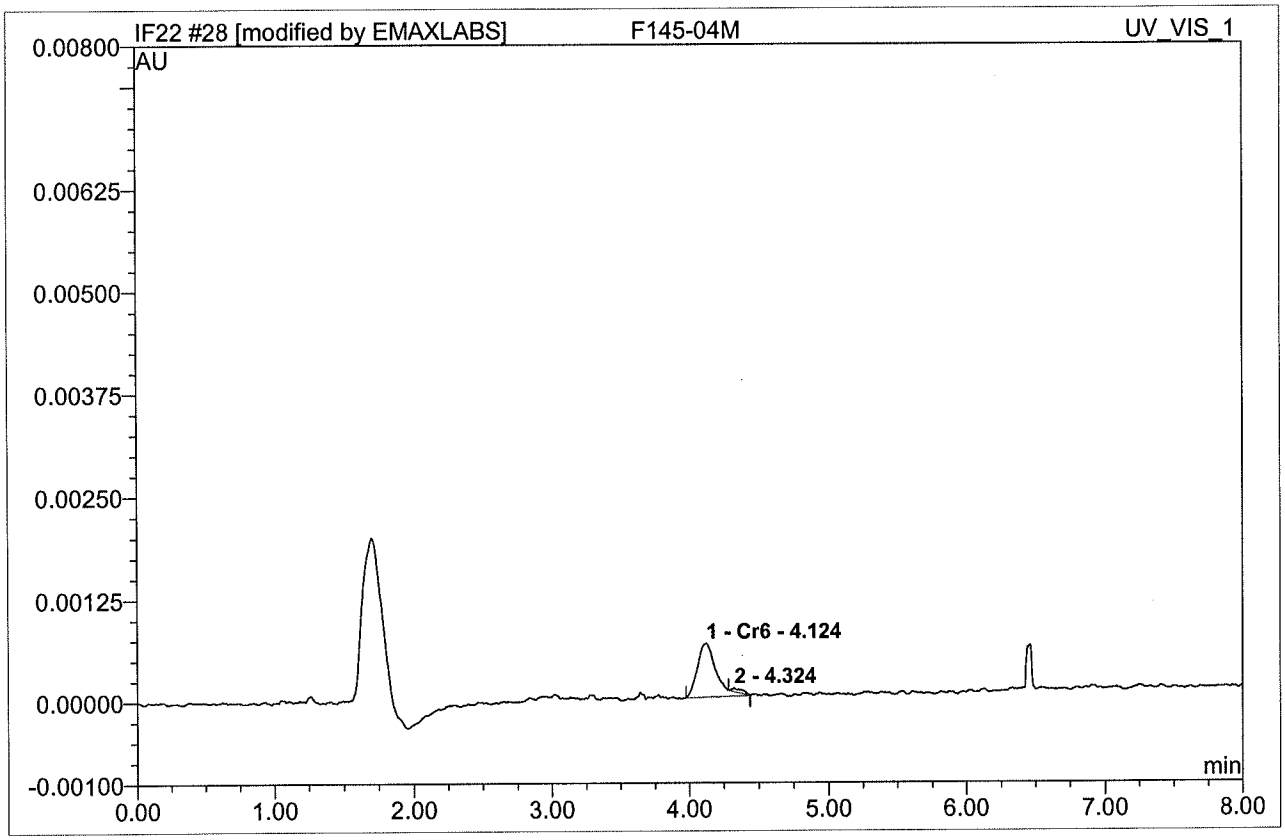


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.16	Cr6	0.0013730	0.0001963	100.00	1.932	BMB*
Total:			0.001	0.000	100.00	1.932	

IF22 016 F145-04M

1mLto5mL

Sample Name:	**F145-04M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2022 12:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**

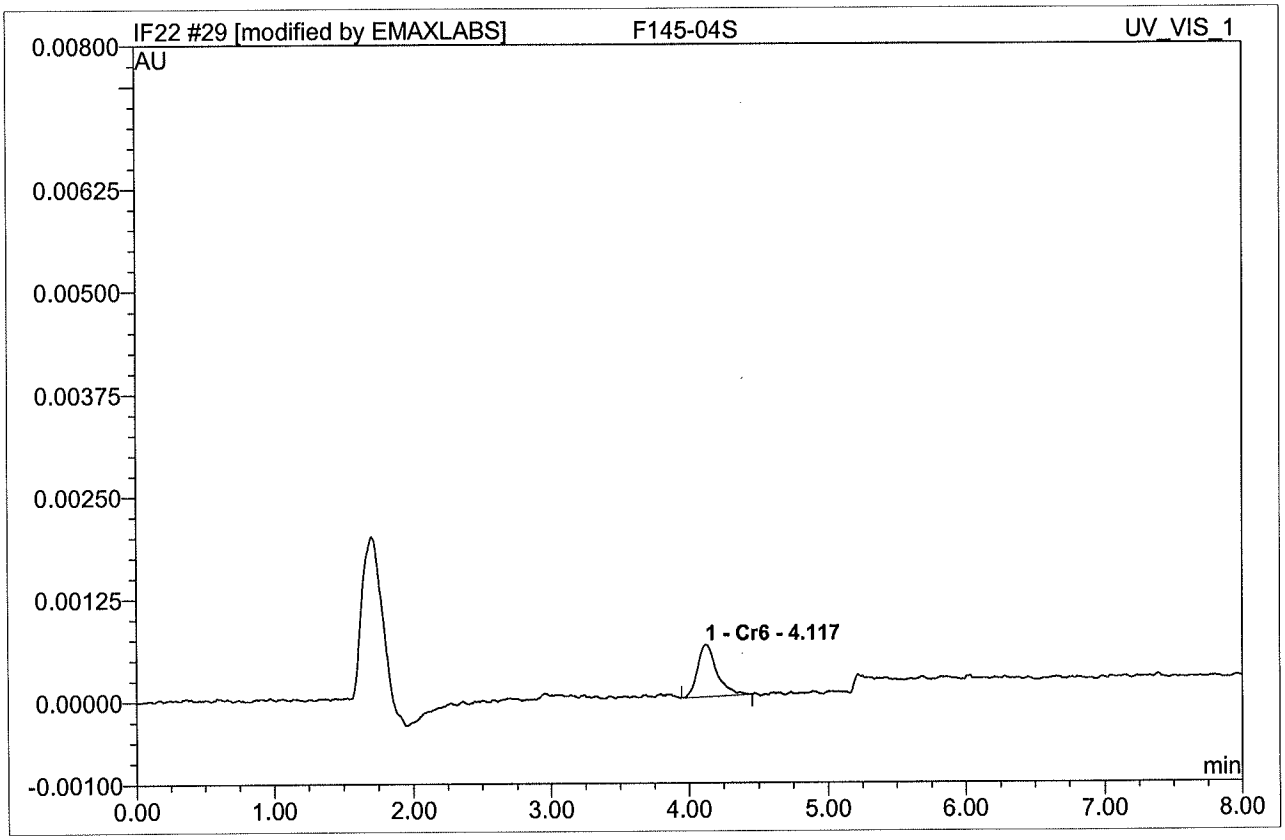


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.12	Cr6	0.0006570	0.0001042	96.04	5.144	BMB*
2	4.32	n.a.	0.0000450	0.0000043	3.96	n.a.	Rd*
Total:			0.001	0.000	100.00	5.144	

IF22 017 F145-04S

1mLto5mL

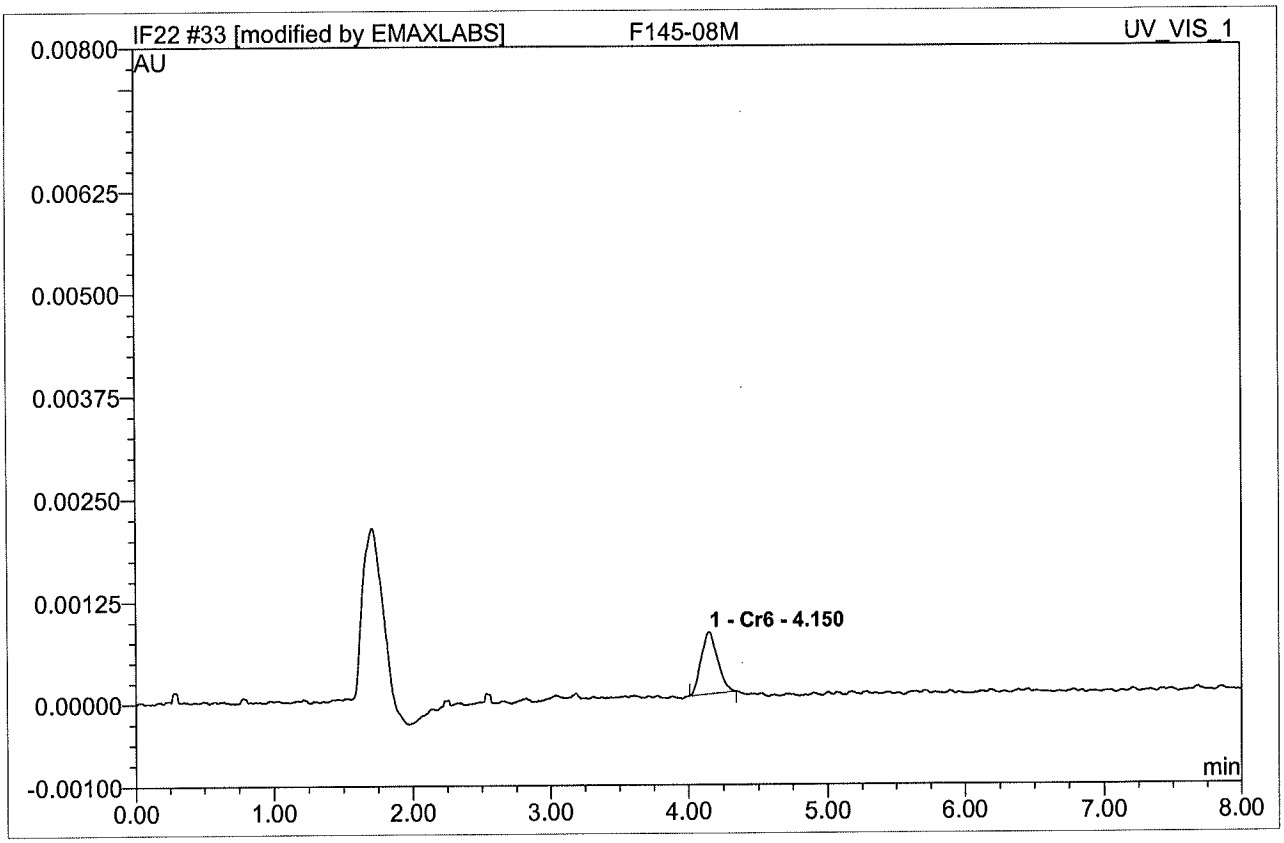
Sample Name:	**F145-04S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**5**
Recording Time:	**6/22/2022 12:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.12	Cr6	0.0006330	0.0001025	100.00	5.059	BMB*
Total:			0.001	0.000	100.00	5.059	

IF22 021 F145-08M

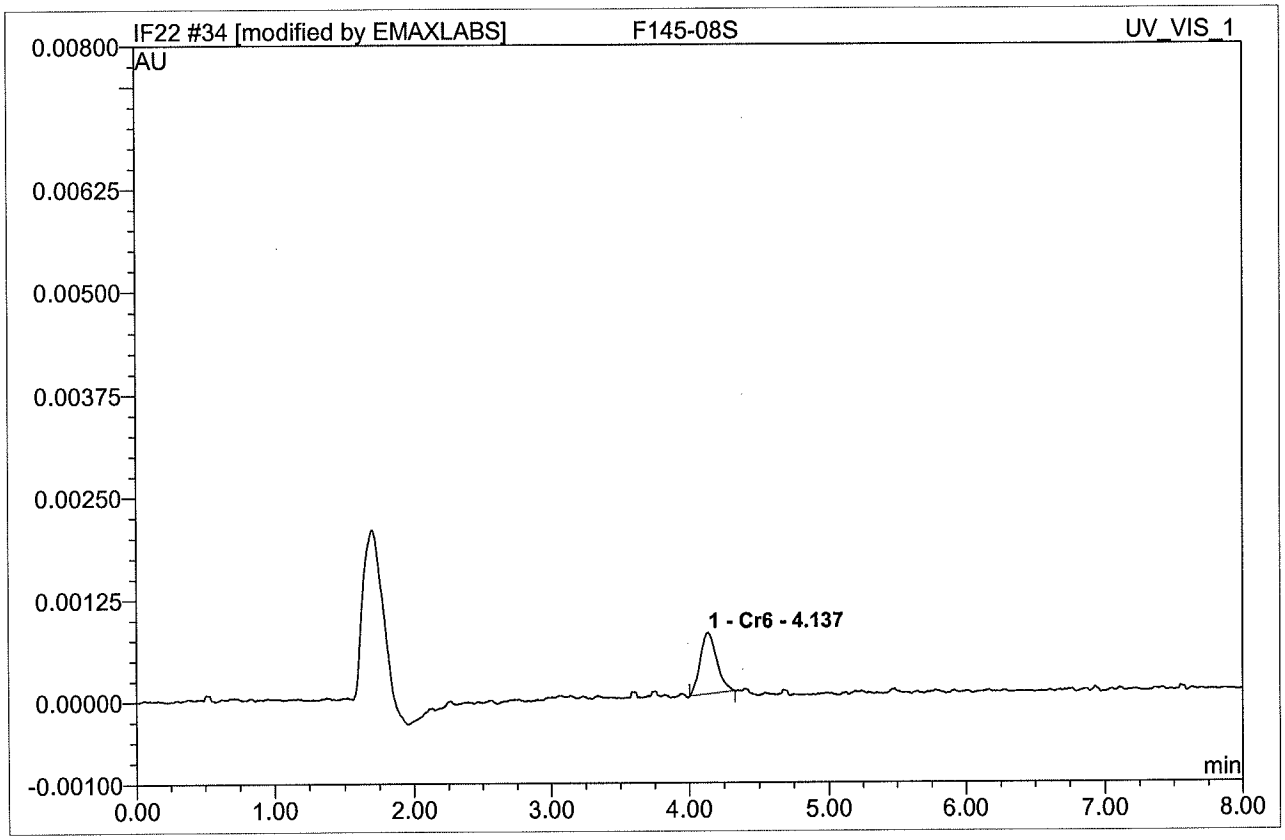
Sample Name:	**F145-08M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 13:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.15	Cr6	0.0007620	0.0001034	100.00	1.021	BMB*
Total:			0.001	0.000	100.00	1.021	

IF22 022 F145-08S

Sample Name:	**F145-08S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 13:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.14	Cr6	0.0007500	0.0001034	100.00	1.021	BMB*
Total:			0.001	0.000	100.00	1.021	

INITIAL CALIBRATION

IC RESULT FORM CalVersion : CR6.F21/IF21(2022)

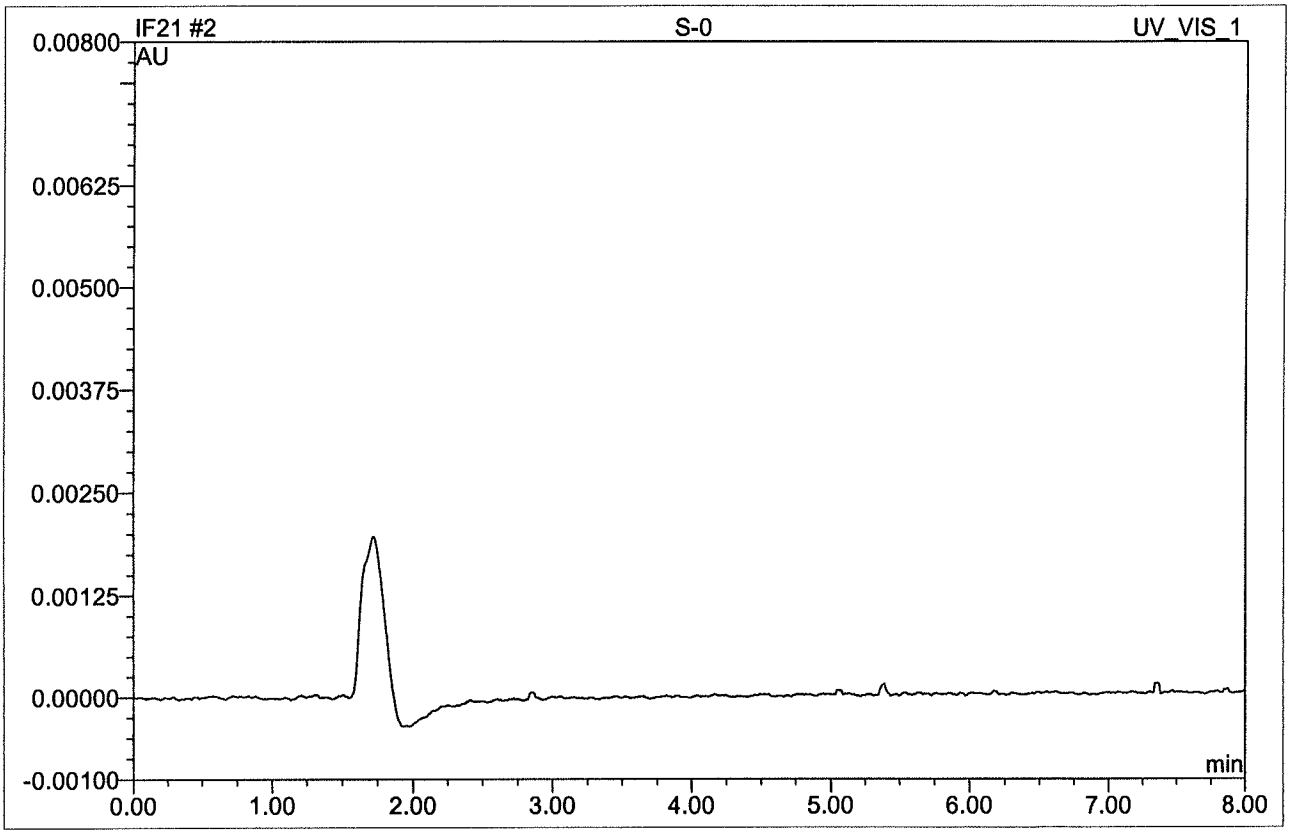
LFID	LSID	SelCmp	Cr6	DateTime	DF
IF21001	IB	C	ND	06/21/2211:27	1
IF21002	S-0	C	ND	06/21/2211:38	1
IF21003	S-1	C	0.202	06/21/2211:48	1
IF21004	S-2	C	0.491	06/21/2211:59	1
IF21005	S-3	C	0.996	06/21/2212:09	1
IF21006	S-4	C	2.002	06/21/2212:19	1
IF21007	S-5	C	5.002	06/21/2212:30	1
IF21008	S-6	C	7.499	06/21/2212:40	1
IF21009	S-7	C	10.000	06/21/2212:51	1
IF21010	ICV	C	100%	06/21/2213:01	1
IF21011	ICB	C	ND	06/21/2213:11	1
IF21012	LOW CCV	C	0.182	06/21/2213:22	1

METHOD: IC59F21
SOLVENT: BUFFER (SP2-05-13-04)

YM 06/23/22

IF21 002 S-0

Sample Name:	**S-0**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 11:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



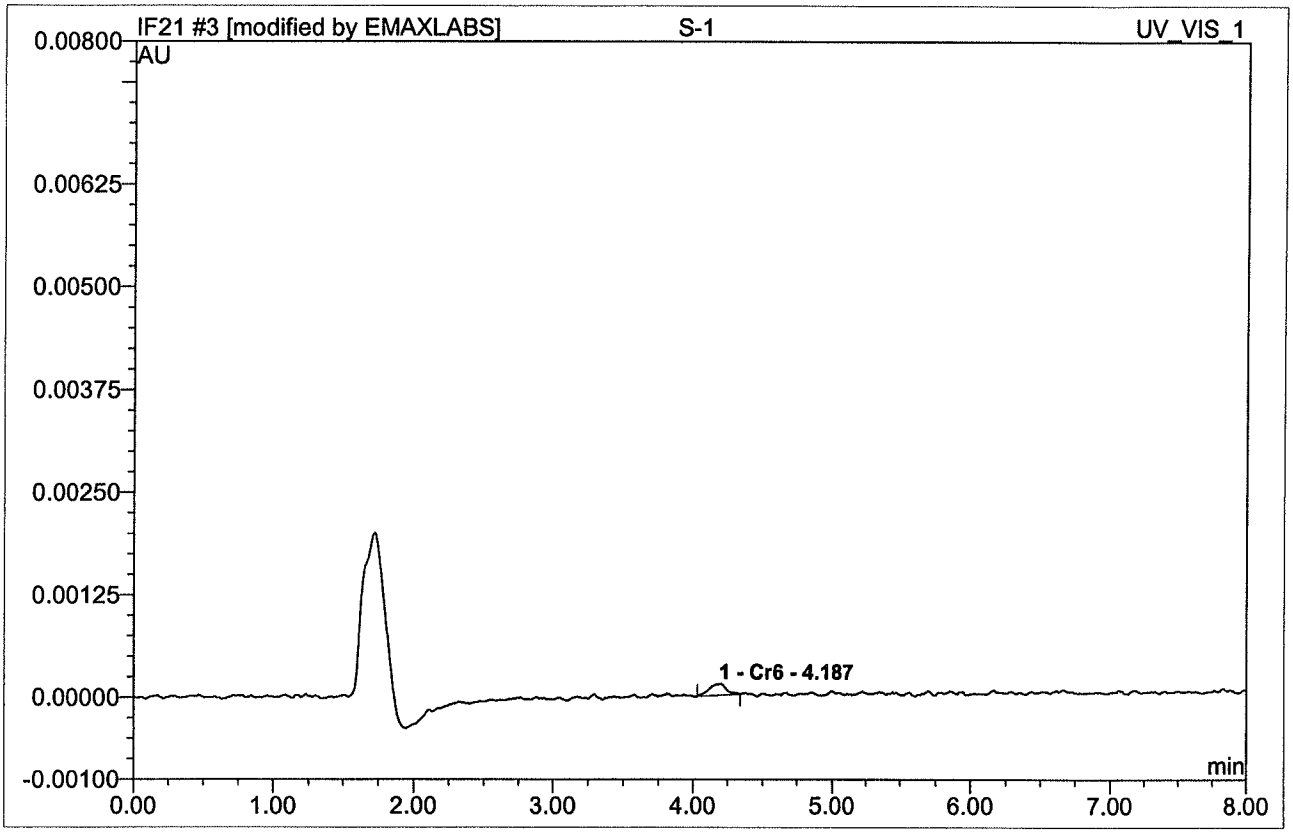
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

YM 06/27/22

IF21 003 S-1

0.2 PPB

Sample Name:	**S-1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 11:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



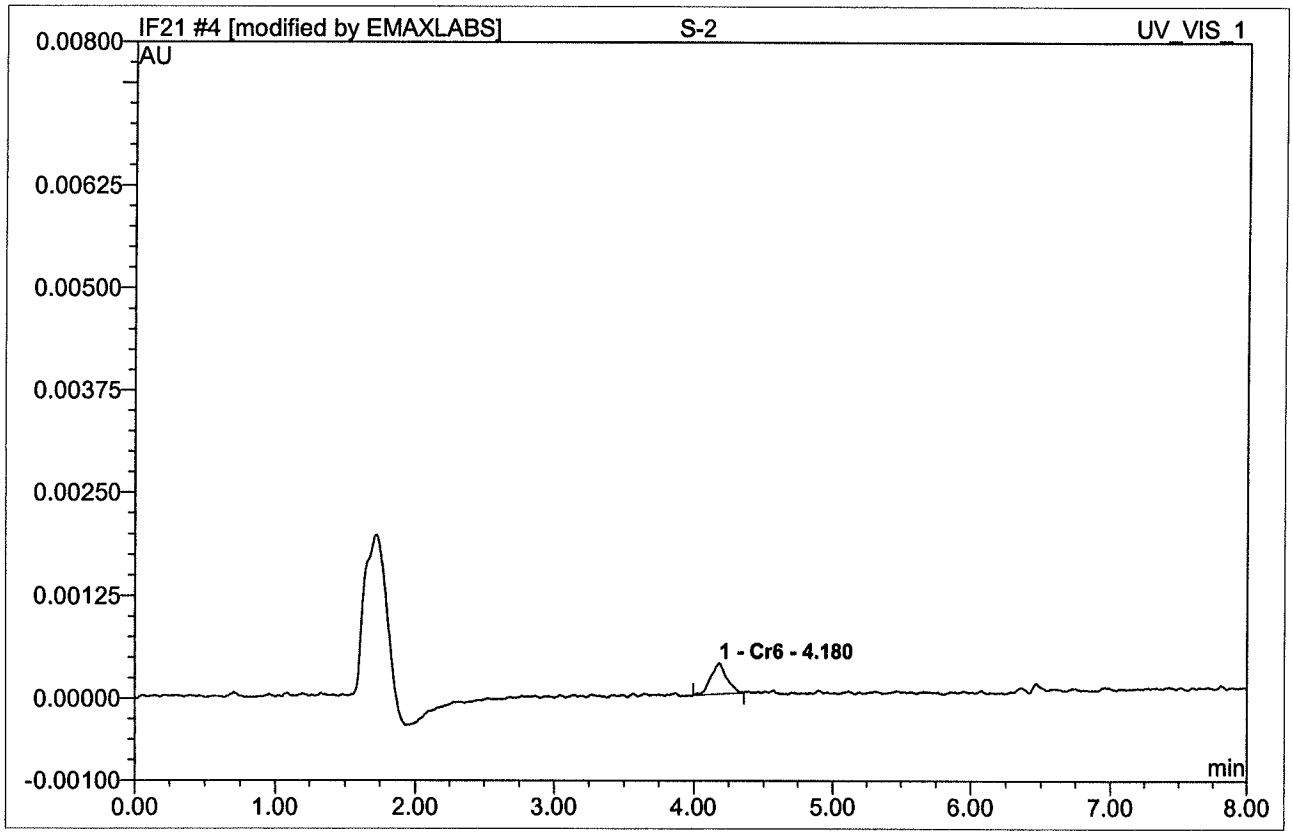
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0001360	0.0000198	100.00	0.202	BMB*
Total:			0.000	0.000	100.00	0.202	

YM 06/27/22

IF21 004 S-2

0.5 PPB

Sample Name:	**S-2**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 11:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



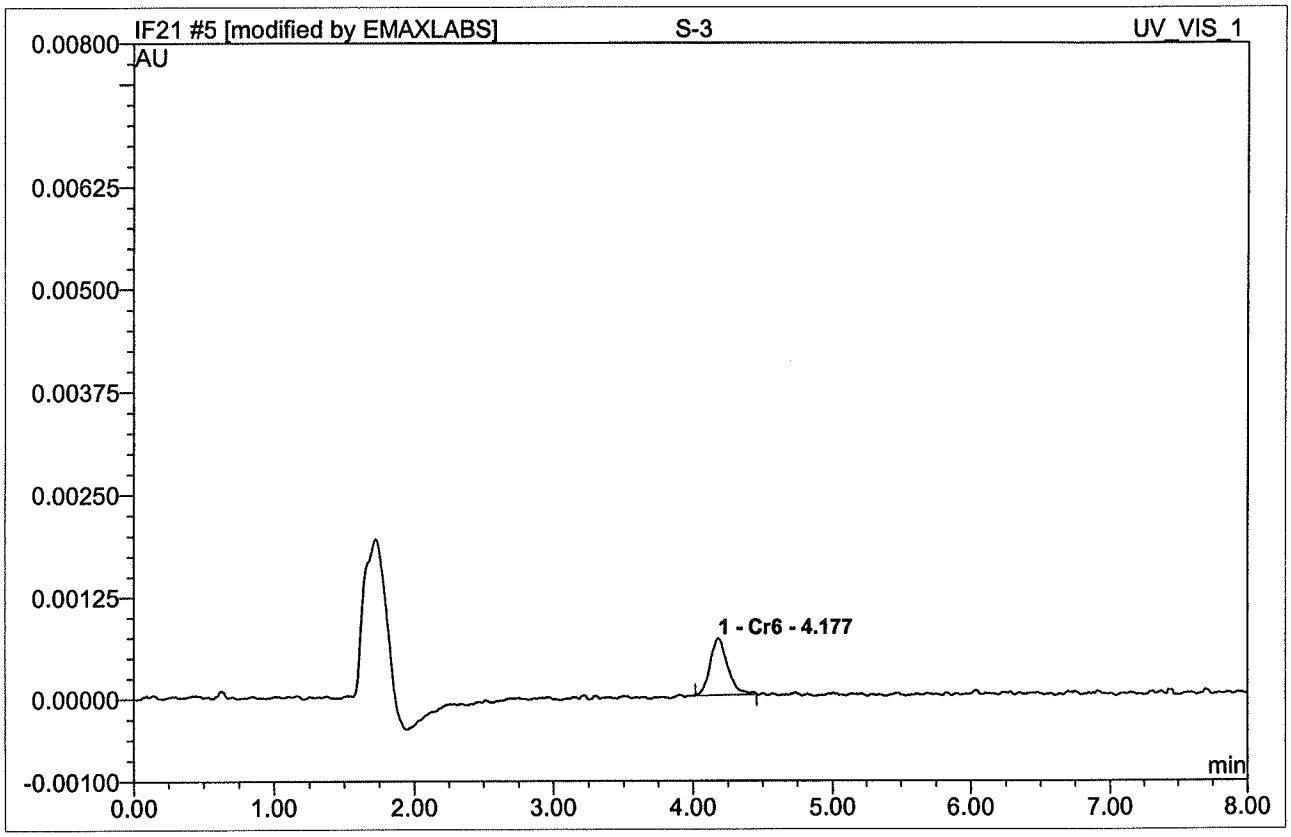
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0003720	0.0000493	100.00	0.491	BMB*
Total:			0.000	0.000	100.00	0.491	

YM 06/27/22

IF21 005 S-3

1.0 PPB

Sample Name:	**S-3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



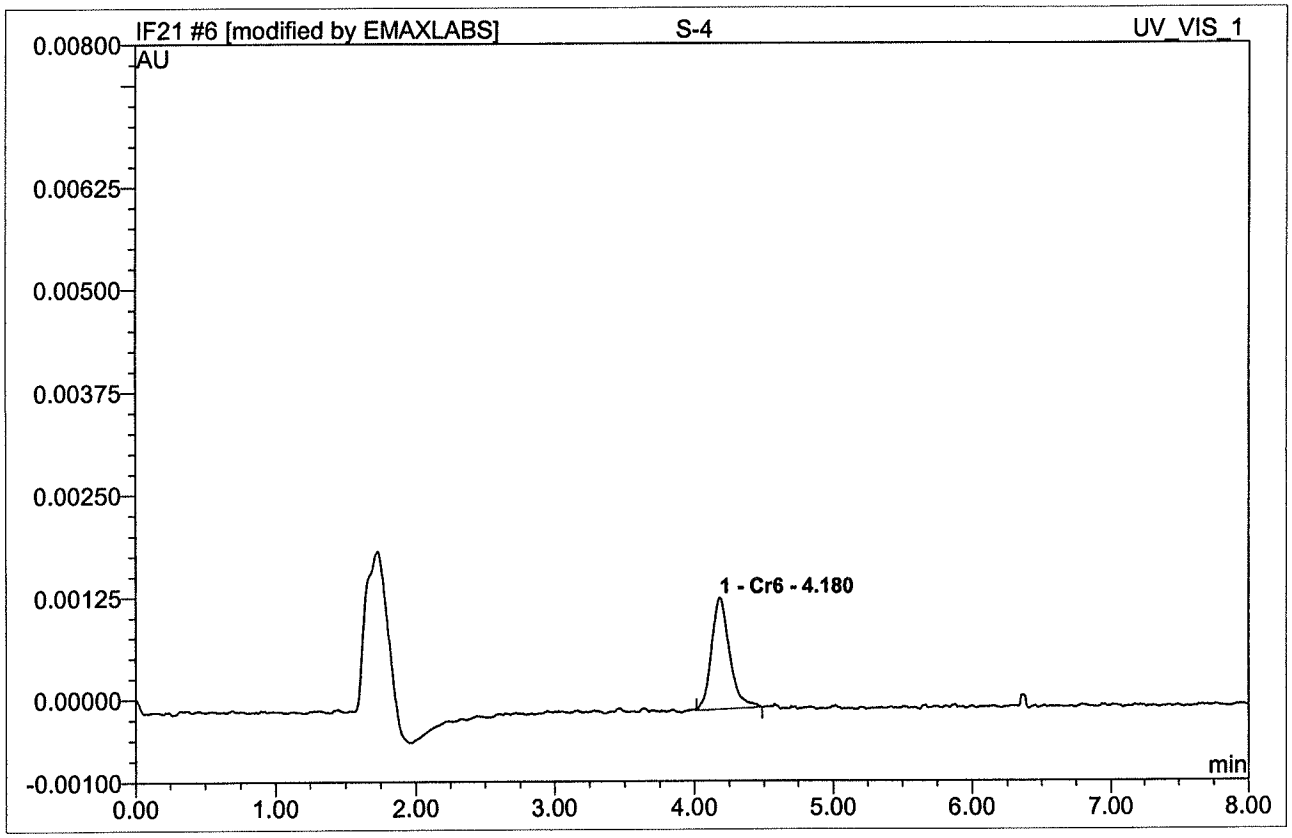
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0006930	0.0001009	100.00	0.996	BMB*
Total:			0.001	0.000	100.00	0.996	

YM 06/27/22

IF21 006 S-4

2.0 PPB

Sample Name:	**S-4**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



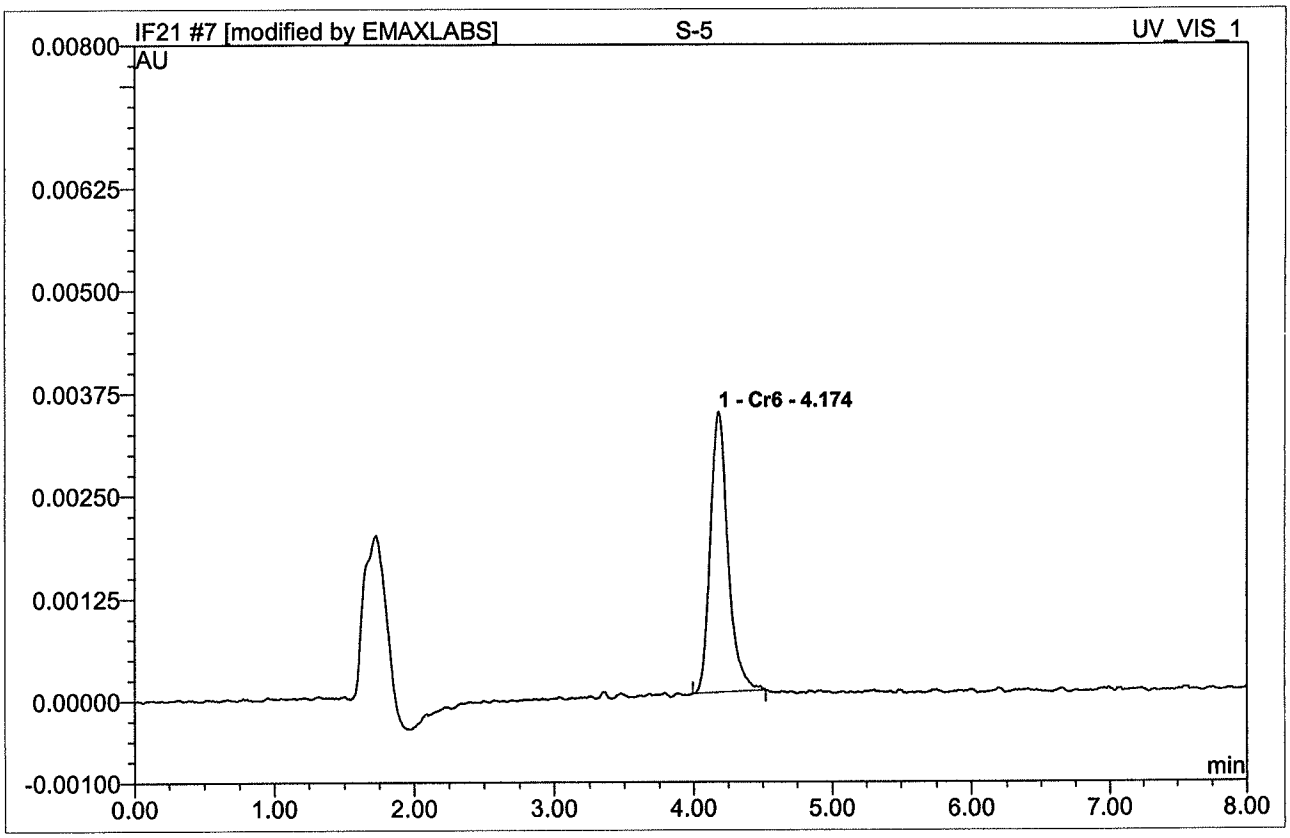
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0013630	0.0002035	100.00	2.002	BMB*
Total:			0.001	0.000	100.00	2.002	

YM 06/27/22

IF21 007 S-5

5.0 PPB

Sample Name:	**S-5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



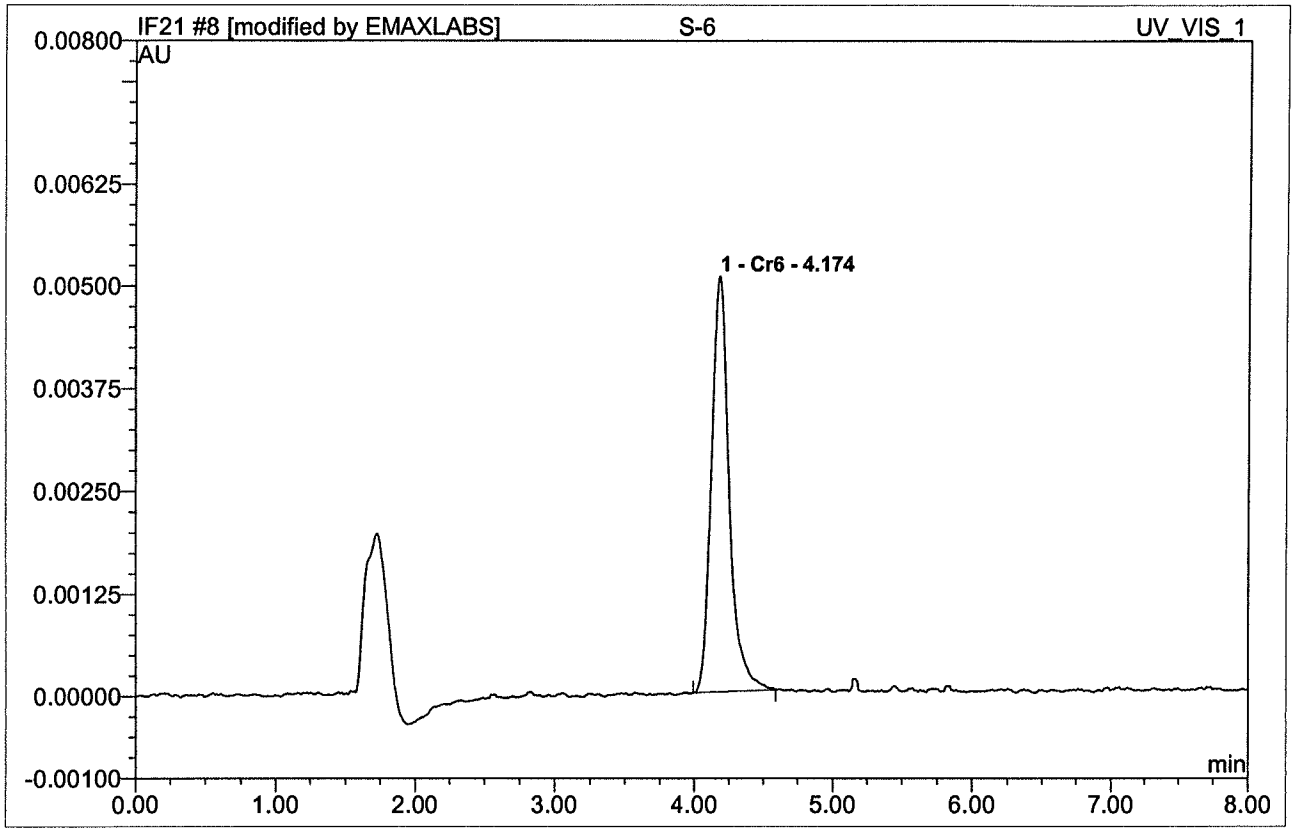
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.17	Cr6	0.0034230	0.0005096	100.00	5.002	BMB*
Total:			0.003	0.001	100.00	5.002	

YM 06/23/22

IF21 008 S-6

7.5 PPB

Sample Name:	**S-6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



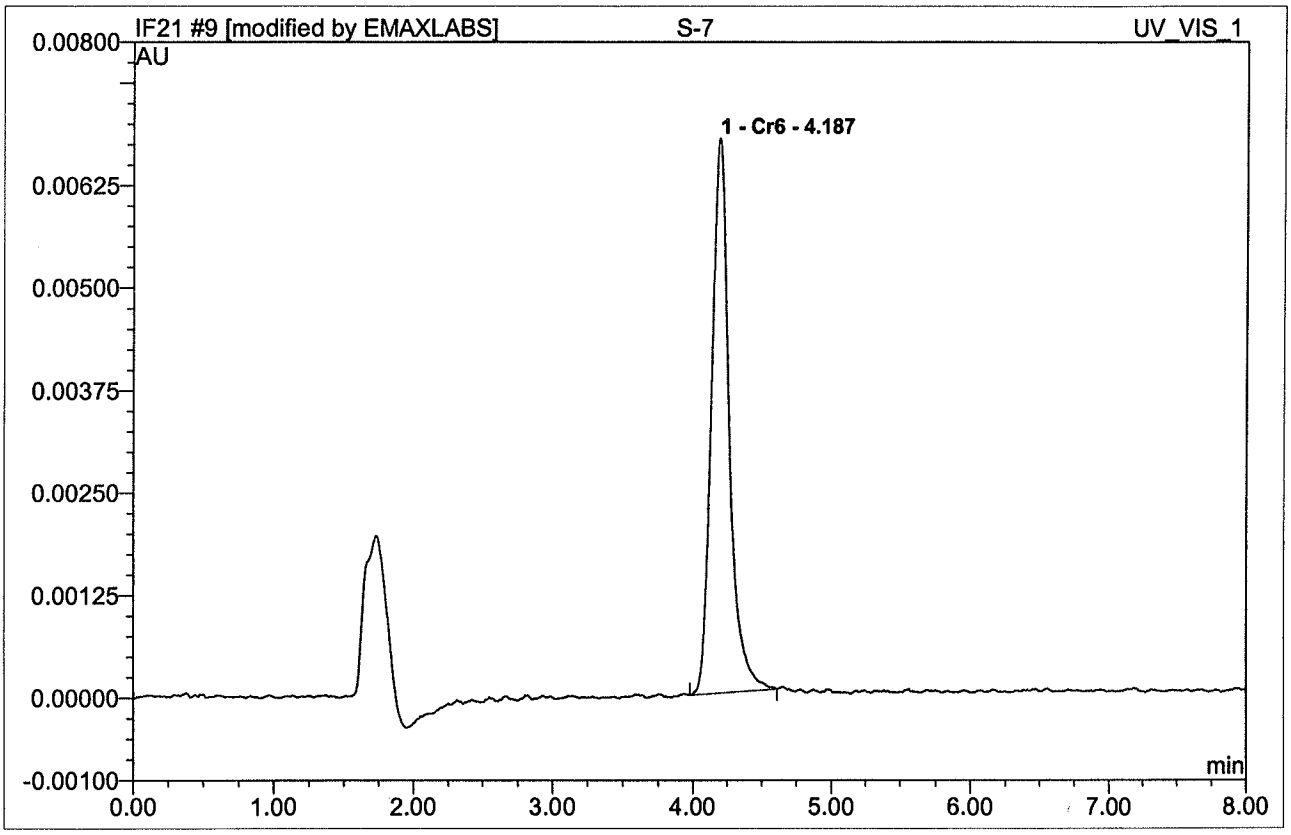
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.17	Cr6	0.0050660	0.0007644	100.00	7.499	BMB*
Total:			0.005	0.001	100.00	7.499	

ym 06/22/22

IF21 009 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



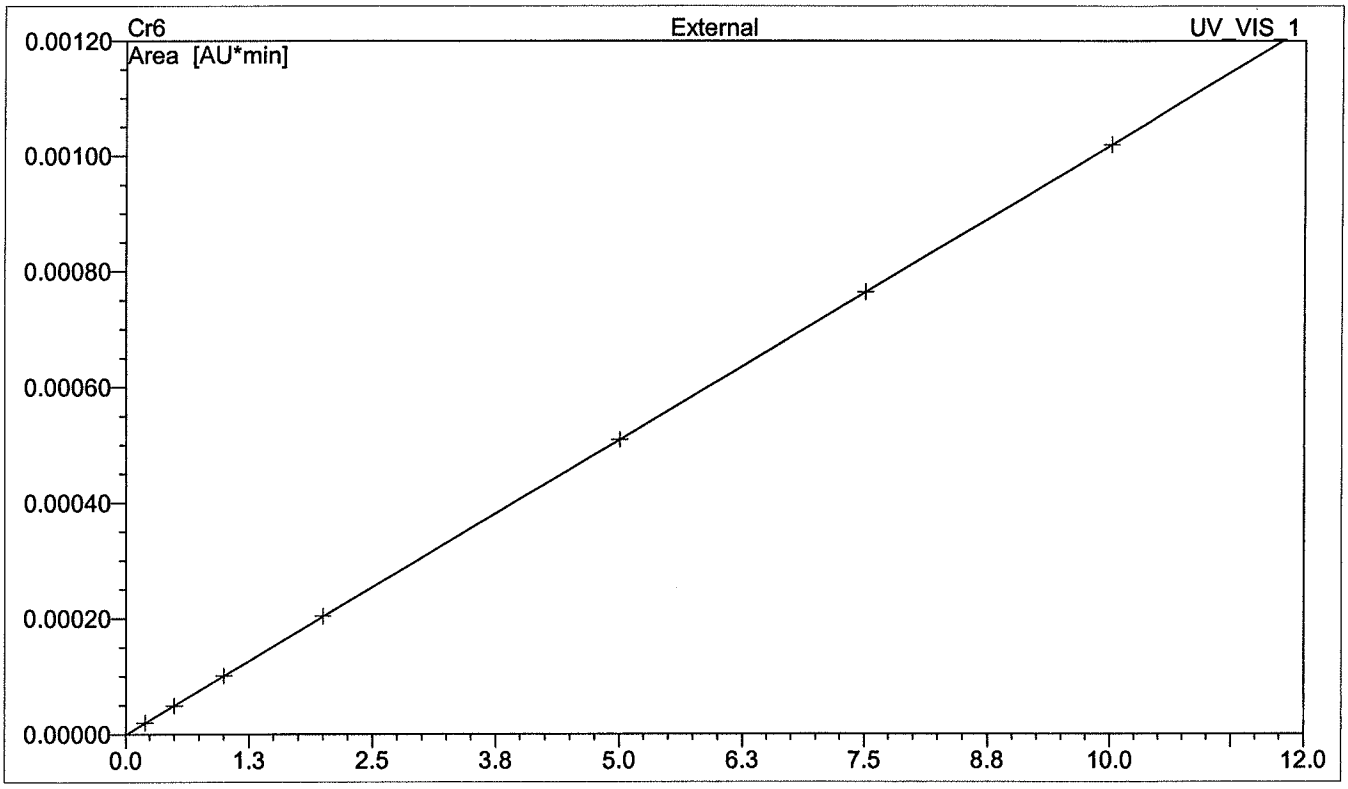
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0067700	0.0010196	100.00	10.000	BMB*
Total:			0.007	0.001	100.00	10.000	

YM 06/27/22

9 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1.0000**
Recording Time:	**6/21/2022 12:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	R-Square	Offset	Slope	Curve
1	4.19	Cr6	0LOff	7	1.0000	-0.0000008	0.0001020	0.0000
Average:					1.0000	0.0000	0.0001	0.0000

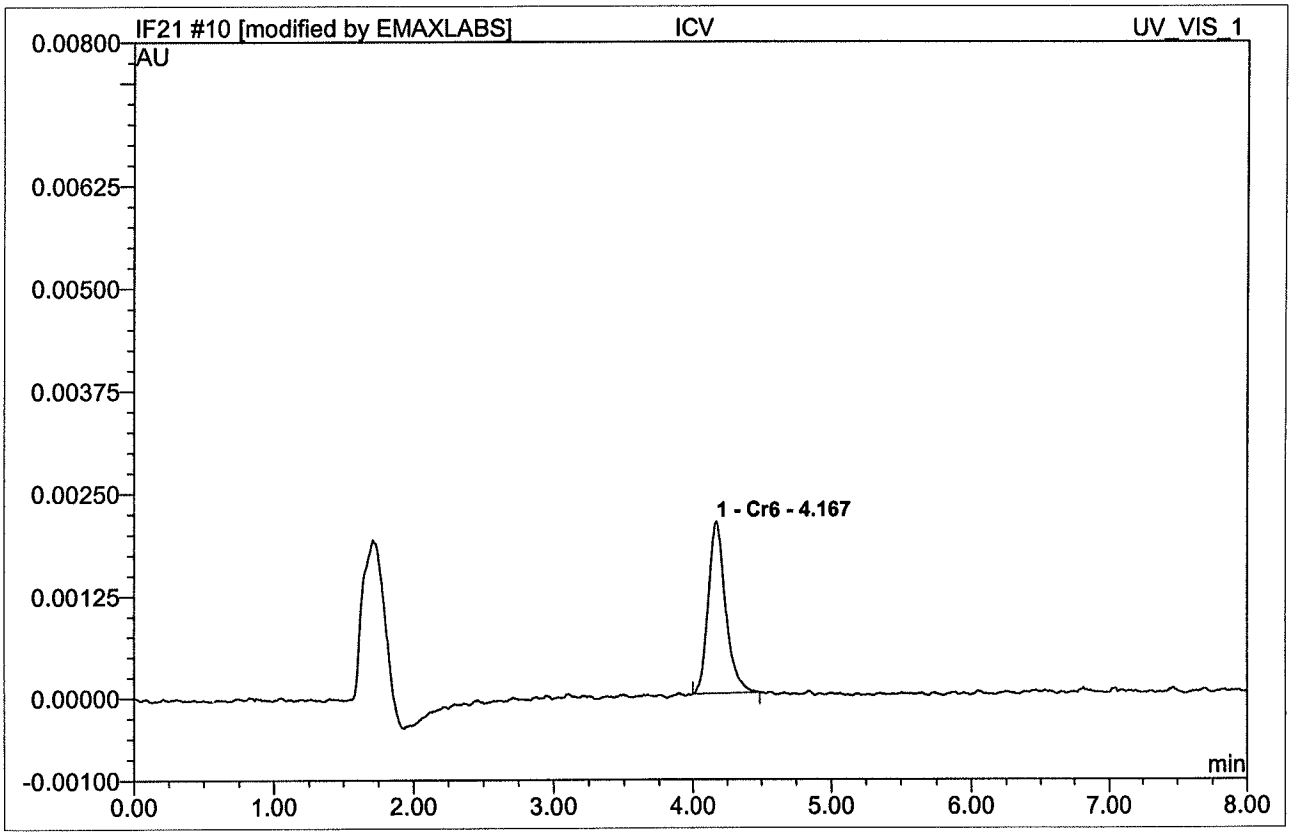
YM 6/22/22

SECOND SOURCE VERIFICATION

IF21 010 ICV

3.0 PPB

Sample Name:	**ICV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 13:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



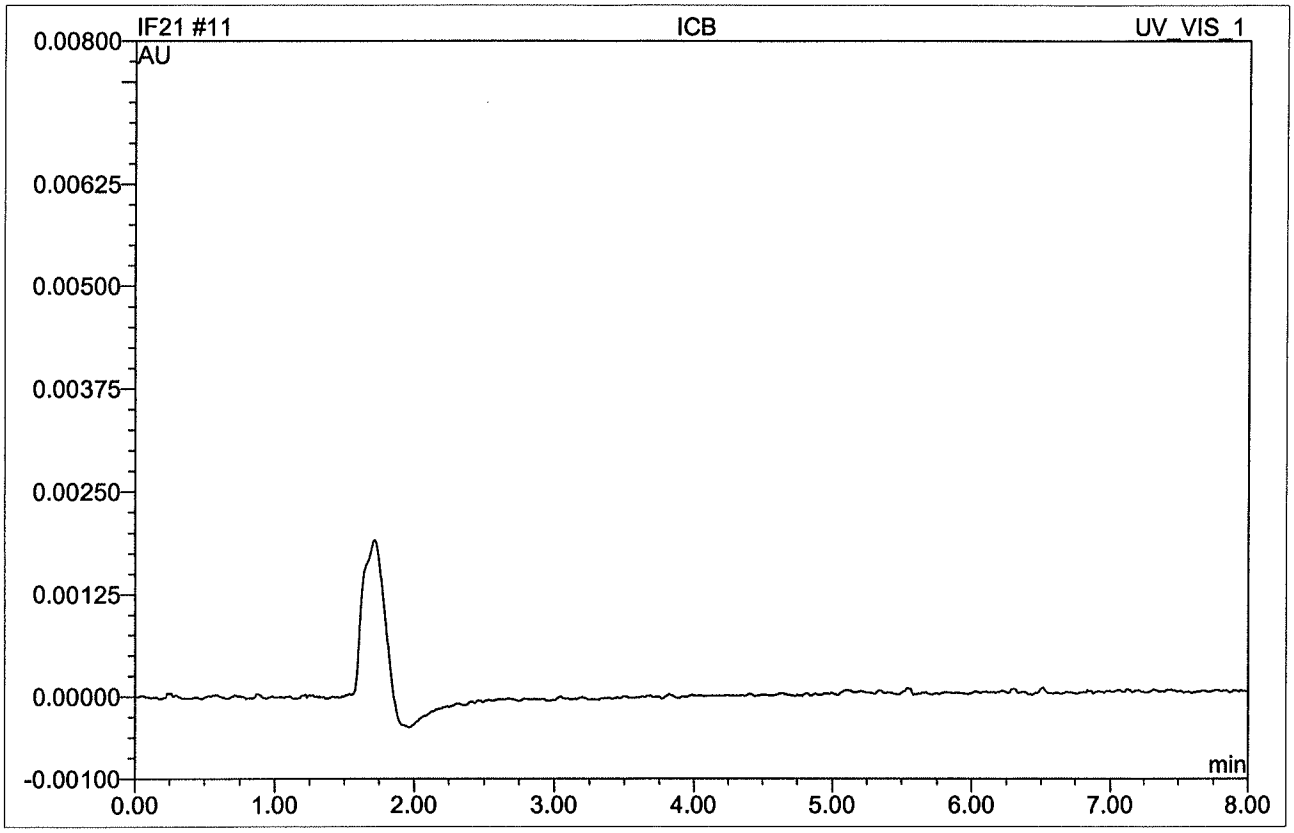
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.17	Cr6	0.0021040	0.0003064	100.00	3.010	BMB*
Total:			0.002	0.000	100.00	3.010	

$\text{Conc}_{(ppb)} = \frac{\text{Area} - \text{offset}}{\text{slope}}$

YM 06/22/22

IF21 011 ICB

Sample Name:	**ICB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 13:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



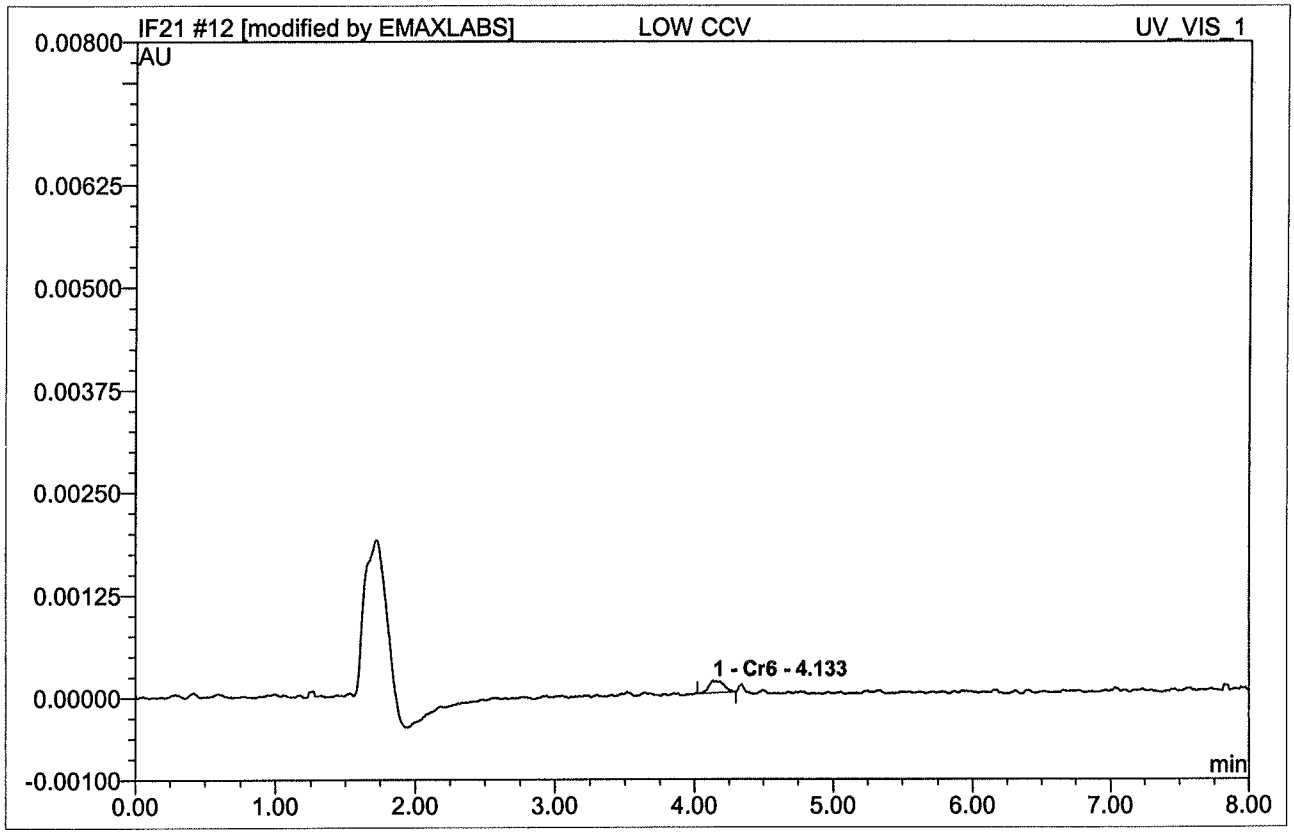
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

YM 06/23/22

IF21 012 LOW CCV

0.2 PPB

Sample Name:	**LOW CCV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 13:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.13	Cr6	0.0001480	0.0000178	100.00	0.182	BMB*
Total:			0.000	0.000	100.00	0.182	

ym 6/21/22

DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22F145
Method : E218.6
QuantMethod : IC59F21
InstrumentID: 59
Parameter : HEXAVALENT CHROMIUM

LFID	LSID	DF	Expected	Result	Unit	%Rec	AnalysisDateTime
IF22001	CCV1	1	2	1.954	ug/L	98	06/22/2209:30
IF22013	CCV3	1	2	2.074	ug/L	104	06/22/2211:44
IF22025	CCV5	1	2	1.942	ug/L	97	06/22/2213:51
IF22033	CCV7	1	2	2.037	ug/L	102	06/22/2215:15

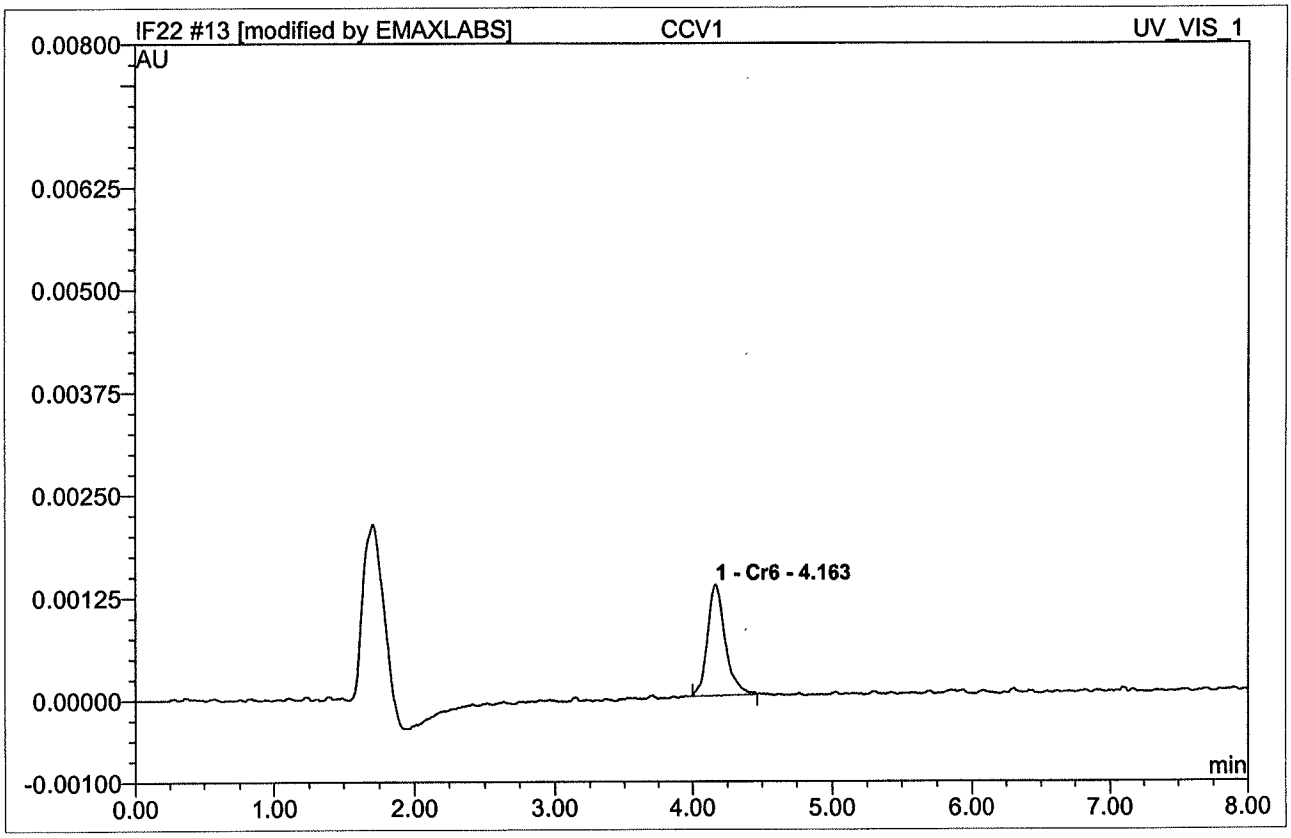
CCV Acceptance Criteria: 95-105%

IC RESULT FORM CalVersion : CR6.F21/IF21(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IF22001	CCV1	C	98%	06/22/2209:30	1
IF22002	CCB1	C	ND	06/22/2209:40	1
IF22003	HCF011WB	C	ND	06/22/2209:51	1
IF22004	HCF011WL	C	1.948	06/22/2210:01	1
IF22005	HCF011WC	C	1.932	06/22/2210:12	1
IF22006	F145-01	C	ND	06/22/2210:22	1
IF22007	F145-02	C	ND	06/22/2210:32	1
IF22008	F145-03	C	0.125	06/22/2210:43	1
IF22009	F145-04	C	ND	06/22/2210:53	1
IF22010	F145-04M	C	ND	06/22/2211:06	1
IF22011	F145-04S	C	ND	06/22/2211:24	1
IF22012	F145-05	C	0.117	06/22/2211:34	1
IF22013	CCV3	C	104%	06/22/2211:44	1
IF22014	CCB3	C	ND	06/22/2211:55	1
IF22015	F145-04I	C	ND	06/22/2212:06	5
IF22016	F145-04M	C	5.144	06/22/2212:17	5
IF22017	F145-04S	C	5.059	06/22/2212:27	5
IF22018	F145-06	C	ND	06/22/2212:38	1
IF22019	F145-07	C	0.123	06/22/2212:48	1
IF22020	F145-08	C	ND	06/22/2212:58	1
IF22021	F145-08M	C	1.021	06/22/2213:10	1
IF22022	F145-08S	C	1.021	06/22/2213:20	1
IF22023	F145-09	C	ND	06/22/2213:31	1
IF22024	F145-10	C	ND	06/22/2213:41	1
IF22025	CCV5	C	97%	06/22/2213:51	1
IF22026	CCB5	C	ND	06/22/2214:02	1
IF22027	F145-11	C	ND	06/22/2214:12	1
IF22028	F145-12	C	0.293	06/22/2214:23	1
IF22029	F145-13	C	0.115	06/22/2214:33	1
IF22030	F155-01	C	10.220	06/22/2214:43	1
IF22031	F196-01	C	0.878	06/22/2214:54	1
IF22032	F155-01I	C	10.139	06/22/2215:04	2
IF22033	CCV7	C	102%	06/22/2215:15	1
IF22034	CCB7	C	ND	06/22/2215:25	1
IF22035	HCF013WB	C	ND	06/22/2215:35	1
IF22036	HCF013WL	C	1.962	06/22/2215:46	1
IF22037	HCF013WC	C	1.995	06/22/2215:56	1
IF22038	F146-01	C	ND	06/22/2216:07	1
IF22039	F146-02	C	ND	06/22/2216:17	1
IF22040	F146-03	C	ND	06/22/2216:27	1
IF22041	F146-04	C	ND	06/22/2216:38	1
IF22042	F146-04M	C	1.087	06/22/2216:51	1
IF22043	F146-04S	C	1.076	06/22/2217:02	1
IF22044	F146-05	C	0.195	06/22/2217:12	1
IF22045	CCV9	C	95%	06/22/2217:23	1
IF22046	CCB9	C	ND	06/22/2217:33	1
IF22047	F146-06	C	7.705	06/22/2217:43	1
IF22048	F146-07	C	ND	06/22/2217:54	1
IF22049	F146-08	C	0.128	06/22/2218:04	1
IF22050	F146-09	C	ND	06/22/2218:15	1
IF22051	F146-10	C	3.928	06/22/2218:25	1
IF22052	CCV11	C	99%	06/22/2218:35	1
IF22053	CCB11	C	ND	06/22/2218:46	1

IF22 001 CCV1

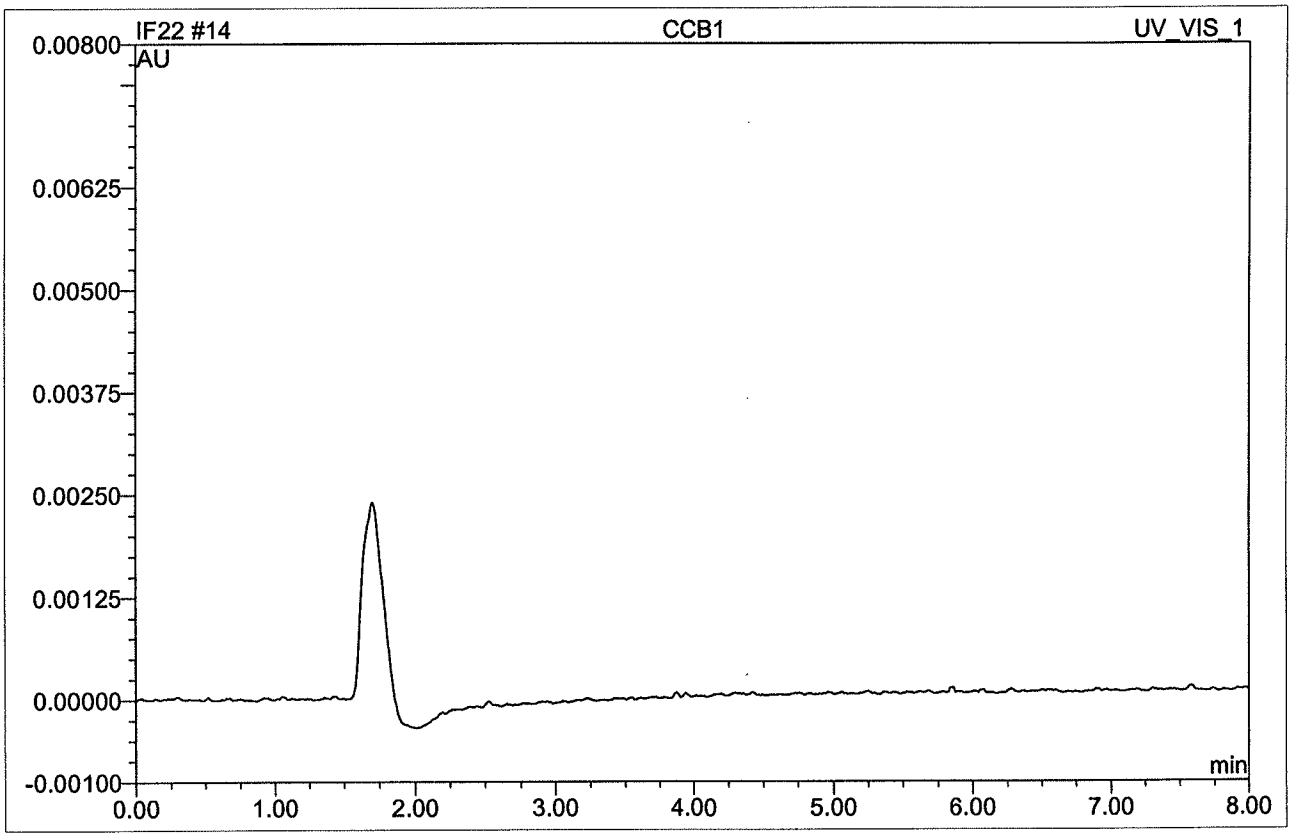
Sample Name:	**CCV1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 9:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.16	Cr6	0.0013510	0.0001986	100.00	1.954	BMB*
Total:			0.001	0.000	100.00	1.954	

IF22 002 CCB1

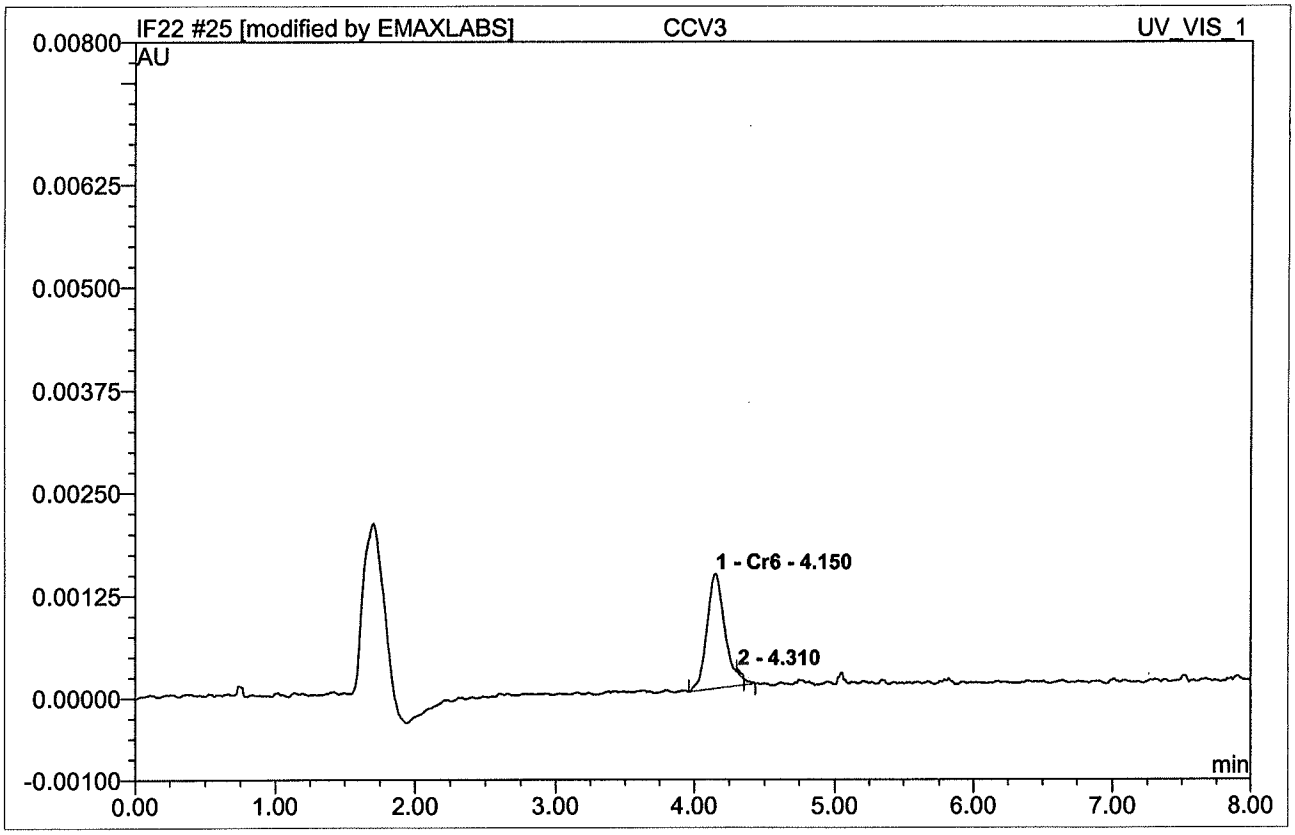
Sample Name:	**CCB1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 9:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 013 CCV3

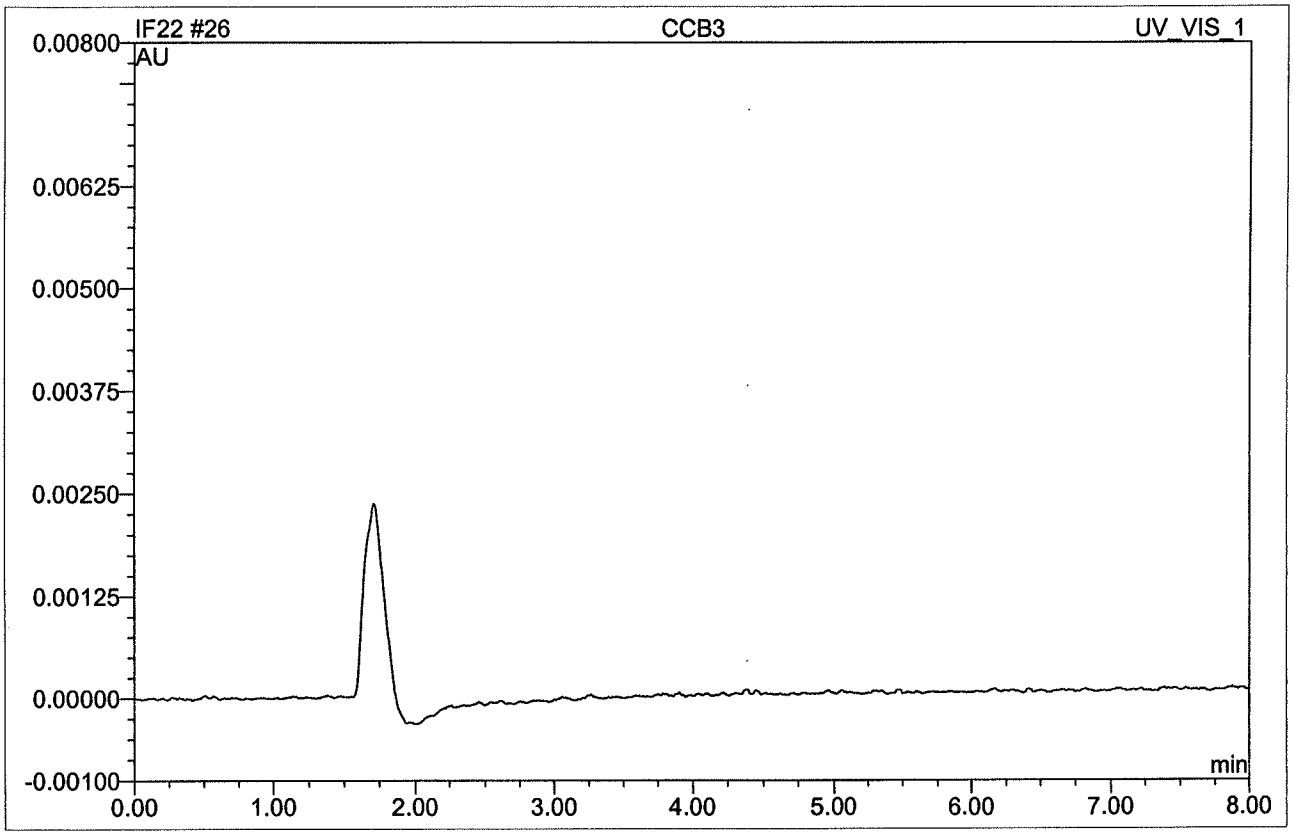
Sample Name:	**CCV3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 11:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.15	Cr6	0.0014020	0.0002109	99.24	2.074	BMB*
2	4.31	n.a.	0.0000390	0.0000016	0.76	n.a.	Rd*
Total:			0.001	0.000	100.00	2.074	

IF22 014 CCB3

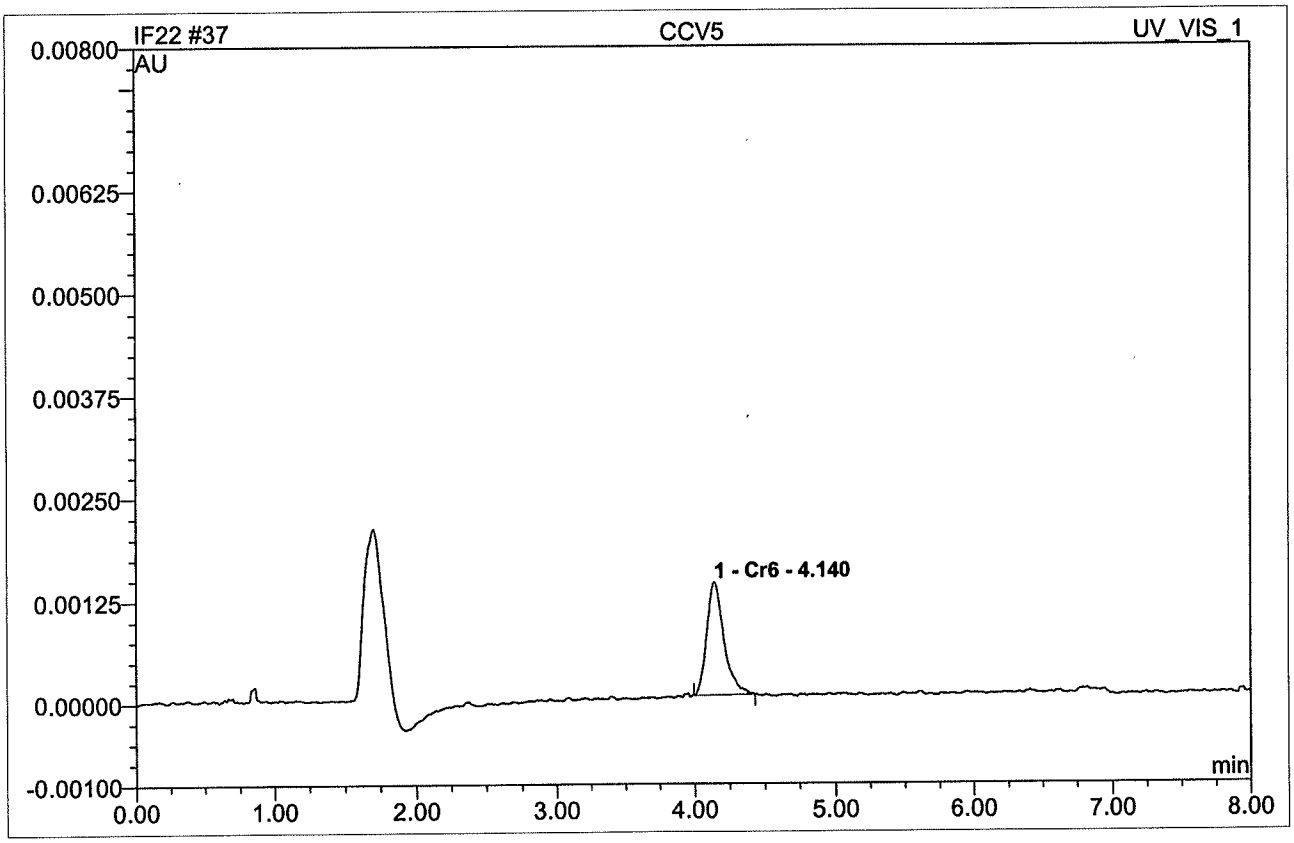
Sample Name:	**CCB3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 11:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 025 CCV5

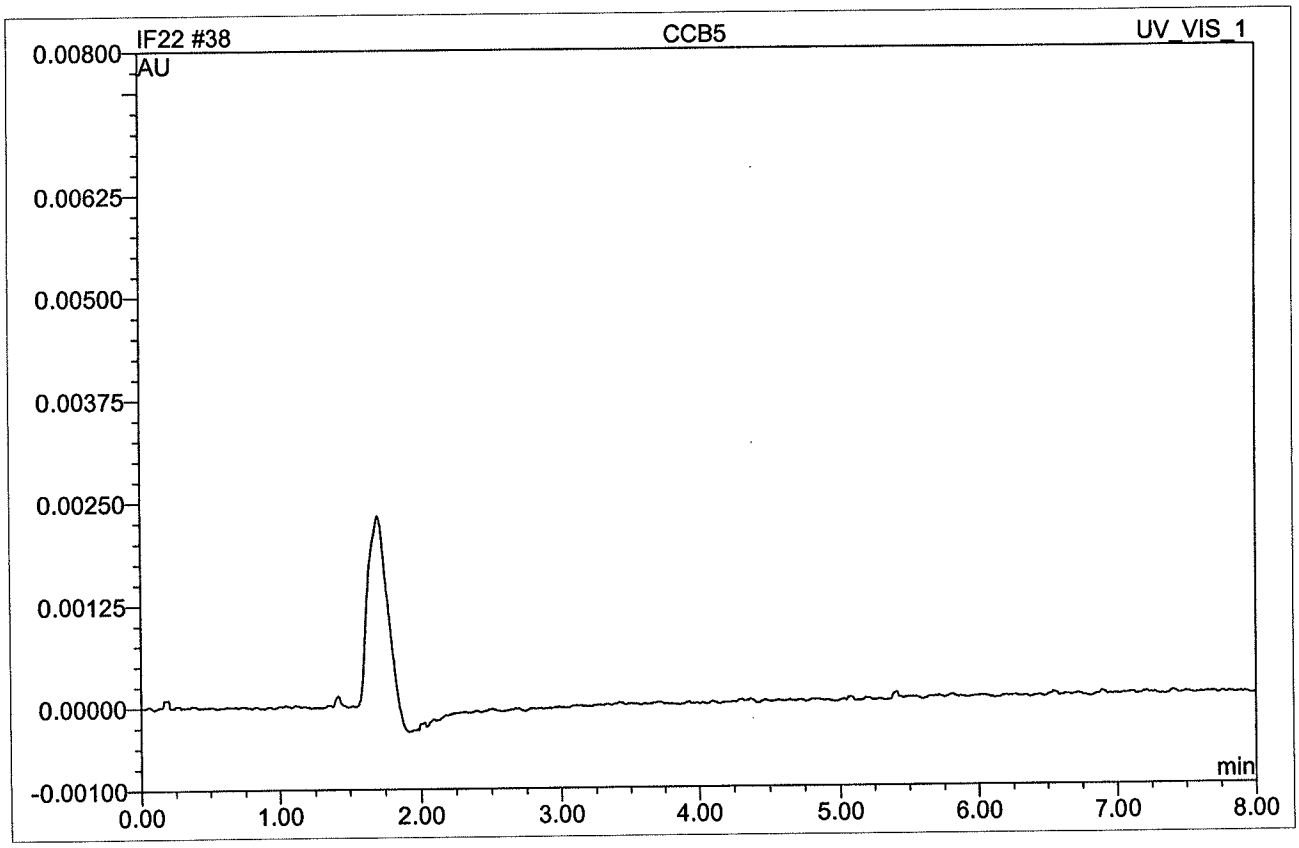
Sample Name:	**CCV5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 13:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.14	Cr6	0.0013750	0.0001974	100.00	1.942	BMB
Total:			0.001	0.000	100.00	1.942	

IF22 026 CCB5

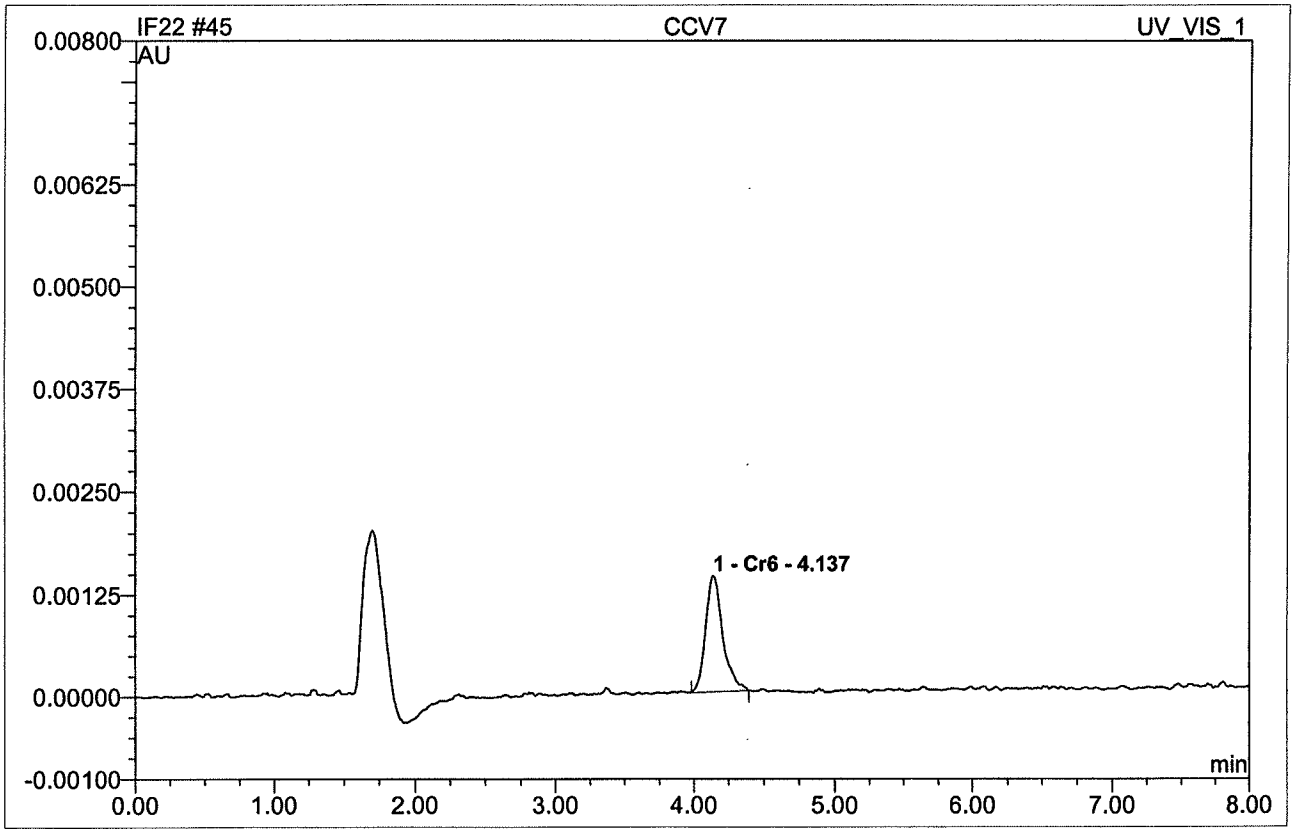
Sample Name:	**CCB5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 14:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 033 CCV7

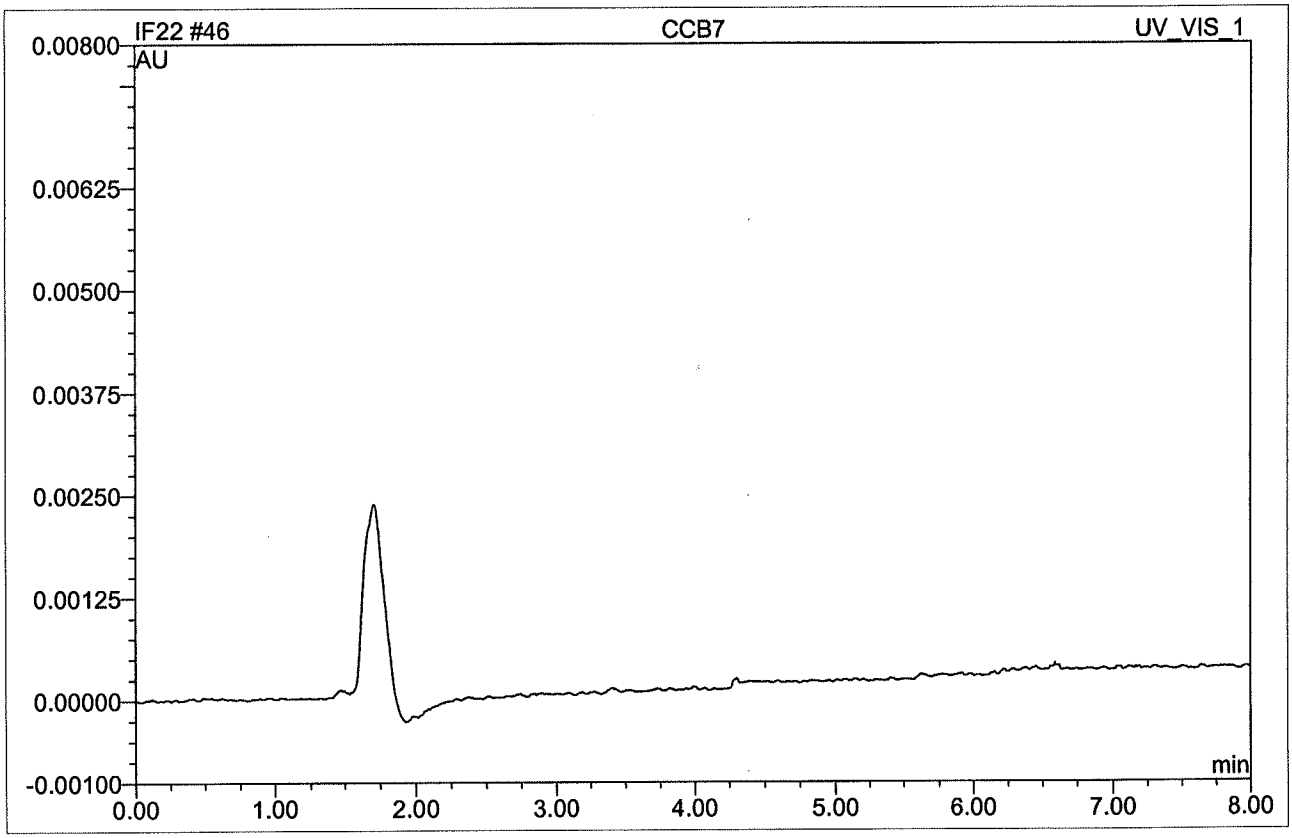
Sample Name:	**CCV7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 15:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.14	Cr6	0.0014220	0.0002070	100.00	2.037	BMB
Total:			0.001	0.000	100.00	2.037	

IF22 034 CCB7

Sample Name:	**CCB7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 15:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

Chromeleon (c) Dionex 1996-2001
Version 6.70 SP2a Build 1871

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution:	**Final Volume:** 1,000 mL
1,5 Diphenylcarbohydrazide : 0.5 g	SW6A-01-01-08
MeOH : 100 mL	SW1A-011-05-08
H_2SO_4 : 28 mL	↓ -07-04
Eluent:	**Final Volume:** 2,000 mL
$(NH_4)_2SO_4$: 66 g	SW6A-01-01-10
NH_4OH : 13 mL	↓ -02-01-02
☐ **pH Adjusted Water ID #:** (range 9.3-9.5)	
☑ **Buffer** (10 mL → 100 mL)	SP2-05-13-04
Reagent Water ID #:	RW1-22-001

ICAL Linear Range (ppb): S_0 - 0.00
S_1 - 0.20
S_2 - 0.50
S_3 - 1.00
S_4 - 2.00
S_5 - 5.00
S_6 - 7.50
S_7 - 10.0
ICV - 3.00
Low level CCV (0.20ppb) SW6B-004-19-03

Column: Dionex IonPac AS7 (4x250mm) Serial: 19010324B
Guard Column: Dionex IonPac NG1 (4x35mm) Serial: 19061121B
Wavelength: 530nm
Flow Rate: 1.00 mL/min
Injection: 0,250mL

Book #:	A59-055
Instrument No.:	59
Pipette ID:	SW9A-04-017
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	IF21
Method File:	IC59F21
Analytical Batch:	

SOP #	Rev. #
☑ EMAX-218.6	7
☑ EMAX-7199	7
☐ EMAX-	

STANDARDS ID	
ICAL	SW6B-004-19-01
ICV	↓ -02
CCV	

LCS/MS STANDARDS

	Standard ID	Conc	Spike Amt	Final Vol
LCS				
MS				

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-01-07 — Snap-Seal Container
0.45 µm filter lot #: — 4 oz: 1328163
0.2 µm filter lot #: — 1.5 oz:

Analyzed By: TB
Date: 06/21/22

Sequence: IF21
Operator: EMAXLABS

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 12

FINAL

Created: 6/21/2022 11:24:52 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IF21	001	IB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:27:49 AM	1.0000	BUFFER
2	IF21	002	S-0	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:38:12 AM	1.0000	
3	IF21	003	S-1	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:48:36 AM	1.0000	0.2 PPB
4	IF21	004	S-2	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:59:00 AM	1.0000	0.5 PPB
5	IF21	005	S-3	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:09:25 PM	1.0000	1.0 PPB
6	IF21	006	S-4	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:19:49 PM	1.0000	2.0 PPB
7	IF21	007	S-5	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:30:13 PM	1.0000	5.0 PPB
8	IF21	008	S-6	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:40:37 PM	1.0000	7.5 PPB
9	IF21	009	S-7	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:51:01 PM	1.0000	10 PPB
10	IF21	010	ICV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:01:25 PM	1.0000	3.0 PPB
11	IF21	011	ICB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:11:50 PM	1.0000	
12	IF21	012	LOW CCV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:22:14 PM	1.0000	0.2 PPB

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution:	**Final Volume:** 1,000 mL
1,5 Diphenylcarbohydrazide : 0.5 g	SW6A-01-01-08
MeOH : 100 mL	SW1A-011-05-08
H_2SO_4 : 28 mL	↓ -07-04
Eluent:	**Final Volume:** 2,000 mL
$(NH_4)_2SO_4$: 66 g	SW6A-01-01-10
NH_4OH : 13 mL	↓ -02-01-02
☐ **pH Adjusted Water ID #:** (range 9.3-9.5)	
☑ **Buffer** (10 mL → 100 mL)	SP2-05-13-04
Reagent Water ID #:	RW1-22-001

HCF011W: ~~HCF010W~~: F145; F155; F196
TB 6/22/22

HCF013W: F146

Book #:	A59-055
Instrument No.:	59
Pipette ID:	SW9A-04-017
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	IF22
Method File:	IC59F21
Analytical Batch:	HCF011W ~~HCF010W~~/ 13W TB 06/22/22

SOP #	Rev. #
☑ EMAX-218.6	7
☐ EMAX-7199	7
☐ EMAX-	

STANDARDS ID	
ICAL	
ICV	
CCV	SW6B-004-19-04

LCS/MS STANDARDS

	Standard ID	Conc	Spike Amt	Final Vol
LCS	SW6B-004-18-07	100 ppb	0.100mL	5mL
MS	↓	↓	0.050mL	↓

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-01-07 Snap-Seal Container

0.45 µm filter lot #: 296069177 4 oz: 1328163

0.2 µm filter lot #: 1.5 oz: 24821009

Analyzed By: TB

Date: 06/22/22

Sequence: IF22
Operator: EMAXLABS
Printed: 6/22/2022 7:07:44 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 65

FINAL

Created: 6/22/2022 9:28:43 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IF22		IB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:27:49 AM	1.0000	BUFFER
2	IF22		S-0	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:38:12 AM	1.0000	
3	IF22		S-1	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:48:36 AM	1.0000	0.2 PPB
4	IF22		S-2	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:59:00 AM	1.0000	0.5 PPB
5	IF22		S-3	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:09:25 PM	1.0000	1.0 PPB
6	IF22		S-4	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:19:49 PM	1.0000	2.0 PPB
7	IF22		S-5	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:30:13 PM	1.0000	5.0 PPB
8	IF22		S-6	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:40:37 PM	1.0000	7.5 PPB
9	IF22		S-7	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:51:01 PM	1.0000	10 PPB
10	IF22		ICV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:01:25 PM	1.0000	3.0 PPB
11	IF22		ICB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:11:50 PM	1.0000	
12	IF22		LOW CCV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:22:14 PM	1.0000	0.2 PPB
13	IF22	001	CCV1	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 9:30:30 AM	1.0000	
14	IF22	002	CCB1	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 9:40:54 AM	1.0000	
15	IF22	003	HCF011WB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 9:51:18 AM	1.0000	
16	IF22	004	HCF011WL	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:01:42 AM	1.0000	
17	IF22	005	HCF011WC	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:12:06 AM	1.0000	
18	IF22	006	F145-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:22:31 AM	1.0000	
19	IF22	007	F145-02	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:32:55 AM	1.0000	
20	IF22	008	F145-03	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:43:19 AM	1.0000	
21	IF22	009	F145-04	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:53:43 AM	1.0000	
22	IF22	010	F145-04M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:06:49 AM	1.0000	
23	IF22	011	F145-04S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:24:09 AM	1.0000	
24	IF22	012	F145-05	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:34:33 AM	1.0000	
25	IF22	013	CCV3	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:44:58 AM	1.0000	
26	IF22	014	CCB3	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:55:22 AM	1.0000	
27	IF22	015	F145-04I	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:06:51 PM	5.0000	1mLto5mL

Chromeleon © Dionex Corporation, Version 6.70 SP2a Build 1871

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 65

FINAL

Created: 6/22/2022 9:28:43 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
28	IF22	016	F145-04M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:17:14 PM	5.0000	1mLto5mL
29	IF22	017	F145-04S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:27:38 PM	5.0000	1mLto5mL
30	IF22	018	F145-06	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:38:03 PM	1.0000	
31	IF22	019	F145-07	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:48:27 PM	1.0000	
32	IF22	020	F145-08	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:58:51 PM	1.0000	
33	IF22	021	F145-08M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:10:17 PM	1.0000	
34	IF22	022	F145-08S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:20:41 PM	1.0000	
35	IF22	023	F145-09	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:31:06 PM	1.0000	
36	IF22	024	F145-10	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:41:30 PM	1.0000	
37	IF22	025	CCV5	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:51:55 PM	1.0000	
38	IF22	026	CCB5	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:02:19 PM	1.0000	
39	IF22	027	F145-11	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:12:43 PM	1.0000	
40	IF22	028	F145-12	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:23:08 PM	1.0000	
41	IF22	029	F145-13	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:33:32 PM	1.0000	
42	IF22	030	F155-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:43:56 PM	1.0000	OVER RANGE
43	IF22	031	F196-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:54:20 PM	1.0000	
44	IF22	032	F155-01I	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:04:44 PM	2.0000	2.5mLto5mL
45	IF22	033	CCV7	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:15:09 PM	1.0000	
46	IF22	034	CCB7	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:25:33 PM	1.0000	
47	IF22	035	HCF013WB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:35:57 PM	1.0000	
48	IF22	036	HCF013WL	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:46:21 PM	1.0000	
49	IF22	037	HCF013WC	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:56:45 PM	1.0000	
50	IF22	038	F146-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:07:09 PM	1.0000	
51	IF22	039	F146-02	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:17:33 PM	1.0000	
52	IF22	040	F146-03	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:27:58 PM	1.0000	
53	IF22	041	F146-04	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:38:22 PM	1.0000	
54	IF22	042	F146-04M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:51:49 PM	1.0000	

Chromeleon © Dionex Corporation, Version 6.70 SP2a Build 1871

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 65

FINAL

Created: 6/22/2022 9:28:43 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
55	IF22	043	F146-04S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:02:13 PM	1.0000	
56	IF22	044	F146-05	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:12:37 PM	1.0000	
57	IF22	045	CCV9	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:23:01 PM	1.0000	
58	IF22	046	CCB9	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:33:25 PM	1.0000	
59	IF22	047	F146-06	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:43:50 PM	1.0000	
60	IF22	048	F146-07	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:54:14 PM	1.0000	
61	IF22	049	F146-08	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:04:38 PM	1.0000	
62	IF22	050	F146-09	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:15:02 PM	1.0000	
63	IF22	051	F146-10	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:25:26 PM	1.0000	
64	IF22	052	CCV11	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:35:50 PM	1.0000	
65	IF22	053	CCB11	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:46:15 PM	1.0000	

RETENTION TIME WINDOW

RETENTION TIME WINDOW

METHOD 218.6/7199

Lab Name:	EMAX	**METHOD:**	EMAX-218.6/7199
Instrument ID:	DX500IC59	**IC COLUMN:**	AS7/AG7 / AS7/NG1
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
CHROMIUM VI	**4.18**	4.07	4.29	**0.108**

IC59F21

YM 06/27/22

SAMPLE PREPARATION LOG(S)

EMAX LABORATORIES, INC.

pH ADJUSTMENT/SAMPLE PRESERVATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-218.6 Rev. 7 ☐ EMAX-7199 Rev. 7 Book #: PHC-027

Matrix: W Start Date: 06\16\22 Time: 14:00 End Date: 06\16\22 Time: 16:15

Sample Prep ID	Lab Sample ID	Initial pH	Final pH	Notes
01	F145-01	9.32	9.32	No adjustment needed; Cr
02	-02	9.31	9.31	
03	-03	9.44	9.44	
04	-04	9.35	9.35	
05	-05	9.43	9.43	
06	-06	9.32	9.32	
07	-07	9.42	9.42	
08	-08	9.35	9.35	
09	-09	9.32	9.32	
10	-10	9.35	9.35	
11	-11	9.30	9.30	
12	-12	9.42	9.42	
13	-13	9.41	9.41	
14	F146-01	9.27	9.27	No adjustment needed; Cr
15	-02	9.19	9.19	
16	-03	9.23	9.23	
17	-04	9.39	9.39	
18	-05	9.22	9.22	
19	-06	9.34	9.34	
20	-07	9.29	9.29	
21	-08	9.38	9.38	
22	-09	9.37	9.37	
23	-10	9.37	9.37	
24	F155 -01	8.65	9.18	0.040mL → 40mL; Cr
25				TB 06/16/22

Standards	ID	pH
Buffer 7	SW1-02-07-30	7.00
Buffer 10	SW1A-03-03-08	10.01
Check pH Buffer (8)		
Check pH Buffer 7.98	SW1A-03-06-03	7.95
pH meter	F7	

Reagent	Standard ID #
NaOH	SWR1-03-04-02
$(NH_4)_2SO_4/NH_4OH$	
HNO_3	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = Turbid	Vg = Vegetation
Yw = Yellow			

☑ Samples were received with preservation

Comments:

Prepared By: TB

Standard Added By: TB

Checked By: TB

STANDARD LOG(S)

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-19-01	Cr6	SW6B-004-18-06	100 ppb	0.20 mL	SP2-05-13-04	100 mL	0.20 ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/22/22	TB	ICAL (BUFFER)	A
SW6B-004-19-				0.50			0.50					B
SW6B-004-19-				1.00			1.00					B
SW6B-004-19-				2.00			2.00					B
SW6B-004-19-				5.00			5.00					C
SW6B-004-19-				7.50			7.50					C
SW6B-004-19-				10.0			10.0					C
SW6B-004-19-02	Cr6	SW6B-004-18-07	100ppb	3.00mL	SP2-05-13-04	100mL	3.00 ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/22/22	TB	ICV (BUFFER)	C
SW6B-004-19-03	Cr6	SW6B-004-18-06	100ppb	0.20mL	SP2-05-13-04	100mL	0.20ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/22/22	TB	LOW CCV (BUFFER)	A
SW6B-004-19-04	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/22/22	6/23/22	TB	CCV (BUFFER)	B
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												

Micropipette ID Legend: **A.** SW9A-04-052 **B.** A42762405 **C.** SW9A-04-017 **D.** SI1A-04-4 **E.** SW3-01-33 **F.** 39380025

Balance ID:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-18-01	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	ICAL(Buffer)	A
SW6B-004-18-				0.50			0.50					B
SW6B-004-18-				1.00			1.00					B
SW6B-004-18-				2.00			2.00					B
SW6B-004-18-				5.00			5.00					C
SW6B-004-18-				7.50			7.50					C
SW6B-004-18-				10.0			10.0					C
SW6B-004-18-02	Cr6	SW6B-004-16-02	100ppb	3.00mL	SP2-05-11-03	100mL	3.00ppb	5/25/22	5/26/22	JC	ICV(Buffer)	C
SW6B-004-18-03	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	LOW CCV (Buffer)	A
SW6B-004-18-04	Cr6	SW6B-004-16-01	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	5/25/22	5/26/22	JC	CCV (Buffer)	B
SW6B-004-18-05	Cr6	SW6B-004-16-01	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	5/26/22	5/27/22	TB	CCV (BUFFER)	B
SW6B-004-18-06	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-05-12-04	100mL	100ppb	6/2/22	7/2/22	TB	1°working std	B
SW6B-004-18-07	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-12-04	100mL	100ppb	6/2/22	7/2/22	TB	2°working std	B
SW6B-004-18-08	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-12-04	100mL	2.00ppb	6/2/22	6/3/22	TB	CCV	B
SW6B-004-18-09	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-01	100mL	2.00ppb	6/3/22	6/4/22	JC	CCV	B
5W6B-004-18-10	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	6/6/22	6/7/22	JC	CCV (Buffer)	B
SW6B-004-18-11	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-14-02	100mL	2.00ppb	6/7/22	6/8/22	TB	CCV	B
SW6B-004-18-12	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/8/22	6/9/22	AS	CCV (Buffer)	B
SW6B-004-18-13	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-14-02	100mL	2.00ppb	6/9/22	6/10/22	TB	CCV	B
SW6B-004-18-14	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/14/22	6/15/22	TB	CCV (BUFFER)	B
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												TB 06/21/22

Micropipette ID Legend: **A.** SW9A-04-052 **B.** A42762405 **C.** SW9A-04-017 **D.** SI1A-04-4 **E.** SW3-01-33 **F.** 39380025

Balance ID:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-14-01	Cr6	SW6B-004-13-09	100ppb	2mL	SP2-05-10-03	~~1000mL~~ 100 mL 3/16/22	2ppb	3/17/22	3/18/22	TB	CCV	B
SW6B-004-14-02	Cr6	SW6B-004-13-09	100ppb	2.0mL	SP2-05-10-03	100.0mL	2ppb	3/22/22	3/23/22	TB	CCV	B
SW6B-004-14-03	Cr6	SW6B-004-13-09	100ppb	2.0mL	SP2-05-08-03	100mL	2.00ppb	3/22/22	3/23/22	AS	CCV (Buffer)	B
SW6B-004-14-04	Cr6	SW6B-004-13-09	100ppb	0.05 mL	SP2-05-08-03	100 mL	0.05 ppb	3/24/22	3/25/22	AS	ICAL (G2 Buffer)	D
SW6B-004-14-	↓	↓	↓	0.10	↓	↓	0.10	↓	↓	↓	↓	D
SW6B-004-14-				0.20			0.20					D
SW6B-004-14-				0.50			0.50					E
SW6B-004-14-				1.00			1.00					E
SW6B-004-14-				2.00			2.00					E
SW6B-004-14-				5.00			5.00					F
SW6B-004-14-05	Cr6	SW6B-004-12-15	100ppb	1.00 mL	SP2-05-08-03	100mL	1.00ppb	3/24/22	3/25/22	AS	ICV (G2 Buffer)	E
SW6B-004-14-06	Cr6	SW6B-004-13-09	100ppb	1.00mL	SP2-05-08-03	100mL	1.00ppb	3/24/22	3/25/22	AS	CCV (G2 Buffer)	E
SW6B-004-14-07	Cr6	SW6B-004-13-09	100ppb	2.00mL	~~SP2-05-10-03~~ SP2-05-08-03 J 3/25/22	100mL	2.00ppb	3/25/22	3/26/22	JC	CCV (Buffer)	B
SW6B-004-14-08	Cr6	SW6A-01-02-01	1000ppm	1.00mL	SP2-05-10-03	100mL	10ppm	3/30/22	9/30/22	JC	1° Intermediate Std.	B
SW6B-004-14-09	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-0510-03	100mL	100ppb	3/30/22	4/29/22	JC	1° Working Std.	B
SW6B-004-14-10	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-10-03	100mL	100ppb	3/30/22	4/29/22	JC	2° Working Std.	B
SW6B-004-14-11	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	3/30/22	3/31/22	JC	CCV (Buffer)	B
SW6B-004-14-12	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	4/1/22	4/2/22	JC	CCV (Buffer)	B
SW6B-004-14-13	Cr6	SW6A-02-01-01	1000ppm	0.100mL	SP2-05-10-03	100mL	1ppm	4/1/22	10/1/22	JC	2° Intermediate Std.	A
SW6B-004-14-14	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-08-03	100mL	0.200ppb	4/1/22	4/2/22	JC	LOQ-01 (buffer)	A
SW6B-004-14-15	↓	↓	↓	0.100mL	↓	↓	0.100ppb	↓	↓	↓	LOD-01 (Buffer)	A
SW6B-004-14-16	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/1/22	4/2/22	AS	CCV	B
SW6B-004-14-17	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-10-03	100mL	0.200ppb	4/1/22	4/2/22	AS	LOQ (unpreserved)	A
SW6B-004-14-18	↓	↓	↓	~~0.010~~ 0.100 AS 4/1/22	↓	↓	0.100 ppb	↓	↓	↓	LOD (unpreserved)	A
SW6B-004-14-19	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/4/22	4/5/22	AS	CCV	B

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

Balance ID:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-19-01	Cr6	SW6B-004-18-06	100 ppb	0.20 mL	SP2-05-13-04	100 mL	0.20 ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/22/22	TB	ICAL (BUFFER)	A
SW6B-004-19-				0.50			0.50					B
SW6B-004-19-				1.00			1.00					B
SW6B-004-19-				2.00			2.00					B
SW6B-004-19-				5.00			5.00					C
SW6B-004-19-				7.50			7.50					C
SW6B-004-19-				10.0			10.0					C
SW6B-004-19-02	Cr6	SW6B-004-18-07	100ppb	3.00mL	SP2-05-13-04	100mL	3.00 ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/22/22	TB	ICV (BUFFER)	C
SW6B-004-19-03	Cr6	SW6B-004-18-06	100ppb	0.20mL	SP2-05-13-04	100 mL	0.20ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/22/22	TB	LOW CCV (BUFFER)	A
SW6B-004-19-04	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/22/22	6/23/22	TB	CCV (BUFFER)	B
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-18-01	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	ICAL(Buffer)	A
SW6B-004-18-				0.50			0.50					B
SW6B-004-18-				1.00			1.00					B
SW6B-004-18-				2.00			2.00					B
SW6B-004-18-				5.00			5.00					C
SW6B-004-18-				7.50			7.50					C
SW6B-004-18-				10.0			10.0					C
SW6B-004-18-02	Cr6	SW6B-004-16-02	100ppb	3.00mL	SP2-05-11-03	100mL	3.00ppb	5/25/22	5/26/22	JC	ICV(Buffer)	C
SW6B-004-18-03	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	LOW CCV (Buffer)	A
SW6B-004-18-04	Cr6	SW6B-004-16-01	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	5/25/22	5/26/22	JC	CCV (Buffer)	B
SW6B-004-18-05	Cr6	SW6B-004-16-01	100ppb	2.00ml	SP2-05-11-03	100mL	2.00ppb	5/26/22	5/27/22	TB	CCV (BUFFER)	B
SW6B-004-18-06	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-05-12-04	100ml	100ppb	6/2/22	7/2/22	TB	1°working std	B
SW6B-004-18-07	Cr6	SW6B-004-11-06	10ppm	1.00ml	SP2-05-12-04	100ml	100ppb	6/2/22	7/2/22	TB	2°working std	B
SW6B-004-18-08	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-12-04	100ml	2.00ppb	6/2/22	6/3/22	TB	CCV	B
SW6B-004-18-09	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-01	100mL	2.00ppb	6/3/22	6/4/22	JC	CCV	B
SW6B-004-18-10	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-11-03	100mL	2.00ppb	6/6/22	6/7/22	JC	CCV (Buffer)	B
SW6B-004-18-11	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-14-02	100ml	2.00ppb	6/7/22	6/8/22	TB	CCV	B
SW6B-004-18-12	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/8/22	6/9/22	AS	CCV (Buffer)	B
SW6B-004-18-13	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-14-02	100ml	2.00ppb	6/9/22	6/10/22	TB	CCV	B
SW6B-004-18-14	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-13-04	100ml	2.00ppb	6/14/22	6/15/22	TB	CCV (BUFFER)	B
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												TB 06/21/22

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM

Book #: SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-14-01	Cr6	SW6B-004-13-09	100ppb	2mL	SP2-05-10-03	~~1000~~ 100 mL	2ppb	3/17/22	3/18/22	TB	CCV	B
SW6B-004-14-02	Cr6	SW6B-004-13-09	100ppb	2.0mL	SP2-05-10-03	100.0mL	2ppb	3/22/22	3/23/22	TB	CCV	B
SW6B-004-14-03	Cr6	SW6B-004-13-09	100ppb	2.0mL	SP2-05-08-03	100mL	2.00ppb	3/22/22	3/23/22	AS	CCV (Buffer)	B
SW6B-004-14-04	Cr6	SW6B-004-13-09	100ppb	0.05mL	SP2-05-08-03	100mL	0.05ppb	3/24/22	3/25/22	AS	ICAL (G2 Buffer)	D
SW6B-004-14-	↓	↓	↓	0.10	↓	↓	0.10	↓	↓	↓	↓	D
SW6B-004-14-				0.20			0.20					D
SW6B-004-14-				0.50			0.50					E
SW6B-004-14-				1.00			1.00					E
SW6B-004-14-				2.00			2.00					E
SW6B-004-14-				5.00			5.00					F
SW6B-004-14-05	Cr6	SW6B-004-12-15	100ppb	1.00mL	SP2-05-08-03	100mL	1.00ppb	3/24/22	3/25/22	AS	ICV (G2 Buffer)	E
SW6B-004-14-06	Cr6	SW6B-004-13-09	100ppb	1.00mL	SP2-05-08-03	100mL	1.00ppb	3/24/22	3/25/22	AS	CCV (G2 Buffer)	E
SW6B-004-14-07	Cr6	SW6B-004-13-09	100ppb	2.00mL	~~SP2-05-08-03~~ ~~SP2-05-10-03~~ J 3/25/22	100mL	2.00ppb	3/25/22	3/26/22	JC	CCV (Buffer)	B
SW6B-004-14-08	Cr6	SW6A-01-02-01	1000ppm	1.00mL	SP2-05-10-03	100mL	10ppm	3/30/22	9/30/22	JC	1° Intermediate Std.	B
SW6B-004-14-09	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-0510-03	100mL	100ppb	3/30/22	4/29/22	JC	1° Working Std.	B
SW6B-004-14-10	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-10-03	100mL	100ppb	3/30/22	4/29/22	JC	2° Working Std.	B
SW6B-004-14-11	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	3/30/22	3/31/22	JC	CCV (Buffer)	B
SW6B-004-14-12	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	4/1/22	4/2/22	JC	CCV (Buffer)	B
SW6B-004-14-13	Cr6	SW6A-02-01-01	1000ppm	0.100mL	SP2-05-10-03	100mL	1ppm	4/1/22	10/1/22	JC	2° Intermediate Std.	A
SW6B-004-14-14	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-08-03	100mL	0.200ppb	4/1/22	4/2/22	JC	LOQ-01 (buffer)	A
SW6B-004-14-15	↓	↓	↓	0.100mL	↓	↓	0.100ppb	↓	↓	↓	LOD-01 (Buffer)	A
SW6B-004-14-16	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/1/22	4/2/22	AS	CCV	B
SW6B-004-14-17	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-10-03	100mL	0.200ppb	4/1/22	4/2/22	AS	LOQ (unpreserved)	A
SW6B-004-14-18	↓	↓	↓	~~0.010~~ 0.100 AS 4/1/22	↓	↓	0.100 ppb	↓	↓	↓	LOD (unpreserved)	A
SW6B-004-14-19	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/4/22	4/5/22	AS	CCV	B

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-11-01	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/12/22	1/13/22	JC	CCV (Buffer)	B
SW6B-004-11-02	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	1/13/22	1/14/22	JC	CCV	B
SW6B-004-11-03	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/13/22	1/14/22	JC	CCV (Buffer)	B
SW6B-004-11-04	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	1/14/22	1/15/22	AS	CCV	B
SW6B-004-11-05	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/20/22	1/21/22	AS	CCV (Buffer)	B
~~SW6B-004-11-06~~	~~Cr6~~	~~SW6B~~										JC 1/25/22
SW6B-004-11-06	Cr6	SW6A-02-01-01	1000ppm	1.00mL	SP2-05-07-02	100mL	10ppm	1/25/22	7/25/22	JC	2° Intermediate Std	B
SW6B-004-11-07	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-07-02	100mL	100ppb	1/25/22	2/24/22	JC	2° Working Std	B
SW6B-004-11-08	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	1/26/22	1/27/22	JC	CCV	B
SW6B-004-11-09	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/27/22	1/28/22	JC	CCV (Buffer)	B
SW6B-004-11-10	Cr6	SW6B-004-06-26	10ppm	1.00mL	SP2-05-07-02	100mL	100ppb	2/7/22	3/9/22	AS	1° working std.	B
SW6B-004-11-11	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-07-04	100mL	2.00ppb	2/7/22	2/8/22	AS	CCV (Buffer)	B
SW6B-004-11-12	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	2/8/22	2/9/22	AS	CCV	B
SW6B-004-11-13	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-07-04	100mL	2.00ppb	2/9/22	2/10/22	AS	CCV (Buffer)	B
SW6B-004-11-14	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-08-04	100mL	2.00ppb	2/10/22	2/11/22	JC	CCV	B
SW6B-004-11-15	Cr6	SW6B-004-11-10	100ppb	0.200mL	SP2-05-08-04	100mL	0.20ppb	2/11/22	2/12/22	JC	ICAL	A
SW6B-004-11-	↓	↓	↓	0.50	↓	↓	0.50	↓	↓	↓	↓	B
SW6B-004-11-				1.00			1.00					B
SW6B-004-11-				2.00			2.00					B
SW6B-004-11-				5.00			5.00					C
SW6B-004-11-				7.50			7.50					C
SW6B-004-11-				10.0			10.0					C
SW6B-004-11-16	Cr6	SW6B-004-11-07	100ppb	3.00mL	SP2-05-08-04	100mL	3.00ppb	2/11/22	2/12/22	JC	ICV	C
SW6B-004-11-17	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-08-04	100mL	2.00ppb	2/14/22	2/15/22	JC	CCV	B
SW6B-004-11-18	Cr6	SW6B-004-11-10	100ppb	1.00mL	SP2-05-08-04	100mL	1.00ppb	2/14/22	2/15/22	AS	CCV (G2 water)	E

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Book No: SW6A-02

Standard ID	Name	Source	Lot #	Location	Rcvd. on	Rcvd. By	Exp. Date	Comments
SW6A-02-01-01	Hexvalent Chromium	ERA-Metrohm	350121m	IC	12/8/21	YC	01/15/24	1000ppm
SW6A-02-01-02	Ammonium hydroxide, 20% solution in water	Thermo Scientific	A0396093	IC	12/20/21	AS	10/01/22	catalog: 103532-940 VWR Thermo Catalog: 79007
SW6A-02-01-03	BDH SAND 2.5Kg (x2)	VWR	21K2456575	IC	1/6/22	AS	8/31/25	BDH9274-2.5kg
SW6A-02-01-04	BDH SAND 2.5kg (x2)	VWR	21K2456577	IC	1/6/22	AS	8/31/25	BDH9274-2.5Kg
SW6A-02-01-05	Sodium carbonate	VWR/EMD	21A155204	IC	2/16/22	AS	2/16/32	SX0398-1 500g (16 containers)
SW6A-02-01-06	Ammonium Sulfate	EMD	2021052665	IC	3/7/22	AS	3/7/32	AX1385-3 (2x 2.5Kg)
SW6A-02-01-07	PolyVials 5mL	Thermo Scientific	6595609-5	IC	3/30/22	JC	NA	038008 (10 boxes)
SW6A-02-01-08	Magnesium chloride, anhydrous	Thermo Fisher Scientific	X28H077	Balance room	4/14/22	AS	10/28/26	12315-A1 1Kg
SW6A-02-01-09								
SW6A-02-01-10								

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Book No: SW6A-01

Standard ID	Name	Source	Lot #	Location	Rcvd. on	Rcvd. by	Exp. Date	Comments
SW6A-01-02-01	Hexavalent Chromium (1000 ug/mL)	AccuStandard	220095057	FUELS	3/3/21	AS	10/15/22	WC-HEX-10X-1 moved to 205 7/28/21 12:30 moved into Fujita 7/28/21 13:24
SW6A-01-02-02								
SW6A-01-02-03								
SW6A-01-02-04								
SW6A-01-02-05								
SW6A-01-02-06								
SW6A-01-02-07								
SW6A-01-02-08								
SW6A-01-02-09								
SW6A-01-02-10								YC 8/12/21

ERA
A Waters Company

Metrohm USA Inc.
Toll-free: 866-METROHM
www.metrohmusa.com

Certificate of Analysis

SW6A-08-01-01
rcvd: 12/8/21
exp: 1/15/24
YC

PRODUCT:	1000 mg/L Hexavalent Chromium
CATALOG NUMBER:	REAIC1210
LOT NUMBER:	350121m
ISSUE DATE:	January 26, 2021
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Dichromate ($K_2Cr_2O_7$)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.8%
MATRIX:	18 megohm deionized water
DENSITY:	1.0002 ± 0.0016 g/mL at 21.3°C and 756 mm Hg
TRACEABILITY[3]:	100%
NIST/SRM:	136f Hexavalent Chromium
VERIFICATION METHOD:	Spectrophotometry
STORAGE:	Store at 20-25°C

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 01/15/2024**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller – Product Line Manager

ISO/IEC GUIDE 34:2009
ACCREDITED
REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005
ACCREDITED
CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Wet Chemistry Reference Standard

Catalog No: WC-HEX-10X-1
Description: Hexavalent Chromium (Cr6+) Standard
Element: Hexavalent chromium (Cr_6+)
SRM: Ind. Std.
Lot: 220095057
Matrix: Water
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Sep 15, 2020
Expiration: Oct 15, 2022
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Component		SRM #	Certified Concentration (µg/mL)
Cr_6+	Hexavalent chromium	Ind. Std.	1000

SW6A-01-02-01 reads As
3/3/21

moved out 205
7/28/21 12:30
moved into Fujita
7/28/21 13:24

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±0.60%.
The final solution was checked against an independent standard to verify its concentration.
All glassware used in preparation is Class A.
All weights are traceable through NIST, Test No. 684/289871-17
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

AccuStandard

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-05-2022
EMAX Batch No.: 22F146

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 06/16/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-56D-Q222	F146-01	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-56M-Q222	F146-02	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-56S-Q222	F146-03	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-55-045-Q222	F146-04	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-55-045-EB-Q222	F146-05	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-55-120-Q222	F146-06	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
EB-737-Q222	F146-07	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-92-037-Q222	F146-08	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-92-072-Q222	F146-09	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-92-102-Q222	F146-10	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

22F146

EMAX LABORATORIES, INC.
Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

EMAX LABORATORIES, INC.

CHAIN OF CUSTODY RECORD

22F146

Page 1 of 1

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	Labspec	CalTrans	2. Headspace
Submitted By: Nara Tey	Phone: 916-786-3302 Fax:	Phone: 916-786-3302 Fax:	Others ✓	LEVEL III	3. Container Intact
Title: Project Manager			Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 6/15/22	Sampled By: Nara Tey		Global ID:	Regulatory	5. IR number
I hereby authorize ASSET Labs to perform the tests indicated below	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	6. Method of Cooling:
Project Name: PG&E Topock - AZ RCM	Signature: Date: 6/15/22				Sample Temp:
Project Number: 30121866.2Q22GW					Courier: Tracking No.:

Matrix: Ground water | x | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (125 mL poly)	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH (250 mL poly)	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 (250 mL poly)	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 (250 mL poly)	Dissolved Title 22 metals (SW6020B) FF; HNO3 (250 mL poly)	Dissolved metals Chromium; HNO3 (250 mL poly)	Alkalinity, Total (SM 2320B) (500 mL poly)	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) (500 mL poly)	TDS (SM 2540C) (500 mL poly)	TOC (SM9060); HCl (125 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	1	MW-56D-Q222	6/14/2022	13:13		X					X					E	2	P	BN	
2	2	MW-56M-Q222	6/14/2022	12:49		X					X					E	2	P	BN	
3	3	MW-56S-Q222	6/14/2022	12:24		X					X					E	2	P	BN	
4	4	MW-55-045-Q222	6/14/2022	10:52		X					X					E	2	P	BN	
5	5	MW-55-045-EB-Q222	6/14/2022	10:20		X					X					E	2	P	BN	
6	6	MW-55-120-Q222	6/14/2022	11:25		X					X					E	2	P	BN	
7	7	EB-737-Q222	6/14/2022	14:20		X										E	1	P	BN	
8	8	MW-92-037-Q222	6/15/2022	9:22		X					X					E	2	P	BN	
9	9	MW-92-072-Q222	6/15/2022	8:52		X					X					E	2	P	BN	
10	10	MW-92-102-Q222	6/15/2022	8:24		X					X					E	2	P	BN	

Diss. Chromium was not received.

Reliquished by (Signature and Printed Name): Nara Tey 6/15/22 1300 Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Airbill / Tracking Number	ECN 22F146
☑ Fedex ☐ UPS ☐ GSO ☐ Others	777139103038	Recipient Jocelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 06/16/22 Time 09:32

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other			
Condition	☐ Custody Seal	☐ Intact	☐ Damaged			
Packaging correction factor -0.5	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____	
Temperatures	☑ Cooler 1 2.5/2.0 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C	
(Cool, ≤6 °C but not frozen)	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C	
Thermometer:	*A - S/N* 210583479	*B - S/N* _____	*C - S/N* 210271399	*D - S/N* _____		

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
4-7,10	7,10-12,18	D10		R8
~~9~~	12	~~D20~~	JSR 06/16	
1-4,6,8-10	1,3,5,7,10,13,15,17	D12	label reads 250mL, received 125mL poly for Cr(VI)	R8
1-4,6,8-10	2,4,6,8,11,14,16,18	D12	label reads 500mL, received 250mL poly for Dissolved Metals	R8
6,7	9,12	D12	received 250mL poly for Cr(VI)	R8
5		D20	no container for Dissolved Metals received	↓
			06/14/22	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. RS 6/16/22

NOTES/OBSERVATIONS: Sample 7 container 12 does not read field-filtered on label but on COC.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☑ NO

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
(D8)	Sample listed in COC is not received
D9	Sample received is not listed in COC
(D10)	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
(D12)	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
(D20)	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed Client
R9	
R10	
R11	
R12	

REVIEWS:

Sample Labeling Jocelyne Solis-Ramos Date 06/16/22 6/16/22

SRF Date 6/16/22

PM RS Date 6/16/22

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL II

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

SDG#: 22F146

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F146

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of eight(8) water samples were received on 06/16/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IMF024WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IMF024WL/IMF024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met. Samples analyzed at dilution due to high saturation.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22F146
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IMF024WB	1	NA	06/22/2213:34	06/21/2211:56	H6F14018	H6F14016	IMF024W	Method Blank
LCS1W	IMF024WL	1	NA	06/22/2213:36	06/21/2211:56	H6F14019	H6F14016	IMF024W	Lab Control Sample (LCS)
LCD1W	IMF024WC	1	NA	06/22/2213:39	06/21/2211:56	H6F14020	H6F14016	IMF024W	LCS Duplicate
MW-56D-Q222	F146-01I	10	NA	06/22/2214:25	06/21/2211:56	H6F14038	H6F14036	IMF024W	Diluted Sample
MW-56M-Q222	F146-02I	10	NA	06/22/2214:28	06/21/2211:56	H6F14039	H6F14036	IMF024W	Diluted Sample
MW-56S-Q222	F146-03I	10	NA	06/22/2214:31	06/21/2211:56	H6F14040	H6F14036	IMF024W	Diluted Sample
MW-55-120-Q222	F146-06I	10	NA	06/22/2214:36	06/21/2211:56	H6F14042	H6F14036	IMF024W	Diluted Sample
MW-55-045-Q222	F146-04	1	NA	06/22/2214:51	06/21/2211:56	H6F14048	H6F14046	IMF024W	Field Sample
MW-92-037-Q222	F146-08	1	NA	06/22/2214:54	06/21/2211:56	H6F14049	H6F14046	IMF024W	Field Sample
MW-92-072-Q222	F146-09	1	NA	06/22/2214:56	06/21/2211:56	H6F14050	H6F14046	IMF024W	Field Sample
MW-92-102-Q222	F146-10	1	NA	06/22/2214:59	06/21/2211:56	H6F14051	H6F14046	IMF024W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 13:13
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-56D-Q222	Date Analyzed:	06/22/22 14:25
Lab Samp ID:	F146-01I	Dilution Factor:	10
Lab File ID:	H6F14038	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 12:49
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-56M-Q222	Date Analyzed:	06/22/22 14:28
Lab Samp ID:	F146-02I	Dilution Factor:	10
Lab File ID:	H6F14039	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 12:24
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-56S-Q222	Date Analyzed:	06/22/22 14:31
Lab Samp ID:	F146-03I	Dilution Factor:	10
Lab File ID:	H6F14040	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 10:52
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-55-045-Q222	Date Analyzed:	06/22/22 14:51
Lab Samp ID:	F146-04	Dilution Factor:	1
Lab File ID:	H6F14048	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 11:25
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-55-120-Q222	Date Analyzed:	06/22/22 14:36
Lab Samp ID:	F146-06I	Dilution Factor:	10
Lab File ID:	H6F14042	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:22
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-92-037-Q222	Date Analyzed:	06/22/22 14:54
Lab Samp ID:	F146-08	Dilution Factor:	1
Lab File ID:	H6F14049	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 08:52
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-92-072-Q222	Date Analyzed:	06/22/22 14:56
Lab Samp ID:	F146-09	Dilution Factor:	1
Lab File ID:	H6F14050	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 08:24
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-92-102-Q222	Date Analyzed:	06/22/22 14:59
Lab Samp ID:	F146-10	Dilution Factor:	1
Lab File ID:	H6F14051	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	3.87	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MBLK1W	Date Analyzed:	06/22/22 13:34
Lab Samp ID:	IMF024WB	Dilution Factor:	1
Lab File ID:	H6F14018	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F146
METHOD : SW6020A

MATRIX : WATER % MOISTURE:NA
DILUTION FACTOR: 1 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : IMF024WB IMF024WL IMF024WC
LAB FILE ID : H6F14018 H6F14019 H6F14020
DATE PREPARED : 06/21/22 11:56 06/21/22 11:56 06/21/22 11:56
DATE ANALYZED : 06/22/22 13:34 06/22/22 13:36 06/22/22 13:39
PREP BATCH : IMF024W IMF024W IMF024W
CALIBRATION REF: H6F14016 H6F14016 H6F14016

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Chromium	ND	30	31.2	104	30	31.6	105	1	85-115	20

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD E218.6
HEXAVALENT CHROMIUM

SDG#: 22F146

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F146

METHOD E218.6
HEXAVALENT CHROMIUM

A total of ten (10) water samples were received on 06/16/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. Hexavalent Chromium was not detected in HCF013WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. HCF013WL/HCF013WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of MS/MSD was analyzed. Hexavalent Chromium was within MS QC limits in F146-04M/F146-04S. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22F146

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCF013WB	ND	1	NA	0.2	0.05	06/22/2215:35	NA	IF22035	IF22033	HCF013W	NA	NA
LCS1W	HCF013WL	1.96	1	NA	0.2	0.05	06/22/2215:46	NA	IF22036	IF22033	HCF013W	NA	NA
LCD1W	HCF013WC	2.00	1	NA	0.2	0.05	06/22/2215:56	NA	IF22037	IF22033	HCF013W	NA	NA
MW-56D-Q222	F146-01	ND	1	NA	0.2	0.05	06/22/2216:07	NA	IF22038	IF22033	HCF013W	06/14/2213:13	06/16/22
MW-56M-Q222	F146-02	ND	1	NA	0.2	0.05	06/22/2216:17	NA	IF22039	IF22033	HCF013W	06/14/2212:49	06/16/22
MW-56S-Q222	F146-03	ND	1	NA	0.2	0.05	06/22/2216:27	NA	IF22040	IF22033	HCF013W	06/14/2212:24	06/16/22
MW-55-045-Q222	F146-04	ND	1	NA	0.2	0.05	06/22/2216:38	NA	IF22041	IF22033	HCF013W	06/14/2210:52	06/16/22
MW-55-045-Q222MS	F146-04M	1.09	1	NA	0.2	0.05	06/22/2216:51	NA	IF22042	IF22033	HCF013W	06/14/2210:52	06/16/22
MW-55-045-Q222MSD	F146-04S	1.08	1	NA	0.2	0.05	06/22/2217:02	NA	IF22043	IF22033	HCF013W	06/14/2210:52	06/16/22
MW-55-045-EB-Q222	F146-05	ND	1	NA	0.2	0.05	06/22/2217:12	NA	IF22044	IF22033	HCF013W	06/14/2210:20	06/16/22
MW-55-120-Q222	F146-06	7.70	1	NA	0.2	0.05	06/22/2217:43	NA	IF22047	IF22045	HCF013W	06/14/2211:25	06/16/22
EB-737-Q222	F146-07	ND	1	NA	0.2	0.05	06/22/2217:54	NA	IF22048	IF22045	HCF013W	06/14/2214:20	06/16/22
MW-92-037-Q222	F146-08	ND	1	NA	0.2	0.05	06/22/2218:04	NA	IF22049	IF22045	HCF013W	06/15/2209:22	06/16/22
MW-92-072-Q222	F146-09	ND	1	NA	0.2	0.05	06/22/2218:15	NA	IF22050	IF22045	HCF013W	06/15/2208:52	06/16/22
MW-92-102-Q222	F146-10	3.93	1	NA	0.2	0.05	06/22/2218:25	NA	IF22051	IF22045	HCF013W	06/15/2208:24	06/16/22

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F146
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HCF013WB	HCF013WL	HCF013WC
LAB FILE ID	: IF22035	IF22036	IF22037
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2215:35	06/22/2215:46	06/22/2215:56
PREP BATCH	: HCF013W	HCF013W	HCF013W
CALIBRATION REF	: IF22033	IF22033	IF22033

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	1.96	98.0	2.00	2.00	100	2	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F146
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-55-045-Q222	MW-55-045-Q222MS	MW-55-045-Q222MSD
LAB SAMPLE ID	: F146-04	F146-04M	F146-04S
LAB FILE ID	: IF22041	IF22042	IF22043
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2216:38	06/22/2216:51	06/22/2217:02
PREP BATCH	: HCF013W	HCF013W	HCF013W
CALIBRATION REF	: IF22033	IF22033	IF22033

ACCESSION:

PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	1.09	109	1.00	1.08	108	1	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

EMAX
LABORATORIES, INC.
3051 Fujita Street
Torrance, CA 90505
Tel: (310)-618-8889

Date: 07-05-2022
EMAX Batch No.: 22F146

Attn: Laura Madsen

ARCADIS
1410 Rocly Ridge Dr #330
Roseville CA 95661

Subject: Laboratory Report
Project: PG&E TOPOCK-GMP

Enclosed is the Laboratory report for samples received on 06/16/22.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
MW-56D-Q222	F146-01	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-56M-Q222	F146-02	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-56S-Q222	F146-03	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-55-045-Q222	F146-04	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-55-045-EB-Q222	F146-05	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-55-120-Q222	F146-06	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
EB-737-Q222	F146-07	06/14/22	WATER	CHROMIUM HEXAVALENT BY IC
MW-92-037-Q222	F146-08	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-92-072-Q222	F146-09	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM
MW-92-102-Q222	F146-10	06/15/22	WATER	CHROMIUM HEXAVALENT BY IC DISSOLVED CHROMIUM

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all TNI & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number CA002912022-22
ANAB Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

22F146

EMAX LABORATORIES, INC.
Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

CHAIN OF CUSTODY RECORD

| | | |

EMAX LABORATORIES, INC.

Contact us:
3051 Fujita St, Torrance, CA 90505
Tel # : 310-618-8889 FAX#: 310-618-0818
Email: info@emaxlabs.com

CHAIN OF CUSTODY RECORD

22F146

Client: Arcadis	Report to: Dan Bush	Bill to: Dan Bush	EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		1. Chilled		
			Geotracker		RWQCB	✓	2. Headspace		
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Labspec		CalTrans		3. Container Intact		
			Others	✓	LEVEL III		4. Seal Present		
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: dan.bush@arcadis.com	Specify: RWQCB		LEVEL IV		5. IR number		
Submitted By: Nara Tey		Phone: 916-786-3302 Fax:	Global ID:		Regulatory		6. Method of Cooling:		
Title: Project Manager	Phone: 916-786-3302 Fax:				Specify State:				
Signature: Date: 6/15/22	Sampled By: Nara Tey						Sample Temp:		

I hereby authorize ASSET Labs to perform the tests indicated below

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Project Name: PG&E Topock - AZ RCM — Signature: — Date: 6/15/22

Project Number: 30121866.2Q22GW

Courier:

Tracking No.:

Matrix: Ground water (x) | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 125 mL poly	Cr(VI) FF (SM3500B) (NH4)2, SO4, NH4, OH 250 mL poly	Metals Total (6020A) Potassium, Calcium, Sodium, Magnesium, Manganese; HNO3 250 mL poly	Cations Total (6020A) Calcium, Potassium, Magnesium, Sodium; HNO3 250 mL poly	Dissolved Title 22 metals (SW6020B) FF; HNO3 250 mL poly	Dissolved metals Chromium; HNO3 250 mL poly	Alkalinity, Total (SM 2320B) 500 mL poly	Chloride, Fluoride, Sulfate, Nitrate (EPA 300.0) 500 mL poly	TDS (SM 2540C) 500 mL poly	TOC (SM9060); HCl 125 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	1	MW-56D-Q222	6/14/2022	13:13		X					X					E	2	P	BN	
2	2	MW-56M-Q222	6/14/2022	12:49		X					X					E	2	P	BN	
3	3	MW-56S-Q222	6/14/2022	12:24		X					X					E	2	P	BN	
4	4	MW-55-045-Q222	6/14/2022	10:52		X					X					E	2	P	BN	
5	5	MW-55-045-EB-Q222	6/14/2022	10:20		X					X					E	2	P	BN	
6	6	MW-55-120-Q222	6/14/2022	11:25		X					X					E	2	P	BN	
7	7	EB-737-Q222	6/14/2022	14:20		X										E	1	P	BN	
8	8	MW-92-037-Q222	6/15/2022	9:22		X					X					E	2	P	BN	
9	9	MW-92-072-Q222	6/15/2022	8:52		X					X					E	2	P	BN	
10	10	MW-92-102-Q222	6/15/2022	8:24		X					X					E	2	P	BN	

Diss. Chromium was not received.

Reliquished by (Signature and Printed Name): Nara Tey 6/15/22 1300 — Date/Time:

Reliquished by (Signature and Printed Name): — Date/Time:

Reliquished by (Signature and Printed Name): — Date/Time:

Reliquished by (Signature and Printed Name): — Date/Time:

Reliquished by (Signature and Printed Name): — Date/Time:

Reliquished by (Signature and Printed Name): — Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:
Dissolved Title 22 Metals - Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

Container Type:

White=Laboratory Copy

Yellow=Customer's Copy

SAMPLE RECEIPT FORM 1

EMAX LABORATORIES, INC.

Type of Delivery	Airbill / Tracking Number	ECN 22F146
☑ Fedex ☐ UPS ☐ GSO ☐ Others	771139103030	Recipient Jocelyne Solis-Ramos
☐ EMAX Courier ☐ Client Delivery		Date 06/16/22 Time 09:32

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other			
Condition	☐ Custody Seal	☐ Intact	☐ Damaged			
Packaging correction factor -0.5	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☐ Sufficient	☐ _____	
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.5/2.0 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C	
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C	
Thermometer:	*A - S/N* 210583479	*B - S/N* _____	(C) *S/N* 210271399	*D - S/N* _____		

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
4-7,10	7,10-12,18	D10		R8
~~9~~	12	~~D20~~	JSR 06/16	
1-4,6,8-10	1,3,5,7,10,13,15,17	D12	label reads 250mL, received 125mL poly for Cr(VI)	R8
1-4,6,8-10	2,4,6,8,11,14,16,18	D12	label reads 500mL, received 250mL poly for Dissolved Metals	R8
6,7	9,12	D12	received 250mL poly for Cr(VI)	R8
5		D8	no container for Dissolved Metals received	↓
			06/14/22	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time. RS 6/16/22

NOTES/OBSERVATIONS: Sample 7 container 12 does not read field-filtered on label but on COC.

SAMPLE MATRIX IS DRINKING WATER? ☐ YES ☑ NO

LEGEND:

☐ Continue to next page.

Code	Description- Sample Management
D1	Analysis is not indicated in _____
D2	Analysis mismatch COC vs label
D3	Sample ID mismatch COC vs label
D4	Sample ID is not indicated in _____
D5	Container -[improper] [leaking] [broken]
D6	Date/Time is not indicated in _____
D7	Date/Time mismatch COC vs label
(D8)	Sample listed in COC is not received
D9	Sample received is not listed in COC
(D10)	No initial/date on corrections in COC/label
D11	Container count mismatch COC vs received
(D12)	Container size mismatch COC vs received

Code	Description-Sample Management
D13	Out of Holding Time
D14	Bubble is >6mm
D15	No trip blank in cooler
D16	Preservation not indicated in _____
D17	Preservation mismatch COC vs label
D18	Insufficient chemical preservative
D19	Insufficient Sample
(D20)	No filtration info for dissolved analysis
D21	No sample for moisture determination
D22	_____
D23	_____
D24	_____

Code	Description-Sample Management
R1	Proceed as indicated in ☐ COC ☐ Label
R2	Refer to attached instruction
R3	Cancel the analysis
R4	Use vial with smallest bubble first
R5	Log-in with latest sampling date and time+1 min
R6	Adjust pH as necessary
R7	Filter and preserved as necessary
R8	Informed Client
R9	
R10	
R11	
R12	

REVIEWS:

Sample Labeling Jocelyne Solis-Ramos Date 06/16/22 06/16/22

SRF Date 6/16/22

PM RS Date 6/16/22

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LEVEL IV

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

SDG#: 22F146

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F146

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

A total of eight(8) water samples were received on 06/16/22 to be analyzed for Dissolved Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were satisfied.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one(1) method blank was analyzed. IMF024WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one(1) set of LCS/LCD was analyzed. IMF024WL/IMF024WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was provided on this SDG.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met. Samples analyzed at dilution due to high saturation.

LAB CHRONICLE
DISSOLVED METALS BY ICP-MS

Client : ARCADIS
Project : PG&E TOPOCK-GMP

SDG NO. : 22F146
Instrument ID : H6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IMF024WB	1	NA	06/22/2213:34	06/21/2211:56	H6F14018	H6F14016	IMF024W	Method Blank
LCS1W	IMF024WL	1	NA	06/22/2213:36	06/21/2211:56	H6F14019	H6F14016	IMF024W	Lab Control Sample (LCS)
LCD1W	IMF024WC	1	NA	06/22/2213:39	06/21/2211:56	H6F14020	H6F14016	IMF024W	LCS Duplicate
MW-56D-Q222	F146-01I	10	NA	06/22/2214:25	06/21/2211:56	H6F14038	H6F14036	IMF024W	Diluted Sample
MW-56M-Q222	F146-02I	10	NA	06/22/2214:28	06/21/2211:56	H6F14039	H6F14036	IMF024W	Diluted Sample
MW-56S-Q222	F146-03I	10	NA	06/22/2214:31	06/21/2211:56	H6F14040	H6F14036	IMF024W	Diluted Sample
MW-55-120-Q222	F146-06I	10	NA	06/22/2214:36	06/21/2211:56	H6F14042	H6F14036	IMF024W	Diluted Sample
MW-55-045-Q222	F146-04	1	NA	06/22/2214:51	06/21/2211:56	H6F14048	H6F14046	IMF024W	Field Sample
MW-92-037-Q222	F146-08	1	NA	06/22/2214:54	06/21/2211:56	H6F14049	H6F14046	IMF024W	Field Sample
MW-92-072-Q222	F146-09	1	NA	06/22/2214:56	06/21/2211:56	H6F14050	H6F14046	IMF024W	Field Sample
MW-92-102-Q222	F146-10	1	NA	06/22/2214:59	06/21/2211:56	H6F14051	H6F14046	IMF024W	Field Sample

FN - Filename
% Moist - Percent Moisture

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 13:13
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-56D-Q222	Date Analyzed:	06/22/22 14:25
Lab Samp ID:	F146-01I	Dilution Factor:	10
Lab File ID:	H6F14038	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 12:49
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-56M-Q222	Date Analyzed:	06/22/22 14:28
Lab Samp ID:	F146-02I	Dilution Factor:	10
Lab File ID:	H6F14039	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 12:24
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-56S-Q222	Date Analyzed:	06/22/22 14:31
Lab Samp ID:	F146-03I	Dilution Factor:	10
Lab File ID:	H6F14040	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 10:52
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-55-045-Q222	Date Analyzed:	06/22/22 14:51
Lab Samp ID:	F146-04	Dilution Factor:	1
Lab File ID:	H6F14048	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/14/22 11:25
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-55-120-Q222	Date Analyzed:	06/22/22 14:36
Lab Samp ID:	F146-06I	Dilution Factor:	10
Lab File ID:	H6F14042	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14036	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	10.0	2.50

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 09:22
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-92-037-Q222	Date Analyzed:	06/22/22 14:54
Lab Samp ID:	F146-08	Dilution Factor:	1
Lab File ID:	H6F14049	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 08:52
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID	: MW-92-072-Q222	Date Analyzed:	06/22/22 14:56
Lab Samp ID	: F146-09	Dilution Factor:	1
Lab File ID	: H6F14050	Matrix:	WATER
Ext Btch ID	: IMF024W	% Moisture:	NA
Calib. Ref.	: H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	06/15/22 08:24
Project	: PG&E TOPOCK-GMP	Date Received:	06/16/22
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MW-92-102-Q222	Date Analyzed:	06/22/22 14:59
Lab Samp ID:	F146-10	Dilution Factor:	1
Lab File ID:	H6F14051	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14046	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	3.87	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

METHOD SW6020A
DISSOLVED METALS BY ICP-MS

Client	: ARCADIS	Date Collected:	NA
Project	: PG&E TOPOCK-GMP	Date Received:	NA
SDG NO.	: 22F146	Date Extracted:	06/21/22 11:56
Sample ID:	MBLK1W	Date Analyzed:	06/22/22 13:34
Lab Samp ID:	IMF024WB	Dilution Factor:	1
Lab File ID:	H6F14018	Matrix:	WATER
Ext Btch ID:	IMF024W	% Moisture:	NA
Calib. Ref.:	H6F14016	Instrument ID:	H6

PARAMETERS	Result (ug/L)	RL (ug/L)	MDL (ug/L)
Chromium	ND	1.00	0.250

Note: Detection limits are reported relative to sample result significant figures.

Sample Amount	: 50ml	Final Volume:	50ml
Prepared by	: CKaing	Analyzed by:	LYaman

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F146
METHOD : SW6020A

MATRIX	: WATER		% MOISTURE:NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: IMF024WB	IMF024WL	IMF024WC
LAB FILE ID	: H6F14018	H6F14019	H6F14020
DATE PREPARED	: 06/21/22 11:56	06/21/22 11:56	06/21/22 11:56
DATE ANALYZED	: 06/22/22 13:34	06/22/22 13:36	06/22/22 13:39
PREP BATCH	: IMF024W	IMF024W	IMF024W
CALIBRATION REF	: H6F14016	H6F14016	H6F14016

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpikeAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
Chromium	ND	30	31.2	104	30	31.6	105	1	85-115	20

ICP-MS QC CHECK TABLE

QC	HIGH STD	ICV	CCV	ICSAB	ICSA
Limit%		90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	3000	25000	100000	100000
Sb	100	60	50	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	300	25	20	0
B	100	300	50	20	0
Cd	500	300	250	20	0
Ca	50000	3000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	300	25000	100000	100000
Pb	500	300	250	20	0
Mg	50000	3000	25000	100000	100000
Mn	3000	300	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
K	50000	3000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	2000	0
Ag	50	30	25	20	0
Na	50000	3000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0
Li	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 06|22|22 12:53

End Date: 06|22|22 15:15

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

F145, F146

10X: 0.5mL → 5mL

Book #:	AH6-011
Instrument No.:	H6
Analytical Batch:	1H6F14
Analytical Sequence:	H6F14
Method File:	E6020
Micropipette ID:	☐ 142781004
Micropipette ID:	☑ ICP-06
Micropipette ID:	☐ 339362028
Micropipette ID:	☑ GFAA-07
Micropipette ID:	☐ 339342032
Micropipette ID:	☑ A42780077
Micropipette ID:	☐ 542761827
Micropipette ID:	☑ A42761607

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B-25-51-01	MRL1 (1)	SM6B-25-17-02
S1	51-02	MRL2 (0.4)	18-01
S2	52-01	MRL3 (CAL)	18-02
S3	52-02	MRL4	NA
S4	53-01	MRL5	↓
S5	53-02	MRL6	↓
S6	NA	Internal Standard	SM6B-25-54-02
S7	↓	Post-Spike 1	SM6A-23-01-12
ICV	SM6B-25-16-01	Post-Spike 2	01-13
CCV	54-01	Post-Spike 3	NA
ICSA	47-01	Post-Spike 4	↓
ICSAB	47-02		
6020 TUNE SOLN.	46-02		
200.8 TUNE SOLN.	46-02		

Analyzed By: LY

Date: 06|22|22

INITIAL CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22F146
Method : METHOD SW6020A
Sequence : IH6F14
InstrumentID: H6

Lab Samp ID :		ICV				ICSA1			ICSAB1	
QC Limit :		%R:90-110/RSD:<5				%R:80-120/<LOD			%R:80-120	
Lab File ID :		H6F14009				H6F14013			H6F14014	
DateAnalyed :		06/22/2213:10				06/22/2213:21			06/22/2213:23	
Parameter		Result	ICV EV	RSD	%Recovery	Result	ICSA EV	%Rec/LOD	Result	ICSAB EV	%Recovery
Lithium		28.05	30	4.1	94	0.092621	0	>0	20.063	20	100
Beryllium		28.78	30	4.6	96	0.0095358	0	<0.1	19.677	20	98
Boron		28.11	30	6.0	94	1.1383	0	<5.0	18.011	20	90
Sodium		30830	30000	0.8	103	104840	100000	105	103230	100000	103
Magnesium		29930	30000	4.4	100	100580	100000	101	101480	100000	101
Aluminum		29370	30000	4.8	98	100040	100000	100	100740	100000	101
Silicon		3253	3000	0.6	108	8.1256	0	<20	224.66	200	112
Phosphorus		300.5	300	4.2	100	102090	100000	102	102600	100000	103
Potassium		30560	30000	0.4	102	105340	100000	105	104230	100000	104
Calcium		30370	30000	0.9	101	105070	100000	105	102060	100000	102
Titanium		303.8	300	4.0	101	2097.7	2000	105	2129.5	2000	106
Vanadium		307.1	300	0.5	102	0.71991	0	>0.5	19.679	20	98
Chromium	T	316.5	300	0.5	106	2.0017	0	>.25	22.204	20	111
Manganese		1942	2000	3.7	97	0.39401	0	>0.2	20.334	20	102
Iron		30480	30000	0.2	102	102800	100000	103	101670	100000	102
Cobalt		310.0	300	4.0	103	0.15966	0	<0.2	20.437	20	102
Nickel		310.5	300	0.5	103	0.16511	0	<0.2	19.876	20	99
Copper		329.5	300	0.4	110	0.13204	0	<0.5	20.058	20	100
Zinc		311.0	300	3.7	104	2.0861	0	<10	21.818	20	109
Arsenic		305.3	300	0.3	102	0.051799	0	<0.2	20.016	20	100
Selenium		311.7	300	0.3	104	0.25915	0	<0.3	20.108	20	101
Strontium		308.0	300	3.6	103	1.1152	0	>1.0	21.425	20	107
Zirconium		32.21	30	3.6	107	0.32343	0	<2.0	6.6503	20	33*
Molybdenum		298.9	300	4.6	100	2075.8	2000	104	2089.1	2000	104
Silver		29.92	30	4.1	100	0.30026	0	>0.2	19.954	20	100
Cadmium		299.6	300	3.5	100	0.078047	0	<0.2	19.965	20	100
Tin		303.4	300	3.7	101	0.076931	0	<0.2	20.496	20	102
Antimony		58.61	60	3.1	98	0.056548	0	<0.5	20.234	20	101
Barium		304.8	300	3.5	102	0.38205	0	<0.5	20.730	20	104
Tungsten		29.54	30	1.8	98	0.13513	0	<1.0	19.135	20	96
Mercury		2.859	3	2.7	95	0.013242	0	<0.1	1.9935	2	100
Thallium		308.1	300	3.3	103	0.012970	0	<0.2	19.597	20	98
Lead		311.8	300	2.2	104	0.091142	0	<0.1	19.937	20	100
Uranium		305.3	300	3.0	102	0.0052144	0	<0.1	19.928	20	100

Unit:	ug/L
T:	Target analyte
EV:	Expected Value
Comment:	* Out of QC limit

CONTINUING CALIBRATION VERIFICATION SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22F146
Method : METHOD SW6020A
Sequence : IH6F14
Instrument ID: H6

		CCV1			CCV2			CCV3			CCV4			CCV5		
CCV SampleID					H6F14028			H6F14036			H6F14046			H6F14052		
CCV DataFileID		H6F14016														
CCV DateTime		06/22/22 13:28			06/22/22 13:59			06/22/22 14:20			06/22/22 14:46			06/22/22 15:02		
PARAMETER		CCV EV	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD	RESULT	%REC	RSD
Lithium		25	23.3	93	4.2	23.6	94	4.7	23.6	94	3.7	23.7	95	4.6	24.1	96	3.8
Beryllium		25	23.3	93	3.9	23.2	93	4.5	23.4	93	4.8	23.4	94	4.3	23.1	92	3.4
Boron		50	44.1	88*	7.1	48.0	96	5.4	54.1	108	2.7	47.7	95	4.4	61.2	122*	2.5
Sodium		25000	24900	100	0.7	25600	102	0.6	25500	102	0.3	25300	101	1.2	25900	104	0.7
Magnesium		25000	24500	98	3.4	24800	99	3.6	25000	100	3.0	24900	99	4.4	25400	102	3.0
Aluminum		25000	24400	98	1.8	24800	99	4.7	24900	100	3.7	24800	99	4.9	25300	101	1.7
Silicon		2500	2500	100	0.3	2590	104	0.5	2570	103	0.7	2510	101	0.5	2550	102	1.6
Phosphorus		250	235	94	3.1	235	94	2.6	240	96	3.3	240	96	3.8	244	98	1.8
Potassium		25000	25100	101	1.0	25300	101	0.4	25700	103	0.9	25500	102	0.3	25900	104	0.4
Calcium		25000	24700	99	0.7	25200	101	0.2	25000	100	0.2	25200	101	1.0	25300	101	0.6
Titanium		250	243	97	3.2	244	98	3.7	245	98	2.9	246	99	3.9	246	98	2.4
Vanadium		250	249	100	0.1	248	99	0.1	247	99	0.1	250	100	0.5	248	99	0.6
Chromium	T	250	250	100	0.4	251	100	0.5	252	101	0.3	250	100	0.6	251	100	0.6
Manganese		1500	1470	98	3.5	1470	98	3.4	1470	98	3.9	1480	98	3.3	1480	99	3.6
Iron		25000	24900	100	0.2	25000	100	1.1	24900	100	0.9	25100	100	0.9	25000	100	0.9
Cobalt		250	247	99	3.3	250	100	4.2	248	99	2.7	250	100	3.4	250	100	2.9
Nickel		250	249	100	0.6	249	100	0.3	247	99	0.1	249	100	0.7	246	98	0.6
Copper		250	252	101	0.3	252	101	0.1	253	101	0.6	254	102	0.6	250	100	0.7
Zinc		250	243	97	4.3	246	98	3.3	247	99	4.0	245	98	4.1	247	99	2.7
Arsenic		250	245	98	0.8	247	99	0.3	248	99	0.3	246	99	0.7	246	98	1.1
Selenium		250	246	98	1.0	245	98	0.7	247	99	0.5	244	98	1.2	243	97	0.8
Strontium		250	244	98	4.4	248	99	3.0	251	100	4.1	245	98	4.0	248	99	2.1
Zirconium		25	26.0	104	3.6	26.2	105	3.9	26.2	105	3.9	26.1	104	3.6	26.4	106	3.4
Molybdenum		250	242	97	3.7	242	97	2.8	245	98	3.0	244	98	3.9	247	99	1.6
Silver		25	24.5	98	3.7	24.4	97	3.2	24.4	98	2.4	24.7	99	3.9	24.8	99	2.9
Cadmium		250	242	97	3.2	240	96	2.7	242	97	2.7	243	97	3.1	242	97	1.9
Tin		250	241	96	2.5	241	96	2.0	245	98	2.1	244	98	3.1	243	97	2.5
Antimony		50	47.5	95	2.8	47.2	94	2.2	47.7	95	3.3	47.9	96	2.8	47.5	95	1.7
Barium		500	484	97	3.6	483	97	1.7	491	98	2.6	486	97	2.2	486	97	1.7
Tungsten		25	25.5	102	2.2	25.7	103	3.1	25.4	102	1.4	25.6	102	2.5	25.7	103	0.2
Mercury		2.5	2.45	98	2.8	2.43	97	4.7	2.42	97	3.6	2.42	97	4.7	2.40	96	2.9
Thallium		250	246	98	3.7	246	98	1.8	242	97	2.6	244	98	3.3	246	99	2.5
Lead		250	249	100	3.2	248	99	1.6	245	98	1.6	245	98	2.8	247	99	2.5
Uranium		250	244	98	3.5	243	97	3.1	240	96	1.8	239	96	3.2	241	96	2.5

Unit: ug/L
T: Target analyte
%Rec QC Limit: 90-110
RSD QC Limit: <5
CCV EV: CCV Expected Value ug/L
Comment: * Out of QC limit

CONTINUING CALIBRATION BLANK SUMMARY FORM

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG NO. : 22F146
Method : SW6020A
Sequence : IH6F14
Instrument ID: H6

CB SampleID		: ICB		CCB1		CCB2		CCB3		CCB4	
CB DataFileID		: H6F14010		H6F14017		H6F14029		H6F14037		H6F14047	
CB DateTime		: 06/22/2213:13		06/22/2213:31		06/22/2214:02		06/22/2214:23		06/22/2214:49	
PARAMETER	LOD	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >	RESULT	< LOD >
Lithium	0	0.3	>0	0.4	>0	0.3	>0	0.3	>0	0.2	>0
Beryllium	0.1	0.01	<0.1	0.01	<0.1	0.01	<0.1	0.010	<0.1	0.01	<0.1
Boron	5.0	1	<5.0	1	<5.0	3	<5.0	5	<5.0	3	<5.0
Sodium	50	10	<50	20	<50	60	>50	100	>50	80	>50
Magnesium	10	1	<10	1	<10	2	<10	5	<10	6	<10
Aluminum	20	0.9	<20	1	<20	2	<20	5	<20	5	<20
Silicon	20	9	<20	3	<20	2	<20	2	<20	2	<20
Phosphorus	25	4	<25	8	<25	8	<25	7	<25	6	<25
Potassium	20	1	<20	3	<20	7	<20	20	<20	20	<20
Calcium	25	0.4	<25	0.7	<25	2	<25	5	<25	6	<25
Titanium	0.5	0.02	<0.5	0.03	<0.5	0.03	<0.5	0.08	<0.5	0.09	<0.5
Vanadium	0.5	0.5	<0.5	0.3	<0.5	0.5	>0.5	0.7	>0.5	0.7	>0.5
Chromium T	.25	0.09	<.25	0.1	<.25	0.1	<.25	0.1	<.25	0.1	<.25
Manganese	0.2	0.1	<0.2	0.1	<0.2	0.2	<0.2	0.3	>0.2	0.4	>0.2
Iron	10	0.9	<10	1	<10	2	<10	5	<10	6	<10
Cobalt	0.2	0.003	<0.2	0.004	<0.2	0.02	<0.2	0.04	<0.2	0.05	<0.2
Nickel	0.2	0.001	<0.2	0.007	<0.2	0.02	<0.2	0.05	<0.2	0.06	<0.2
Copper	0.5	0.04	<0.5	0.08	<0.5	0.002	<0.5	0.1	<0.5	0.04	<0.5
Zinc	10	0.06	<10	0.04	<10	0.03	<10	0.07	<10	0.05	<10
Arsenic	0.2	0.03	<0.2	0.04	<0.2	0.07	<0.2	0.04	<0.2	0.04	<0.2
Selenium	0.3	0.04	<0.3	0.03	<0.3	0.05	<0.3	0.07	<0.3	0.07	<0.3
Strontium	1.0	0.008	<1.0	0.007	<1.0	0.03	<1.0	0.06	<1.0	0.06	<1.0
Zirconium	2.0	0.004	<2.0	0.001	<2.0	0.0009	<2.0	0.003	<2.0	0.004	<2.0
Molybdenum	0.5	0.1	<0.5	0.1	<0.5	0.08	<0.5	0.1	<0.5	0.1	<0.5
Silver	0.2	0.001	<0.2	0.002	<0.2	0.002	<0.2	0.0007	<0.2	0.001	<0.2
Cadmium	0.2	0.04	<0.2	0.03	<0.2	0.03	<0.2	0.05	<0.2	0.05	<0.2
Tin	0.2	0.09	<0.2	0.07	<0.2	0.07	<0.2	0.1	<0.2	0.1	<0.2
Antimony	0.5	0.005	<0.5	0.008	<0.5	0.02	<0.5	0.02	<0.5	0.03	<0.5
Barium	0.5	0.02	<0.5	0.02	<0.5	0.05	<0.5	0.1	<0.5	0.1	<0.5
Tungsten	1.0	0.02	<1.0	0.01	<1.0	0.007	<1.0	0.01	<1.0	0.009	<1.0
Mercury	0.1	0.03	<0.1	0.03	<0.1	0.02	<0.1	0.02	<0.1	0.03	<0.1
Thallium	0.2	0.07	<0.2	0.04	<0.2	0.04	<0.2	0.08	<0.2	0.08	<0.2
Lead	0.1	0.07	<0.1	0.02	<0.1	0.010	<0.1	0.03	<0.1	0.04	<0.1
Uranium	0.1	0.03	<0.1	0.02	<0.1	0.03	<0.1	0.06	<0.1	0.06	<0.1

CB SampleID	: CCB5		
CB DataFileID	: H6F14053		
CB DateTime	: 06/22/2215:04		
PARAMETER	LOD	RESULT	< LOD >
Lithium	0	0.2	>0
Beryllium	0.1	0.01	<0.1
Boron	5.0	9	>5.0
Sodium	50	200	>50
Magnesium	10	6	<10
Aluminum	20	5	<20
Silicon	20	4	<20
Phosphorus	25	3	<25

Potassium		20	40	>20
Calcium		25	6	<25
Titanium		0.5	0.09	<0.5
Vanadium		0.5	0.5	>0.5
Chromium	T	.25	0.1	<.25
Manganese		0.2	0.4	>0.2
Iron		10	6	<10
Cobalt		0.2	0.05	<0.2
Nickel		0.2	0.06	<0.2
Copper		0.5	0.004	<0.5
Zinc		10	0.06	<10
Arsenic		0.2	0.01	<0.2
Selenium		0.3	0.07	<0.3
Strontium		1.0	0.07	<1.0
Zirconium		2.0	0.004	<2.0
Molybdenum		0.5	0.1	<0.5
Silver		0.2	0.0008	<0.2
Cadmium		0.2	0.07	<0.2
Tin		0.2	0.2	<0.2
Antimony		0.5	0.02	<0.5
Barium		0.5	0.1	<0.5
Tungsten		1.0	0.005	<1.0
Mercury		0.1	0.03	<0.1
Thallium		0.2	0.09	<0.2
Lead		0.1	0.04	<0.1
Uranium		0.1	0.06	<0.1

Unit: ug/L
CB: Calibration Blank
T: Target analyte
Acceptance Criteria: CCB Result <LOD
Comment:

Sample List

Acq/Data Batch D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b

Block List

Acquisition Order

Sequence Order	Block Name
1	Calibration Standards
2	Unknown Samples

Blocks

Calibration Standards

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		CalBlk	BLANK		1101	H6F14001.d		1	
2		CalBlk	BLANK		1101	H6F14002.d		1	
3		CalBlk	S0		1102	H6F14003.d		1	
4		CalStd	S1		1103	H6F14004.d		2	
5		CalStd	S2		1104	H6F14005.d		3	
6		CalStd	S3		1105	H6F14006.d		4	
7		CalStd	S4		1106	H6F14007.d		5	
8		CalStd	S5		1107	H6F14008.d		6	
9		ICV	ICV		1204	H6F14009.d			1
10		ICB	ICB		1102	H6F14010.d			1
11		LLCCV	MRLF2201	1/100/10 ppb	1306	H6F14011.d			1
12		LLCCV2	MRLF2202	0.4/40/4 ppb	1307	H6F14012.d			1
13		ICS-A	ICSA1		1304	H6F14013.d			1
14		ICSB	ICSAB1		1305	H6F14014.d			1
15		Sample	MRLF2203	500 ppb CAT	1207	H6F14015.d			1
16		CCV	CCV1		1206	H6F14016.d			1
17		CCB	CCB1		1102	H6F14017.d			1

Unknown Samples

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
1		Blank	IMF024WB		2101	H6F14018.d			1
2		LCSW	IMF024WL		2102	H6F14019.d			1
3		LCSW	IMF024WC		2103	H6F14020.d			1
4		Sample	F145-01M		2104	H6F14021.d			10
5		Sample	F145-01S		2105	H6F14022.d			10
6		Sample	F145-01A		2106	H6F14023.d			10
7		Sample	F145-01I		2107	H6F14024.d			10
8		Sample	F145-01J		2108	H6F14025.d			50
9		Sample	F145-02I		2109	H6F14026.d			10
10		Sample	F145-04I		2110	H6F14027.d			10
11		CCV	CCV2		1206	H6F14028.d			1
12		CCB	CCB2		1102	H6F14029.d			1
13		Sample	F145-06I		2111	H6F14030.d			10
14		Sample	F145-08I		2112	H6F14031.d			10
15		Sample	F145-09I		2201	H6F14032.d			10
16		Sample	F145-10I		2202	H6F14033.d			10
17		Sample	F145-11I		2203	H6F14034.d			10
18		Sample	F145-08		2301	H6F14035.d			1
19		CCV	CCV3		1206	H6F14036.d			1

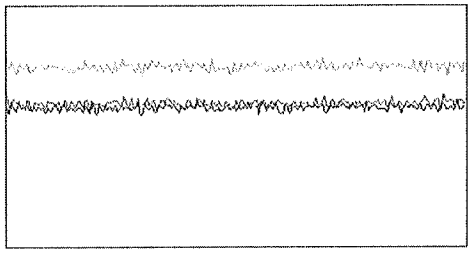
Sample List

#	Skip	Sample Type	Sample Name	Comment	Vial#	File Name	Replicates	Level	Total Dil.
20		CCB	CCB3		1102	H6F14037.d			1
21		Sample	F146-01l		2204	H6F14038.d			10
22		Sample	F146-02l		2205	H6F14039.d			10
23		Sample	F146-03l		2206	H6F14040.d			10
24		Sample	F146-04l		2207	H6F14041.d			10
25		Sample	F146-06l		2208	H6F14042.d			10
26		Sample	F146-08l		2209	H6F14043.d			10
27		Sample	F146-09l		2210	H6F14044.d			10
28		Sample	F146-10l		2211	H6F14045.d			10
29		CCV	CCV4		1206	H6F14046.d			1
30		CCB	CCB4		1102	H6F14047.d			1
31		Sample	F146-04		2302	H6F14048.d			1
32		Sample	F146-08		2303	H6F14049.d			1
33		Sample	F146-09		2304	H6F14050.d			1
34		Sample	F146-10		2305	H6F14051.d			1
35		CCV	CCV5		1206	H6F14052.d			1
36		CCB	CCB5		1102	H6F14053.d			1
37		ICS-A	ICSA2		1304	H6F14054.d			1
38		ICSB	ICSAB2		1305	H6F14055.d			1

Performance Report

Operator Name	LYaman
Acq. Date-Time	2022-06-22 12:26:52
Instrument Name	G8421A SG19253823
Sample Introduction	ISIS
Nebulizer Type	MicroMist
Ion Lens Model	x-Lens
Tune Parameters	Standard Tune

Sensitivity



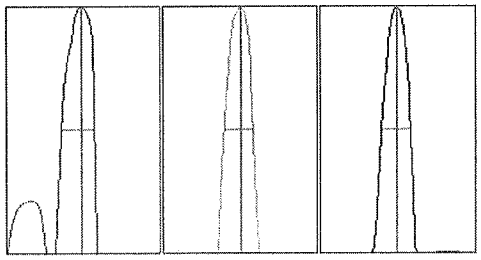
Mass	Range	Count	RSD%	Background
7	10000	5957	2.211	0.200
89	20000	14964	1.916	0.500
205	20000	11563	2.125	2.800

Sampling Period [sec] 0.311
Integration Time [sec] 0.1

Oxide/Doubly Charged Ratio

Oxide 156 / 140 0.894 %
Doubly Charged 70 / 140 1.597 %

Resolution/Axis



Mass	Peak Height	Axis	W-50%	W-10%
7	5976.08	7.00	0.66	0.77
89	14921.14	89.05	0.58	0.75
205	11494.67	205.00	0.57	0.74

Integration Time [sec] 0.1
Acquisition Time [sec] 22.74

Tune Parameters

Plasma Parameters

RF Power	1550 W	Option Gas	---	Makeup Gas	0.00 L/min
RF Matching	1.20 V	Nebulizer Pump	0.10 rps	Auxiliary Gas	0.90 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C	Plasma Gas	15.0 L/min
Nebulizer Gas	1.07 L/min				

Lens Parameters

Extract 1	0.0 V	Omega Lens	6.6 V	Deflect	12.8 V
Extract 2	-160.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Performance Report

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

QP Bias	-3.0 V

Hardware Settings

Torch

Torch H	0.3 mm	Torch H (Hot)	---	Torch H (Cool)	---
Torch V	-0.4 mm	Torch V (Hot)	---	Torch V (Cool)	---

Plasma Correction

Nebulizer Gas Offset	0.02 L/min	Makeup Gas (Hot)	---	Makeup Gas (Cool)	---
		Sample Depth (Hot)	---		

Resolution/Axis

Mass Gain	123	Axis Gain	0.9994		
Mass Offset	124	Axis Offset	-0.01		

EM

Discriminator	3.2 mV	Analog HV	2301 V	Pulse HV	1119 V

Performance Report

Meter

Name	Value	Unit
Nebulizer Gas	1.07	L/min
MU./Dil. Gas	0.00	L/min
Plasma Gas	15.02	L/min
Aux Gas	0.90	L/min
Ar Gas Tank Press	7.39E+2	kPa
+5V (Press Gage)	5.0	V
Ar AMFC Temp	32.0	°C
Nebulizer Gas(DP)	5.91E+0	kPa
MU./Dil. Gas(DP)	-1.85E-1	kPa
Aux Gas(DP)	1.24E+1	kPa
Plasma Gas(DP)	1.12E+1	kPa
Nebulizer Gas(BP)	3.70E+2	kPa
MU./Dil. Gas(BP)	-4.01E+0	kPa
Aux Gas(BP)	5.93E+1	kPa
Plasma Gas(BP)	3.95E+1	kPa
S/C Temp (H)	16.3	°C
S/C Temp (L)	2.0	°C
Peltier Voltage	2.8	V
IF/BK Press	2.35E+2	Pa
Analyzer Press	6.99E-5	Pa
IG HV	178	V
IG Emission	4.97	µA
TMP Revolution	100.0	%
TMP Rev (RAW)	100.2	%
TMP Current	2.62	A
PWR AMP Drain I	0.2	A
PWR AMP Bias	4.18	V
OctP RF (Avg)	203.8	V
OctP RF Set	4.0	V
OctP FET Bias Set	3.97	V
OctP RF(+)	176.5	V
OctP RF(-)	231.5	V
OctP Bias	-8.0	V
Cell Temp.	65.0	°C
Cell Heater Volt.	4.0	V
+U Voltage	36.4	V

Name	Value	Unit
-U Voltage	-38.9	V
V Voltage	35.1	V
QPRF Fader	0.0	V
Pickup Temp	54.9	°C
PWR Amp Temp	0.1	V
+600V	609.1	V
-120V	-133.6	V
-720V	-737.8	V
Prefilter Bias	-5.06	V
Pickup Heater I	0.08	A
QP PS +48V	47.5	V
QP PS +48V I	0.00	A
Analog HV	-2305	V
Pulse HV	1130	V
EM Gate	-40.2	V
Pulse Gate	237.2	V
EM Entrance	0.1	V
EM HV Gain	-945.7	V
Inner Pole	-300.3	V
Outer Pole	20.1	V
Analog -5V	-5.1	V
Analog +15V	14.5	V
Analog -15V	-14.4	V
Analog +5V	5.2	V
Shunt C Pos	1.2	V
Drain Volt.(max)	62.5	V
RF PS +48V	47.9	V
Forward Power	1550	W
Reflected Power	3	W
Plasma Freq.	26.71	MHz
Drain I 1	11.45	A
Drain I 2	10.94	A
Drain I 3	10.89	A
Drain I 4	10.22	A
Temp Sensor	2.8	V
Driver I	5.64	A

Name	Value	Unit
Igniter	0.0	V
Driver Voltage Set	6.5	V
Unbalance Current	0.44	A
PWM Threshold Set	0.2	V
Driver Voltage	5.1	V
PWM Threshold	0.2	V
Phase Detector	0.0	mV
H2 Gas	0.00	mL/min
He Gas	0.01	mL/min
H2 Gas Press	1.70E+2	kPa
He Gas Press	1.52E+0	kPa
ORS AMFC Temp	32.1	°C
Atmospheric Press	1.01E+2	kPa
Extract 1	-0.1	V
Extract 2	-160.3	V
Omega Bias	-90.2	V
Omega Lens	6.5	V
Cell Entrance	-30.0	V
Cell Exit	-50.2	V
Deflect	12.8	V
Plate Bias	-35.0	V
HV+530V	523	V
HV+240V	238	V
HV-360V	-357	V
Inlet Temp	31.2	°C
Internal Temp	38.7	°C
+24V	23.6	V
Water Temp	18.7	°C
Water RF/WC/IF	1.40	L/min
ISIS 3 Pump Speed	0.0	%
Valve Position		
Tune/ISTD Valve		

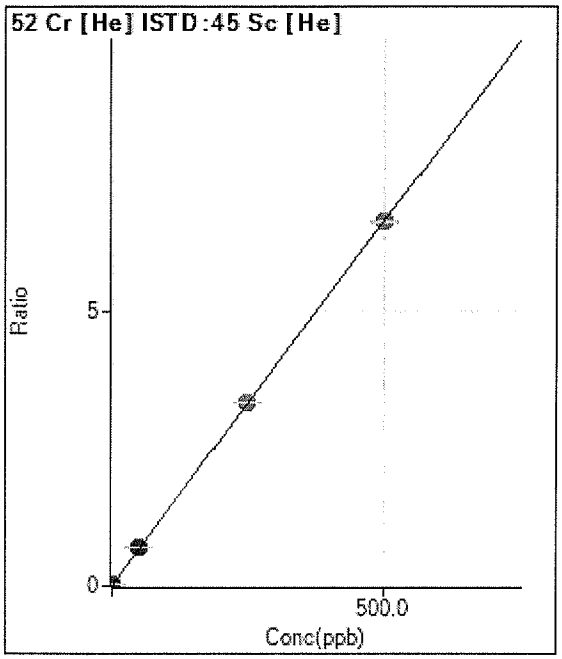
Performance Report History

Sensitivity

Calibration for H6F14055.d

Batch Folder:	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b\
Analysis File:	IH6F14.batch.bin
DA Date-Time:	2022-06-22 15:17:37
Calibration Title:	
Calibration Method:	External Calibration
VIS Interpolation Fit:	

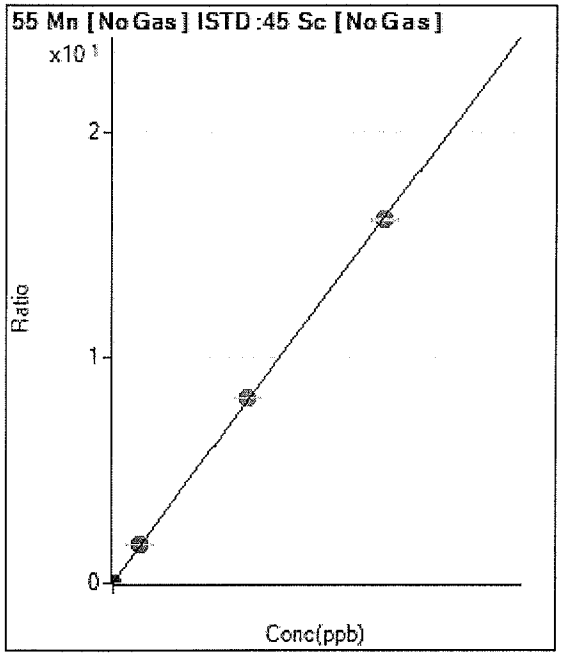
Level	Standard Data File	Sample Name	Acq. Date-Time
1	H6F14003.d	S0	2022-06-22 12:53:37
2	H6F14004.d	S1	2022-06-22 12:56:28
3	H6F14005.d	S2	2022-06-22 12:59:19
4	H6F14006.d	S3	2022-06-22 13:02:10
5	H6F14007.d	S4	2022-06-22 13:05:00
6	H6F14008.d	S5	2022-06-22 13:07:50



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1524.76	0.0044	P	5.8
2	☐	0.500	0.553	4101.29	0.0117	P	3.6
3	☐	1.000	1.078	6580.91	0.0187	P	3.5
4	☐	50.000	52.922	251716.27	0.7096	P	0.8
5	☐	250.000	250.414	1167492.96	3.3416	A	0.3
6	☐	500.000	499.500	2261914.75	6.6611	A	0.2

y = 0.0133 * x + 0.0044
R = 1.0000
DL = 0.05699
BEC = 0.3281

Weight: <None>
Min Conc: 0



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8972.27	0.0022	P	0.8
2	☐	0.500	0.626	22539.22	0.0056	P	1.1
3	☐	1.000	1.146	34113.79	0.0084	P	0.2
4	☐	300.000	317.275	6942330.50	1.7183	A	0.7
5	☐	1500.000	1523.203	33321446.67	8.2411	A	0.5
6	☐	3000.000	2986.671	64419634.67	16.1568	A	0.7

y = 0.0054 * x + 0.0022
R = 0.9999
DL = 0.009279
BEC = 0.4121

Weight: <None>
Min Conc: 0

US EPA Tune Check Report

Operator Name	LYaman
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq. Date-Time	2022-06-22 12:44:18
Report Comment	---
Instrument Name	G8421A SG19253823

[No Gas]

Sensitivity

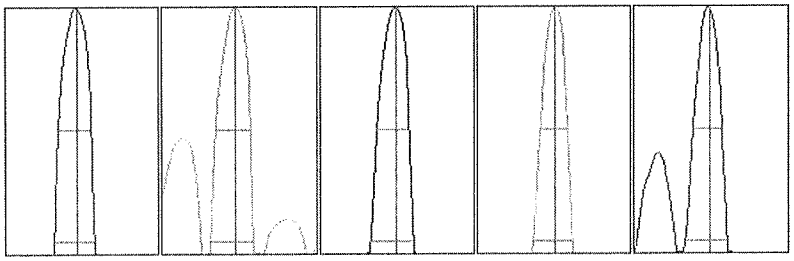
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
9	10.00	25341	253408.94			0.681	5.000
24	10.00	88964	889642.16			0.294	5.000
59	10.00	170569	1705693.56			0.625	5.000
115	10.00	248185	2481845.99			0.676	5.000
208	10.00	172657	1726569.37			0.945	5.000

Mass	RSD% (Flag)
9	
24	
59	
115	
208	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
9	25364	25267	25622	25286	25166
24	88977	88954	88629	88900	89361
59	169842	172206	171109	169807	169883
115	246727	246996	248600	250891	247708
208	172227	171255	171352	175192	173257

Integration Time [sec] 0.1

Resolution/Axis



Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	41696.72	8.95	8.90 - 9.10	
24	144342.89	23.95	23.90 - 24.10	
59	283957.98	59.00	58.90 - 59.10	
115	478651.13	115.05	114.90 - 115.10	
208	317410.37	208.00	207.90 - 208.10	

US EPA Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.64	0.786	0.900	
24	0.66	0.830	0.900	
59	0.63	0.827	0.900	
115	0.54	0.766	0.900	
208	0.57	0.807	0.900	

Integration Time [sec]	0.1
Acquisition Time [sec]	153.699999999999
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	HMI	Nebulizer Gas	0.61 L/min	Dilution Gas	0.36 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.6 V	Deflect	14.0 V
Extract 2	-185.0 V	Cell Entrance	-40 V	Plate Bias	-50 V
Omega Bias	-110 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9994	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	-0.01		

Hardware Settings

Torch

Torch H	0.3 mm	Torch V	-0.4 mm		

EM

Discriminator	3.2 mV	Analog HV	2301 V	Pulse HV	1119 V

Calibration Blank Report

Sample Name	BLANK
File Name	H6F14002.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 12:50:32
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14002.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	116898.66	1.9
Be	9	6	No Gas	100.00	15.3
B	11	6	No Gas	734.46	5.1
Na	23	45	H2	295111.31	0.4
Mg	24	45	No Gas	10640.73	1.4
Al	27	45	No Gas	17991.70	4.0
Si	28	45	H2	6420.15	1.5
P	31	45	No Gas	49099.18	1.0
K	39	45	He	53194.17	3.3
Ca	40	45	H2	38356.52	0.4
Ti	47	45	No Gas	210.67	3.1
V	51	45	He	4357.36	0.5
Cr	52	45	He	1667.44	2.2
Mn	55	45	No Gas	9981.65	1.0
Fe	56	45	H2	25434.87	65.9
Co	59	45	No Gas	682.69	19.1
Ni	60	45	He	44.67	12.9
Cu	63	45	He	1344.73	4.3
Zn	66	72	No Gas	1094.71	7.8
As	75	72	He	191.33	5.0
Se	78	72	H2	9.67	26.0
Sr	88	72	No Gas	617.80	11.6
Zr	90	72	No Gas	170.00	20.4
Mo	95	115	No Gas	42.22	24.1
Mo	98	115	No Gas	97.78	20.8
[Cd]	106	115	No Gas	2.67	108.3
Ag	107	115	No Gas	102.22	24.0
[Cd]	108	115	No Gas	4.00	50.0
Cd	111	115	No Gas	14.74	46.2
Sn	118	115	No Gas	967.82	7.6
Sn	118	115	H2	1013.37	8.9
Sb	123	115	No Gas	162.22	9.7
Ba	137	115	No Gas	133.33	4.3
W	182	159	No Gas	133.33	41.3
Hg	201	159	No Gas	9.83	23.5

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	5.00	30.0
Tl	205	159	No Gas	311.11	9.1
Pb	206	159	No Gas	746.69	12.9
Pb	207	159	No Gas	596.68	12.8
Pb	208	159	No Gas	2851.25	9.1
Th	232	159	No Gas	45.56	4.2
U	238	159	No Gas	196.67	22.8

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	2048437.38	0.3
Sc	45	No Gas	3991048.42	0.3
Sc	45	H2	2183609.83	0.9
Sc	45	He	345602.25	0.4
Ge	72	No Gas	887389.44	0.6
Ge	72	H2	589627.64	1.3
Ge	72	He	192331.57	0.5
In	115	No Gas	5997056.36	0.7
Tb	159	No Gas	8850040.48	0.7
Tb	159	He	5162003.50	0.1

Calibration Blank Report

Sample Name	S0
File Name	H6F14003.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 12:53:37
Sample Type	CalBlk
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	117616.60	0.6
Be	9	6	No Gas	56.67	15.6
B	11	6	No Gas	613.35	4.4
Na	23	45	H2	287003.03	0.1
Mg	24	45	No Gas	5572.45	1.3
Al	27	45	No Gas	10503.99	5.3
Si	28	45	H2	5392.38	2.3
P	31	45	No Gas	47953.20	0.9
K	39	45	He	52249.25	3.8
Ca	40	45	H2	24939.82	1.2
Ti	47	45	No Gas	182.67	6.4
V	51	45	He	4296.68	2.5
Cr	52	45	He	1524.76	5.5
Mn	55	45	No Gas	8972.27	0.7
Fe	56	45	H2	8571.36	1.5
Co	59	45	No Gas	259.33	15.9
Ni	60	45	He	39.33	14.7
Cu	63	45	He	1202.06	2.5
Zn	66	72	No Gas	788.69	9.2
As	75	72	He	185.33	8.9
Se	78	72	H2	8.33	6.9
Sr	88	72	No Gas	471.12	12.5
Zr	90	72	No Gas	133.33	11.5
Mo	95	115	No Gas	36.67	9.1
Mo	98	115	No Gas	76.67	15.1
[Cd]	106	115	No Gas	0.33	173.2
Ag	107	115	No Gas	104.45	31.5
[Cd]	108	115	No Gas	4.00	50.0
Cd	111	115	No Gas	4.63	63.1
Sn	118	115	No Gas	634.46	15.1
Sn	118	115	H2	538.90	8.9
Sb	123	115	No Gas	118.89	11.7
Ba	137	115	No Gas	55.55	19.3
W	182	159	No Gas	86.67	46.6
Hg	201	159	No Gas	5.67	10.2

Calibration Blank Report

Name	Mass	ISTD	Tune	CPS	RSD
Hg	201	159	He	4.33	33.3
Tl	205	159	No Gas	222.22	21.3
Pb	206	159	No Gas	416.68	13.2
Pb	207	159	No Gas	413.34	10.9
Pb	208	159	No Gas	1740.05	2.3
Th	232	159	No Gas	45.56	27.7
U	238	159	No Gas	71.11	18.9

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD
Li	6	No Gas	2071494.35	1.1
Sc	45	No Gas	4025477.17	0.3
Sc	45	H2	2213497.75	0.7
Sc	45	He	348770.57	0.8
Ge	72	No Gas	883390.69	0.6
Ge	72	H2	598767.10	0.8
Ge	72	He	194783.48	0.7
In	115	No Gas	6067282.66	0.1
Tb	159	No Gas	8945293.53	1.3
Tb	159	He	5228762.33	0.3

Calibration Standard Report

Sample Name	S1
File Name	H6F14004.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 12:56:28
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	121195.60	0.6
Be	9	6	No Gas	1516.75	0.8
B	11	6	No Gas	2978.10	6.0
Na	23	45	H2	447627.76	0.5
Mg	24	45	No Gas	501297.77	0.1
Al	27	45	No Gas	646868.02	1.1
Si	28	45	H2	99651.82	0.9
P	31	45	No Gas	66455.07	0.6
K	39	45	He	75742.76	1.8
Ca	40	45	H2	398203.60	0.6
Ti	47	45	No Gas	974.04	2.0
V	51	45	He	6526.89	2.1
Cr	52	45	He	4101.29	3.5
Mn	55	45	No Gas	22539.22	1.1
Fe	56	45	H2	570992.61	0.5
Co	59	45	No Gas	10307.23	2.6
Ni	60	45	He	1012.04	4.2
Cu	63	45	He	4033.93	1.1
Zn	66	72	No Gas	5191.66	1.5
As	75	72	He	574.68	5.9
Se	78	72	H2	163.67	3.6
Sr	88	72	No Gas	14638.00	1.4
Zr	90	72	No Gas	60091.41	3.2
Mo	95	115	No Gas	2589.14	6.5
Ag	107	115	No Gas	8022.44	2.5
Cd	111	115	No Gas	1404.06	0.9
Sn	118	115	No Gas	4915.37	1.6
Sb	123	115	No Gas	4928.71	2.2
Ba	137	115	No Gas	2482.46	5.8
W	182	159	No Gas	4420.79	1.8
Hg	201	159	He	71.00	13.7
Tl	205	159	No Gas	14059.03	0.9
Pb	208	159	No Gas	22608.10	1.5
U	238	159	No Gas	20039.69	1.9

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2066080.53	0.6	2071494.35	99.74	60	120	
Sc	45	No Gas	4015242.58	0.3	4025477.17	99.75	60	120	
Sc	45	H2	2226500.08	0.2	2213497.75	100.59	60	120	
Sc	45	He	349182.12	0.8	348770.57	100.12	60	120	
Ge	72	No Gas	941543.40	0.9	883390.69	106.58	60	120	
Ge	72	H2	638379.90	0.8	598767.1	106.62	60	120	
Ge	72	He	208496.03	0.3	194783.48	107.04	60	120	
In	115	No Gas	6093524.72	0.7	6067282.66	100.43	60	120	
Tb	159	No Gas	8967230.20	0.9	8945293.53	100.25	60	120	
Tb	159	He	5236165.67	1.0	5228762.33	100.14	60	120	

Calibration Standard Report

Sample Name	S2
File Name	H6F14005.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 12:59:19
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	128250.77	0.9
Be	9	6	No Gas	2841.40	3.1
B	11	6	No Gas	8528.15	2.4
Na	23	45	H2	603134.54	0.4
Mg	24	45	No Gas	985692.10	0.4
Al	27	45	No Gas	1251911.05	0.4
Si	28	45	H2	191450.71	0.9
P	31	45	No Gas	73251.74	0.1
K	39	45	He	99349.50	2.3
Ca	40	45	H2	744361.10	1.8
Ti	47	45	No Gas	1750.78	2.8
V	51	45	He	8554.67	1.4
Cr	52	45	He	6580.91	3.0
Mn	55	45	No Gas	34113.79	0.6
Fe	56	45	H2	1139190.50	0.8
Co	59	45	No Gas	20009.98	0.9
Ni	60	45	He	1944.81	2.4
Cu	63	45	He	6509.56	2.1
Zn	66	72	No Gas	33999.12	0.6
As	75	72	He	932.36	3.8
Se	78	72	H2	328.33	8.6
Sr	88	72	No Gas	27791.01	2.0
Zr	90	72	No Gas	104704.96	2.9
Mo	95	115	No Gas	5154.33	3.8
Ag	107	115	No Gas	14454.55	1.5
Cd	111	115	No Gas	2866.01	0.7
Sn	118	115	No Gas	9184.33	4.5
Sb	123	115	No Gas	9720.28	4.0
Ba	137	115	No Gas	4685.29	2.7
W	182	159	No Gas	12462.86	2.8
Hg	201	159	He	154.17	4.8
Tl	205	159	No Gas	27769.75	0.8
Pb	208	159	No Gas	40175.26	0.8
U	238	159	No Gas	39036.47	0.4

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2096320.63	0.6	2071494.35	101.2	60	120	
Sc	45	No Gas	4048598.17	0.8	4025477.17	100.57	60	120	
Sc	45	H2	2234187.83	0.3	2213497.75	100.93	60	120	
Sc	45	He	351332.67	0.7	348770.57	100.73	60	120	
Ge	72	No Gas	950235.08	0.4	883390.69	107.57	60	120	
Ge	72	H2	649275.23	0.9	598767.1	108.44	60	120	
Ge	72	He	208536.34	1.0	194783.48	107.06	60	120	
In	115	No Gas	6077394.61	0.3	6067282.66	100.17	60	120	
Tb	159	No Gas	9114843.53	0.9	8945293.53	101.9	60	120	
Tb	159	He	5255396.83	0.6	5228762.33	100.51	60	120	

Calibration Standard Report

Sample Name	S3
File Name	H6F14006.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:02:10
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	166445.35	0.9
Be	9	6	No Gas	14513.03	2.6
B	11	6	No Gas	25994.00	2.4
Na	23	45	H2	15600205.00	0.3
Mg	24	45	No Gas	47481282.67	0.9
Al	27	45	No Gas	60693210.76	0.6
Si	28	45	H2	493475.92	1.0
P	31	45	No Gas	80859.11	0.7
K	39	45	He	2329142.42	0.2
Ca	40	45	H2	33194973.33	0.4
Ti	47	45	No Gas	72579.56	1.3
V	51	45	He	211486.86	0.9
Cr	52	45	He	251716.27	0.8
Mn	55	45	No Gas	6942330.50	0.3
Fe	56	45	H2	53728641.33	1.0
Co	59	45	No Gas	972037.83	0.5
Ni	60	45	He	94401.99	0.7
Cu	63	45	He	252536.34	0.9
Zn	66	72	No Gas	152059.45	1.1
As	75	72	He	38107.94	0.7
Se	78	72	H2	16403.97	1.4
Sr	88	72	No Gas	1309613.42	0.8
Zr	90	72	No Gas	180688.13	2.1
Mo	95	115	No Gas	256587.12	0.4
Ag	107	115	No Gas	68382.67	0.5
Cd	111	115	No Gas	136899.98	0.7
Sn	118	115	No Gas	409649.90	1.1
Sb	123	115	No Gas	96073.79	1.9
Ba	137	115	No Gas	429588.52	0.4
W	182	159	No Gas	61753.67	1.8
Hg	201	159	He	668.02	3.5
Tl	205	159	No Gas	1359733.35	0.9
Pb	208	159	No Gas	1884560.93	1.2
U	238	159	No Gas	1910950.48	0.1

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2078240.41	0.5	2071494.35	100.33	60	120	
Sc	45	No Gas	4040217.25	0.4	4025477.17	100.37	60	120	
Sc	45	H2	2269033.00	1.4	2213497.75	102.51	60	120	
Sc	45	He	354707.84	0.0	348770.57	101.7	60	120	
Ge	72	No Gas	949448.90	0.0	883390.69	107.48	60	120	
Ge	72	H2	651842.90	0.9	598767.1	108.86	60	120	
Ge	72	He	211619.06	0.8	194783.48	108.64	60	120	
In	115	No Gas	6076694.95	0.3	6067282.66	100.16	60	120	
Tb	159	No Gas	9007755.20	1.0	8945293.53	100.7	60	120	
Tb	159	He	5284983.50	1.0	5228762.33	101.08	60	120	

Calibration Standard Report

Sample Name	S4
File Name	H6F14007.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:05:00
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	353263.79	0.8
Be	9	6	No Gas	69814.63	0.3
B	11	6	No Gas	91807.48	2.8
Na	23	45	H2	74321080.00	1.9
Mg	24	45	No Gas	230861941.33	0.8
Al	27	45	No Gas	296039215.59	1.2
Si	28	45	H2	2290366.42	1.5
P	31	45	No Gas	210234.79	0.8
K	39	45	He	10843428.67	1.2
Ca	40	45	H2	160648453.33	1.4
Ti	47	45	No Gas	349657.64	0.1
V	51	45	He	984385.33	0.6
Cr	52	45	He	1167492.96	0.7
Mn	55	45	No Gas	33321446.67	0.2
Fe	56	45	H2	257118373.33	0.7
Co	59	45	No Gas	4605610.33	0.5
Ni	60	45	He	438189.07	0.9
Cu	63	45	He	1139079.71	0.2
Zn	66	72	No Gas	726138.06	0.2
As	75	72	He	182720.05	0.6
Se	78	72	H2	78147.14	0.1
Sr	88	72	No Gas	6439293.77	0.2
Zr	90	72	No Gas	419111.72	2.0
Mo	95	115	No Gas	1246615.78	0.7
Ag	107	115	No Gas	312406.43	0.4
Cd	111	115	No Gas	658694.00	0.5
Sn	118	115	No Gas	1941068.12	0.4
Sb	123	115	No Gas	464310.62	1.1
Ba	137	115	No Gas	2072022.84	0.2
W	182	159	No Gas	306261.38	0.4
Hg	201	159	He	3157.57	1.4
Tl	205	159	No Gas	6631720.71	1.4
Pb	208	159	No Gas	9065145.54	0.1
U	238	159	No Gas	9490060.46	0.4

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2091163.74	0.9	2071494.35	100.95	60	120	
Sc	45	No Gas	4043404.00	0.5	4025477.17	100.45	60	120	
Sc	45	H2	2255301.42	1.0	2213497.75	101.89	60	120	
Sc	45	He	349383.79	0.5	348770.57	100.18	60	120	
Ge	72	No Gas	949203.62	0.2	883390.69	107.45	60	120	
Ge	72	H2	641222.69	0.5	598767.1	107.09	60	120	
Ge	72	He	208545.11	0.7	194783.48	107.07	60	120	
In	115	No Gas	5966406.42	0.7	6067282.66	98.34	60	120	
Tb	159	No Gas	9073964.36	0.6	8945293.53	101.44	60	120	
Tb	159	He	5282196.33	0.4	5228762.33	101.02	60	120	

Calibration Standard Report

Sample Name	S5
File Name	H6F14008.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:07:50
Sample Type	CalStd
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	CPS	RSD
Li	7	6	No Gas	582024.99	1.0
Be	9	6	No Gas	136243.72	0.3
B	11	6	No Gas	188787.38	2.0
Na	23	45	H2	143947072.00	0.7
Mg	24	45	No Gas	449360213.33	0.8
Al	27	45	No Gas	579653524.69	1.0
Si	28	45	H2	4434880.67	1.2
P	31	45	No Gas	366007.48	0.2
K	39	45	He	20947546.67	0.6
Ca	40	45	H2	315462570.67	0.7
Ti	47	45	No Gas	675814.52	0.3
V	51	45	He	1937498.17	0.3
Cr	52	45	He	2261914.75	0.8
Mn	55	45	No Gas	64419634.67	0.4
Fe	56	45	H2	499914922.67	0.5
Co	59	45	No Gas	8900118.33	0.9
Ni	60	45	He	838366.89	0.3
Cu	63	45	He	2185750.75	0.3
Zn	66	72	No Gas	1368252.16	0.7
As	75	72	He	358097.99	0.9
Se	78	72	H2	149559.85	1.0
Sr	88	72	No Gas	12536118.95	1.7
Zr	90	72	No Gas	840180.30	1.2
Mo	95	115	No Gas	2435836.02	0.7
Ag	107	115	No Gas	598512.62	0.9
Cd	111	115	No Gas	1267557.43	0.6
Sn	118	115	No Gas	3811690.96	0.4
Sb	123	115	No Gas	909283.47	0.5
Ba	137	115	No Gas	4090023.86	0.9
W	182	159	No Gas	581452.13	2.1
Hg	201	159	He	6318.92	1.5
Tl	205	159	No Gas	12957263.10	0.2
Pb	208	159	No Gas	17695516.83	0.8
U	238	159	No Gas	18994668.69	1.0

Calibration Standard Report

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2074282.60	0.6	2071494.35	100.13	60	120	
Sc	45	No Gas	3987208.92	0.4	4025477.17	99.05	60	120	
Sc	45	H2	2206210.50	0.9	2213497.75	99.67	60	120	
Sc	45	He	339571.34	0.7	348770.57	97.36	60	120	
Ge	72	No Gas	914657.19	0.6	883390.69	103.54	60	120	
Ge	72	H2	620615.73	0.6	598767.1	103.65	60	120	
Ge	72	He	204287.71	0.6	194783.48	104.88	60	120	
In	115	No Gas	5793207.99	0.3	6067282.66	95.48	60	120	
Tb	159	No Gas	9036137.98	0.5	8945293.53	101.02	60	120	
Tb	159	He	5246454.33	0.5	5228762.33	100.34	60	120	

Initial Calibration Verification (ICV) Report

Sample Name	ICV
File Name	H6F14009.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:10:36
Sample Type	ICV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	28.054	ppb	4.1	388176.13	30	93.51	90	110	
Be	9	6	No Gas	28.779	ppb	4.6	80756.50	30	95.93	90	110	
B	11	6	No Gas	28.108	ppb	6.0	54632.12	30	93.69	90	110	
Na	23	45	H2	30826.657	ppb	0.8	88411594.67	30000	102.76	90	110	
Mg	24	45	No Gas	29929.827	ppb	4.4	266044592.00	30000	99.77	90	110	
Al	27	45	No Gas	29374.390	ppb	4.8	336397134.99	30000	97.91	90	110	
Si	28	45	H2	3252.978	ppb	0.6	2874291.08	3000	108.43	90	110	
P	31	45	No Gas	300.551	ppb	4.2	235813.82	300	100.18	90	110	
K	39	45	He	30557.304	ppb	0.4	12870219.33	30000	101.86	90	110	
Ca	40	45	H2	30367.158	ppb	0.9	190178272.00	30000	101.22	90	110	
Ti	47	45	No Gas	303.751	ppb	4.0	406730.33	300	101.25	90	110	
V	51	45	He	307.088	ppb	0.5	1191611.79	300	102.36	90	110	
Cr	52	45	He	316.517	ppb	0.5	1437688.29	300	105.51	90	110	
Mn	55	45	No Gas	1941.631	ppb	3.7	41300956.00	2000	97.08	90	110	
Fe	56	45	H2	30482.639	ppb	0.2	303173877.33	30000	101.61	90	110	
Co	59	45	No Gas	309.983	ppb	4.0	5466905.33	300	103.33	90	110	
Ni	60	45	He	310.465	ppb	0.5	523960.98	300	103.49	90	110	
Cu	63	45	He	329.453	ppb	0.4	1449252.21	300	109.82	90	110	
Zn	66	72	No Gas	311.006	ppb	3.7	852971.63	300	103.67	90	110	
As	75	72	He	305.300	ppb	0.3	218180.07	300	101.77	90	110	
Se	78	72	H2	311.669	ppb	0.3	93154.93	300	103.89	90	110	
Sr	88	72	No Gas	307.964	ppb	3.6	7682262.47	300	102.65	90	110	
Zr	90	72	No Gas	32.207	ppb	3.6	532344.22	30	107.36	90	110	
Mo	95	115	No Gas	298.913	ppb	4.6	1474817.13	300	99.64	90	110	
Ag	107	115	No Gas	29.917	ppb	4.1	364410.90	30	99.72	90	110	
Cd	111	115	No Gas	299.561	ppb	3.5	771572.54	300	99.85	90	110	
Sn	118	115	No Gas	303.428	ppb	3.7	2340804.28	300	101.14	90	110	
Sb	123	115	No Gas	58.611	ppb	3.1	539513.88	60	97.68	90	110	
Ba	137	115	No Gas	304.794	ppb	3.5	1259933.18	300	101.6	90	110	
W	182	159	No Gas	29.540	ppb	1.8	344767.64	30	98.47	90	110	
Hg	201	159	No Gas	2.859	ppb	2.7	5169.23	3	95.3	90	110	
Hg	201	159	He	2.893	ppb	0.9	3657.53	3	96.43	90	110	
Tl	205	159	No Gas	308.051	ppb	3.3	7964779.96	300	102.68	90	110	
Pb	208	159	No Gas	311.832	ppb	2.2	11013469.51	300	103.94	90	110	

Initial Calibration Verification (ICV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	305.317	ppb	3.0	11511617.60	300	101.77	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2127364.60	0.4	2071494.35	102.7	60	120	
Sc	45	No Gas	3930862.17	1.0	4025477.17	97.65	60	120	
Sc	45	H2	2191064.33	1.2	2213497.75	98.99	60	120	
Sc	45	He	340483.60	0.1	348770.57	97.62	60	120	
Ge	72	No Gas	911564.48	1.1	883390.69	103.19	60	120	
Ge	72	H2	618474.62	0.4	598767.1	103.29	60	120	
Ge	72	He	203775.19	0.4	194783.48	104.62	60	120	
In	115	No Gas	5872743.84	0.8	6067282.66	96.79	60	120	
Tb	159	No Gas	8974103.53	2.0	8945293.53	100.32	60	120	
Tb	159	He	5251330.00	0.2	5228762.33	100.43	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	ICB
File Name	H6F14010.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:13:13
Sample Type	ICB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	122959.84	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	18.89	0.08	
B	11	6	No Gas	1.135	ppb	15.0	2922.53	4	
Na	23	45	H2	<0.000	ppb	N/A	246119.90	40	
Mg	24	45	No Gas	1.068	ppb	58.4	14935.05	10	
Al	27	45	No Gas	0.920	ppb	68.4	20794.74	15	
Si	28	45	H2	9.268	ppb	2.1	13557.27	8	>LOD
P	31	45	No Gas	<0.000	ppb	N/A	44414.82	10	
K	39	45	He	1.219	ppb	473.4	52389.81	20	
Ca	40	45	H2	0.438	ppb	7.6	27522.05	25	
Ti	47	45	No Gas	0.024	ppb	60.2	211.33	0.5	
V	51	45	He	<0.000	ppb	N/A	2398.21	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1110.05	0.2	
Mn	55	45	No Gas	0.148	ppb	31.8	11922.57	0.2	
Fe	56	45	H2	0.889	ppb	1.6	17384.38	10	
Co	59	45	No Gas	0.003	ppb	121.5	311.34	0.15	
Ni	60	45	He	0.001	ppb	437.2	41.33	0.2	
Cu	63	45	He	<0.000	ppb	N/A	1026.71	0.4	
Zn	66	72	No Gas	0.058	ppb	31.1	926.03	2	
As	75	72	He	<0.000	ppb	N/A	165.00	0.2	
Se	78	72	H2	0.044	ppb	33.4	21.00	0.2	
Sr	88	72	No Gas	0.008	ppb	60.6	661.13	0.2	
Zr	90	72	No Gas	0.004	ppb	37.4	186.67	2	
Mo	95	115	No Gas	0.108	ppb	25.0	590.02	0.2	
Ag	107	115	No Gas	0.001	ppb	203.2	118.89	0.08	
Cd	111	115	No Gas	0.037	ppb	13.6	104.05	0.2	
Sn	118	115	No Gas	0.093	ppb	10.6	1382.30	0.2	
Sb	123	115	No Gas	0.005	ppb	40.8	163.33	0.4	
Ba	137	115	No Gas	0.020	ppb	24.6	142.22	0.2	
W	182	159	No Gas	0.019	ppb	14.0	313.34	0.3	
Hg	201	159	No Gas	0.031	ppb	14.7	62.50	0.1	
Hg	201	159	He	0.021	ppb	17.0	32.00	0.1	
Tl	205	159	No Gas	0.072	ppb	36.7	2083.52	0.1	
Pb	208	159	No Gas	0.068	ppb	30.1	4161.41	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.026	ppb	12.3	1066.72	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2213954.94	0.7	2071494.35	106.88	60	120	
Sc	45	No Gas	3937176.92	0.6	4025477.17	97.81	60	120	
Sc	45	H2	2198506.42	0.3	2213497.75	99.32	60	120	
Sc	45	He	346187.04	0.3	348770.57	99.26	60	120	
Ge	72	No Gas	868313.23	1.2	883390.69	98.29	60	120	
Ge	72	H2	599105.58	0.7	598767.1	100.06	60	120	
Ge	72	He	195779.36	0.2	194783.48	100.51	60	120	
In	115	No Gas	6098864.17	1.6	6067282.66	100.52	60	120	
Tb	159	No Gas	9044383.81	0.8	8945293.53	101.11	60	120	
Tb	159	He	5359172.50	0.6	5228762.33	102.49	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA1
File Name	H6F14013.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:21:00
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.093	ppb	42.4	119573.06	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	31.11	0.4	-50	50	
B	11	6	No Gas	1.138	ppb	2.7	2766.94	10	-50	50	
Na	23	45	H2	104840.485	ppb	0.5	301679402.67	100000	80	120	
Mg	24	45	No Gas	100580.256	ppb	2.8	882554240.00	100000	80	120	
Al	27	45	No Gas	100036.609	ppb	2.6	1130845769.81	100000	80	120	
Si	28	45	H2	8.126	ppb	4.2	12573.01	50	-50	50	
P	31	45	No Gas	102089.038	ppb	2.9	63417493.33	100000	80	120	
K	39	45	He	105340.502	ppb	0.4	44751646.67	100000	80	120	
Ca	40	45	H2	105067.517	ppb	1.1	661617002.67	100000	80	120	
Ti	47	45	No Gas	2097.677	ppb	3.3	2772016.17	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1426.74	1	-50	50	> +/- 20%
Cr	52	45	He	2.002	ppb	1.9	10692.84	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.394	ppb	3.7	16921.16	1	-50	50	
Fe	56	45	H2	102803.157	ppb	0.9	1028129429.33	100000	80	120	
Co	59	45	No Gas	0.160	ppb	4.7	3030.34	0.75	-50	50	
Ni	60	45	He	0.165	ppb	3.5	320.67	1	-50	50	
Cu	63	45	He	0.132	ppb	11.3	1774.12	2	-50	50	
Zn	66	72	No Gas	2.086	ppb	2.2	6360.16	20	-50	50	
As	75	72	He	<0.000	ppb	N/A	156.33	1	-50	50	
Se	78	72	H2	0.259	ppb	9.6	85.00	1	-50	50	
Sr	88	72	No Gas	1.115	ppb	2.5	27568.41	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.323	ppb	7.4	5341.08	10	-50	50	
Mo	95	115	No Gas	2075.761	ppb	3.1	9799101.55	2000	80	120	
Ag	107	115	No Gas	0.300	ppb	2.4	3594.94	0.4	-50	50	> +/- 20%
Cd	111	115	No Gas	0.078	ppb	28.8	196.78	1	-50	50	
Sn	118	115	No Gas	0.077	ppb	11.0	1155.61	1	-50	50	
Sb	123	115	No Gas	0.057	ppb	17.6	607.79	1	-50	50	
Ba	137	115	No Gas	0.382	ppb	3.2	1562.32	1	-50	50	
W	182	159	No Gas	0.135	ppb	1.9	1640.12	1	-50	50	
Hg	201	159	No Gas	0.013	ppb	18.6	29.17	0.5	-50	50	
Hg	201	159	He	0.011	ppb	25.8	18.50	0.5	-50	50	
Tl	205	159	No Gas	0.013	ppb	20.3	550.01	0.5	-50	50	
Pb	208	159	No Gas	0.091	ppb	4.5	4894.82	0.5	-50	50	

LY 06|22|22

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.005	ppb	15.7	264.45	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2090557.10	2.4	2071494.35	100.92	60	120	
Sc	45	No Gas	3879967.33	2.1	4025477.17	96.39	60	120	
Sc	45	H2	2203236.75	0.5	2213497.75	99.54	60	120	
Sc	45	He	344399.04	0.1	348770.57	98.75	60	120	
Ge	72	No Gas	887995.83	0.9	883390.69	100.52	60	120	
Ge	72	H2	610778.85	0.7	598767.1	102.01	60	120	
Ge	72	He	202881.06	0.8	194783.48	104.16	60	120	
In	115	No Gas	5619247.26	1.1	6067282.66	92.62	60	120	
Tb	159	No Gas	8850701.59	0.9	8945293.53	98.94	60	120	
Tb	159	He	5233068.67	0.7	5228762.33	100.08	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB1
File Name	H6F14014.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:23:37
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.063	ppb	2.4	310656.86	20	80	120	
Be	9	6	No Gas	19.677	ppb	3.0	55020.08	20	80	120	
B	11	6	No Gas	18.011	ppb	1.4	35081.69	20	80	120	
Na	23	45	H2	103226.765	ppb	0.2	302990517.33	100000	80	120	
Mg	24	45	No Gas	101479.938	ppb	0.5	902178261.33	100000	80	120	
Al	27	45	No Gas	100744.951	ppb	1.2	1153641796.14	100000	80	120	
Si	28	45	H2	224.665	ppb	1.2	208707.68	200	80	120	
P	31	45	No Gas	102599.206	ppb	0.8	64578204.00	100000	80	120	
K	39	45	He	104230.399	ppb	0.8	44757990.67	100000	80	120	
Ca	40	45	H2	102058.588	ppb	0.7	655519338.67	100000	80	120	
Ti	47	45	No Gas	2129.535	ppb	0.5	2851251.83	2000	80	120	
V	51	45	He	19.679	ppb	1.8	82079.28	20	80	120	
Cr	52	45	He	22.204	ppb	0.4	104532.68	20	80	120	
Mn	55	45	No Gas	20.334	ppb	1.7	441129.75	20	80	120	
Fe	56	45	H2	101666.446	ppb	0.1	1037124522.67	100000	80	120	
Co	59	45	No Gas	20.437	ppb	0.7	360704.51	20	80	120	
Ni	60	45	He	19.876	ppb	1.0	34333.12	20	80	120	
Cu	63	45	He	20.058	ppb	0.6	91339.11	20	80	120	
Zn	66	72	No Gas	21.818	ppb	1.2	59971.01	20	80	120	
As	75	72	He	20.016	ppb	2.0	14656.61	20	80	120	
Se	78	72	H2	20.108	ppb	2.1	6095.05	20	80	120	
Sr	88	72	No Gas	21.425	ppb	1.3	529437.39	20	80	120	
Zr	90	72	No Gas	6.650	ppb	0.8	108895.78	20	80	120	> +/- 20%
Mo	95	115	No Gas	2089.130	ppb	1.5	9851615.44	2000	80	120	
Ag	107	115	No Gas	19.954	ppb	1.3	232264.08	20	80	120	
Cd	111	115	No Gas	19.965	ppb	0.3	49146.28	20	80	120	
Sn	118	115	No Gas	20.496	ppb	1.3	151643.53	20	80	120	
Sb	123	115	No Gas	20.234	ppb	0.9	178037.37	20	80	120	
Ba	137	115	No Gas	20.730	ppb	0.7	81937.97	20	80	120	
W	182	159	No Gas	19.135	ppb	1.5	219082.07	20	80	120	
Hg	201	159	No Gas	1.994	ppb	0.7	3538.50	2	80	120	
Hg	201	159	He	1.951	ppb	0.9	2475.75	2	80	120	
Tl	205	159	No Gas	19.597	ppb	0.3	497315.62	20	80	120	
Pb	208	159	No Gas	19.937	ppb	0.7	692407.32	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.928	ppb	1.7	737081.22	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2118037.40	3.3	2071494.35	102.25	60	120	
Sc	45	No Gas	3932737.67	4.5	4025477.17	97.7	60	120	
Sc	45	H2	2247359.67	0.7	2213497.75	101.53	60	120	
Sc	45	He	348129.14	1.0	348770.57	99.82	60	120	
Ge	72	No Gas	902253.04	3.3	883390.69	102.14	60	120	
Ge	72	H2	626495.88	1.5	598767.1	104.63	60	120	
Ge	72	He	206184.00	0.3	194783.48	105.85	60	120	
In	115	No Gas	5613500.15	3.8	6067282.66	92.52	60	120	
Tb	159	No Gas	8807467.43	3.6	8945293.53	98.46	60	120	
Tb	159	He	5268222.00	0.4	5228762.33	100.75	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV1
File Name	H6F14016.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:28:50
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.329	ppb	4.2	350234.15	25	93.32	90	110	
Be	9	6	No Gas	23.313	ppb	3.9	66783.02	25	93.25	90	110	
B	11	6	No Gas	44.098	ppb	7.1	87117.54	50	88.2	90	110	> +/- 10%
Na	23	45	H2	24887.282	ppb	0.7	73017392.00	25000	99.55	90	110	
Mg	24	45	No Gas	24500.472	ppb	3.4	222250704.00	25000	98	90	110	
Al	27	45	No Gas	24396.691	ppb	1.8	285085722.42	25000	97.59	90	110	
Si	28	45	H2	2504.838	ppb	0.3	2263556.58	2500	100.19	90	110	
P	31	45	No Gas	234.875	ppb	3.1	198502.51	250	93.95	90	110	
K	39	45	He	25140.137	ppb	1.0	10783060.00	25000	100.56	90	110	
Ca	40	45	H2	24715.930	ppb	0.7	158223834.67	25000	98.86	90	110	
Ti	47	45	No Gas	242.538	ppb	3.2	331465.67	250	97.02	90	110	
V	51	45	He	249.499	ppb	0.1	985872.71	250	99.8	90	110	
Cr	52	45	He	249.807	ppb	0.4	1154832.38	250	99.92	90	110	
Mn	55	45	No Gas	1466.901	ppb	3.5	31846552.00	1500	97.79	90	110	
Fe	56	45	H2	24932.179	ppb	0.2	253470538.67	25000	99.73	90	110	
Co	59	45	No Gas	247.437	ppb	3.3	4453372.50	250	98.97	90	110	
Ni	60	45	He	249.036	ppb	0.6	427648.14	250	99.61	90	110	
Cu	63	45	He	252.260	ppb	0.3	1129362.42	250	100.9	90	110	
Zn	66	72	No Gas	243.332	ppb	4.3	681130.44	250	97.33	90	110	
As	75	72	He	244.520	ppb	0.8	179134.22	250	97.81	90	110	
Se	78	72	H2	245.819	ppb	1.0	75198.47	250	98.33	90	110	
Sr	88	72	No Gas	244.312	ppb	4.4	6218305.59	250	97.72	90	110	
Zr	90	72	No Gas	26.039	ppb	3.6	439146.37	25	104.16	90	110	
Mo	95	115	No Gas	241.758	ppb	3.7	1206326.86	250	96.7	90	110	
Ag	107	115	No Gas	24.479	ppb	3.7	301520.94	25	97.92	90	110	
Cd	111	115	No Gas	241.631	ppb	3.2	629412.68	250	96.65	90	110	
Sn	118	115	No Gas	240.655	ppb	2.5	1877605.00	250	96.26	90	110	
Sb	123	115	No Gas	47.485	ppb	2.8	442064.85	50	94.97	90	110	
Ba	137	115	No Gas	484.194	ppb	3.6	2024056.38	500	96.84	90	110	
W	182	159	No Gas	25.549	ppb	2.2	302005.81	25	102.2	90	110	
Hg	201	159	No Gas	2.448	ppb	2.8	4483.31	2.5	97.92	90	110	
Hg	201	159	He	2.479	ppb	1.0	3203.24	2.5	99.16	90	110	
Tl	205	159	No Gas	245.908	ppb	3.7	6438841.97	250	98.36	90	110	
Pb	208	159	No Gas	249.034	ppb	3.2	8908410.36	250	99.61	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	243.790	ppb	3.5	9309621.02	250	97.52	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2171403.80	0.7	2071494.35	104.82	60	120	
Sc	45	No Gas	4011571.50	1.1	4025477.17	99.65	60	120	
Sc	45	H2	2239622.92	0.3	2213497.75	101.18	60	120	
Sc	45	He	346436.48	0.3	348770.57	99.33	60	120	
Ge	72	No Gas	930330.42	1.0	883390.69	105.31	60	120	
Ge	72	H2	633016.92	1.0	598767.1	105.72	60	120	
Ge	72	He	208850.32	0.5	194783.48	107.22	60	120	
In	115	No Gas	5939632.39	1.0	6067282.66	97.9	60	120	
Tb	159	No Gas	9090196.86	0.6	8945293.53	101.62	60	120	
Tb	159	He	5365841.83	0.6	5228762.33	102.62	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB1
File Name	H6F14017.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:31:27
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	121995.96	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	22.22	0.08	
B	11	6	No Gas	1.022	ppb	19.8	2699.15	4	
Na	23	45	H2	<0.000	ppb	N/A	235994.89	40	
Mg	24	45	No Gas	1.208	ppb	44.8	16501.93	10	
Al	27	45	No Gas	1.117	ppb	51.2	23514.76	15	
Si	28	45	H2	3.254	ppb	8.3	8307.15	8	
P	31	45	No Gas	<0.000	ppb	N/A	42930.84	10	
K	39	45	He	2.874	ppb	236.3	53068.50	20	
Ca	40	45	H2	0.722	ppb	13.9	29566.29	25	
Ti	47	45	No Gas	0.029	ppb	23.9	222.67	0.5	
V	51	45	He	<0.000	ppb	N/A	3096.35	0.5	
Cr	52	45	He	<0.000	ppb	N/A	983.37	0.2	
Mn	55	45	No Gas	0.121	ppb	34.8	11600.27	0.2	
Fe	56	45	H2	1.073	ppb	1.7	19388.41	10	
Co	59	45	No Gas	0.004	ppb	106.5	329.34	0.15	
Ni	60	45	He	<0.000	ppb	N/A	26.67	0.2	
Cu	63	45	He	<0.000	ppb	N/A	816.03	0.4	
Zn	66	72	No Gas	0.044	ppb	16.1	902.70	2	
As	75	72	He	<0.000	ppb	N/A	162.67	0.2	
Se	78	72	H2	0.027	ppb	95.3	16.33	0.2	
Sr	88	72	No Gas	0.007	ppb	85.0	633.35	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.136	ppb	21.3	743.36	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	81.11	0.08	
Cd	111	115	No Gas	0.027	ppb	28.4	76.43	0.2	
Sn	118	115	No Gas	0.070	ppb	7.4	1213.39	0.2	
Sb	123	115	No Gas	0.008	ppb	24.1	194.45	0.4	
Ba	137	115	No Gas	0.018	ppb	38.6	136.67	0.2	
W	182	159	No Gas	0.011	ppb	63.1	223.33	0.3	
Hg	201	159	No Gas	0.025	ppb	16.1	52.00	0.1	
Hg	201	159	He	0.014	ppb	9.2	22.33	0.1	
Tl	205	159	No Gas	0.040	ppb	39.0	1273.40	0.1	
Pb	208	159	No Gas	0.024	ppb	40.8	2659.00	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.017	ppb	13.4	745.58	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2215448.86	1.1	2071494.35	106.95	60	120	
Sc	45	No Gas	4023227.42	1.7	4025477.17	99.94	60	120	
Sc	45	H2	2217700.00	0.4	2213497.75	100.19	60	120	
Sc	45	He	345951.47	0.6	348770.57	99.19	60	120	
Ge	72	No Gas	880786.77	1.3	883390.69	99.71	60	120	
Ge	72	H2	602868.92	0.1	598767.1	100.69	60	120	
Ge	72	He	198397.88	1.0	194783.48	101.86	60	120	
In	115	No Gas	6176473.26	1.5	6067282.66	101.8	60	120	
Tb	159	No Gas	9187596.58	1.6	8945293.53	102.71	60	120	
Tb	159	He	5386799.33	0.5	5228762.33	103.02	60	120	

Blank Report

Sample Name	IMF024WB
File Name	H6F14018.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:34:02
Sample Type	Blank
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	122760.01	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	17.78	0.08	
B	11	6	No Gas	0.737	ppb	7.1	2150.17	4	
Na	23	45	H2	<0.000	ppb	N/A	251333.60	40	
Mg	24	45	No Gas	2.145	ppb	5.8	24996.38	10	
Al	27	45	No Gas	2.479	ppb	5.3	39432.55	15	
Si	28	45	H2	3.192	ppb	7.6	8267.13	8	
P	31	45	No Gas	<0.000	ppb	N/A	42958.95	10	
K	39	45	He	<0.000	ppb	N/A	51707.92	20	
Ca	40	45	H2	12.557	ppb	1.0	104774.91	25	
Ti	47	45	No Gas	0.074	ppb	7.8	282.67	0.5	
V	51	45	He	<0.000	ppb	N/A	2702.27	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1126.71	0.2	
Mn	55	45	No Gas	0.143	ppb	12.8	12045.31	0.2	
Fe	56	45	H2	2.223	ppb	1.5	31026.48	10	
Co	59	45	No Gas	<0.000	ppb	N/A	177.33	0.15	
Ni	60	45	He	0.044	ppb	7.6	114.00	0.2	
Cu	63	45	He	0.133	ppb	10.7	1788.12	0.4	
Zn	66	72	No Gas	0.545	ppb	0.9	2294.19	2	
As	75	72	He	<0.000	ppb	N/A	138.00	0.2	
Se	78	72	H2	0.013	ppb	100.7	12.33	0.2	
Sr	88	72	No Gas	0.024	ppb	11.5	1067.82	0.2	
Zr	90	72	No Gas	0.005	ppb	44.7	226.67	2	
Mo	95	115	No Gas	0.053	ppb	25.2	314.45	0.2	
Ag	107	115	No Gas	0.006	ppb	16.1	180.00	0.08	
Cd	111	115	No Gas	0.009	ppb	50.8	29.72	0.2	
Sn	118	115	No Gas	0.009	ppb	24.8	723.35	0.2	
Sb	123	115	No Gas	0.006	ppb	9.3	181.11	0.4	
Ba	137	115	No Gas	0.052	ppb	21.4	285.56	0.2	
W	182	159	No Gas	0.001	ppb	441.1	100.00	0.3	
Hg	201	159	No Gas	0.015	ppb	11.1	33.00	0.1	
Hg	201	159	He	0.011	ppb	19.5	18.17	0.1	
Tl	205	159	No Gas	0.006	ppb	35.9	395.56	0.1	
Pb	208	159	No Gas	<0.000	ppb	N/A	1503.37	0.1	

Blank Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.002	ppb	21.4	142.22	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2234248.69	0.9	2071494.35	107.86	60	120	
Sc	45	No Gas	4012572.08	1.8	4025477.17	99.68	60	120	
Sc	45	H2	2221837.42	0.5	2213497.75	100.38	60	120	
Sc	45	He	346553.67	0.5	348770.57	99.36	60	120	
Ge	72	No Gas	906863.73	1.3	883390.69	102.66	60	120	
Ge	72	H2	616692.58	0.7	598767.1	102.99	60	120	
Ge	72	He	203300.06	0.6	194783.48	104.37	60	120	
In	115	No Gas	6210653.60	0.8	6067282.66	102.36	60	120	
Tb	159	No Gas	9175075.47	1.1	8945293.53	102.57	60	120	
Tb	159	He	5375380.00	1.0	5228762.33	102.8	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF024WL
File Name	H6F14019.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:36:37
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	28.991	ppb	3.5	410337.13	30	96.64	85	115	
Be	9	6	No Gas	28.011	ppb	4.0	81234.84	30	93.37	83	121	
B	11	6	No Gas	24.448	ppb	7.8	49207.90	30	81.49	85	115	FAIL
Na	23	45	H2	3022.951	ppb	0.5	9123196.67	3000	100.77	85	117	
Mg	24	45	No Gas	3028.819	ppb	3.9	27579835.33	3000	100.96	83	118	
Al	27	45	No Gas	2968.931	ppb	4.3	34833779.48	3000	98.96	84	117	
Si	28	45	H2	2.030	ppb	6.8	7286.58	3000	0.07	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	42410.58	300	-2.87	85	115	FAIL
K	39	45	He	3099.270	ppb	1.1	1379146.92	3000	103.31	87	115	
Ca	40	45	H2	3030.376	ppb	1.0	19419120.67	3000	101.01	87	118	
Ti	47	45	No Gas	29.708	ppb	3.9	40909.10	30	99.03	85	115	
V	51	45	He	29.773	ppb	0.8	121786.42	30	99.24	86	115	
Cr	52	45	He	31.166	ppb	1.2	145857.81	30	103.89	85	116	
Mn	55	45	No Gas	30.318	ppb	4.3	669410.40	30	101.06	87	115	
Fe	56	45	H2	3088.057	ppb	0.4	31397856.00	3000	102.94	87	118	
Co	59	45	No Gas	30.604	ppb	3.7	553029.38	30	102.01	86	115	
Ni	60	45	He	31.485	ppb	0.1	54273.64	30	104.95	85	117	
Cu	63	45	He	32.772	ppb	1.6	148219.73	30	109.24	85	118	
Zn	66	72	No Gas	61.482	ppb	2.8	172917.91	60	102.47	83	119	
As	75	72	He	30.068	ppb	0.2	22187.19	30	100.23	84	116	
Se	78	72	H2	30.131	ppb	1.0	9251.18	30	100.44	80	120	
Sr	88	72	No Gas	29.841	ppb	4.1	760927.21	30	99.47	85	115	
Zr	90	72	No Gas	0.029	ppb	36.7	633.35	30	0.1	85	115	FAIL
Mo	95	115	No Gas	28.183	ppb	3.2	145952.23	30	93.94	85	115	
Ag	107	115	No Gas	30.074	ppb	3.6	384417.08	30	100.25	85	117	
Cd	111	115	No Gas	28.985	ppb	2.9	78349.38	30	96.62	87	115	
Sn	118	115	No Gas	29.525	ppb	3.1	239606.08	30	98.42	85	115	
Sb	123	115	No Gas	28.800	ppb	2.9	278266.01	30	96	85	117	
Ba	137	115	No Gas	28.757	ppb	3.5	124798.96	30	95.86	86	114	
W	182	159	No Gas	0.007	ppb	50.9	170.00	30	0.02	85	115	FAIL
Hg	201	159	No Gas	0.011	ppb	21.0	26.00	2.5	0.44	85	115	FAIL
Hg	201	159	He	0.009	ppb	20.6	16.00	2.5	0.36	82	119	FAIL
Tl	205	159	No Gas	30.569	ppb	3.6	807580.23	30	101.9	82	116	
Pb	208	159	No Gas	30.903	ppb	3.2	1116573.49	30	103.01	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	29.654	ppb	4.7	1142386.27	30	98.85	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2197926.10	1.5	2071494.35	106.1	60	120	
Sc	45	No Gas	4026276.33	1.5	4025477.17	100.02	60	120	
Sc	45	H2	2239384.00	0.9	2213497.75	101.17	60	120	
Sc	45	He	347543.26	0.8	348770.57	99.65	60	120	
Ge	72	No Gas	931222.71	1.2	883390.69	105.41	60	120	
Ge	72	H2	634744.62	1.1	598767.1	106.01	60	120	
Ge	72	He	208710.53	0.4	194783.48	107.15	60	120	
In	115	No Gas	6163086.48	0.8	6067282.66	101.58	60	120	
Tb	159	No Gas	9169599.63	1.1	8945293.53	102.51	60	120	
Tb	159	He	5380181.83	0.6	5228762.33	102.9	60	120	

Laboratory Control Sample (LCS) Report

Sample Name	IMF024WC
File Name	H6F14020.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 13:39:12
Sample Type	LCSW
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	29.493	ppb	6.3	416554.42	30	98.31	85	115	
Be	9	6	No Gas	28.359	ppb	4.7	82477.58	30	94.53	83	121	
B	11	6	No Gas	25.155	ppb	7.7	50739.95	30	83.85	85	115	FAIL
Na	23	45	H2	3067.805	ppb	0.6	9200899.67	3000	102.26	85	117	
Mg	24	45	No Gas	3067.323	ppb	3.6	28109156.00	3000	102.24	83	118	
Al	27	45	No Gas	2976.074	ppb	3.9	35140703.64	3000	99.2	84	117	
Si	28	45	H2	2.427	ppb	5.9	7599.41	3000	0.08	85	115	FAIL
P	31	45	No Gas	<0.000	ppb	N/A	42714.83	300	-2.85	85	115	FAIL
K	39	45	He	3117.035	ppb	1.6	1397375.37	3000	103.9	87	115	
Ca	40	45	H2	3084.970	ppb	1.0	19654781.33	3000	102.83	87	118	
Ti	47	45	No Gas	29.453	ppb	3.1	40815.44	30	98.18	85	115	
V	51	45	He	29.994	ppb	0.7	123592.38	30	99.98	86	115	
Cr	52	45	He	31.605	ppb	0.7	149030.26	30	105.35	85	116	
Mn	55	45	No Gas	30.357	ppb	3.9	674511.40	30	101.19	87	115	
Fe	56	45	H2	3174.192	ppb	1.5	32086045.33	3000	105.81	87	118	
Co	59	45	No Gas	30.914	ppb	3.8	562217.79	30	103.05	86	115	
Ni	60	45	He	31.667	ppb	1.1	54998.58	30	105.56	85	117	
Cu	63	45	He	32.871	ppb	1.3	149798.85	30	109.57	85	118	
Zn	66	72	No Gas	61.589	ppb	3.5	172663.82	60	102.65	83	119	
As	75	72	He	30.482	ppb	0.9	22451.62	30	101.61	84	116	
Se	78	72	H2	30.907	ppb	0.9	9526.36	30	103.02	80	120	
Sr	88	72	No Gas	30.155	ppb	3.4	766410.21	30	100.52	85	115	
Zr	90	72	No Gas	0.013	ppb	3.0	363.34	30	0.04	85	115	FAIL
Mo	95	115	No Gas	28.193	ppb	3.0	146919.92	30	93.98	85	115	
Ag	107	115	No Gas	30.289	ppb	2.8	389549.30	30	100.96	85	117	
Cd	111	115	No Gas	29.338	ppb	2.8	79797.30	30	97.79	87	115	
Sn	118	115	No Gas	29.969	ppb	2.1	244686.25	30	99.9	85	115	
Sb	123	115	No Gas	28.687	ppb	2.5	278894.47	30	95.62	85	117	
Ba	137	115	No Gas	28.933	ppb	3.4	126353.67	30	96.44	86	114	
W	182	159	No Gas	0.005	ppb	47.6	153.33	30	0.02	85	115	FAIL
Hg	201	159	No Gas	0.009	ppb	30.6	23.17	2.5	0.36	85	115	FAIL
Hg	201	159	He	0.007	ppb	29.4	13.50	2.5	0.28	82	119	FAIL
Tl	205	159	No Gas	30.254	ppb	2.6	808961.90	30	100.85	82	116	
Pb	208	159	No Gas	30.679	ppb	2.5	1122011.14	30	102.26	88	115	

Laboratory Control Sample (LCS) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	29.385	ppb	2.3	1145666.66	30	97.95	85	115	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2205265.77	0.4	2071494.35	106.46	60	120	
Sc	45	No Gas	4051307.50	1.8	4025477.17	100.64	60	120	
Sc	45	H2	2226472.50	0.6	2213497.75	100.59	60	120	
Sc	45	He	350183.80	0.7	348770.57	100.41	60	120	
Ge	72	No Gas	928086.63	1.9	883390.69	105.06	60	120	
Ge	72	H2	637260.40	0.3	598767.1	106.43	60	120	
Ge	72	He	208353.29	0.7	194783.48	106.97	60	120	
In	115	No Gas	6201154.35	1.7	6067282.66	102.21	60	120	
Tb	159	No Gas	9278923.24	1.6	8945293.53	103.73	60	120	
Tb	159	He	5385422.33	0.8	5228762.33	103	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV2
File Name	H6F14028.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 13:59:54
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.554	ppb	4.7	356414.86	25	94.22	90	110	
Be	9	6	No Gas	23.188	ppb	4.5	67178.36	25	92.75	90	110	
B	11	6	No Gas	48.005	ppb	5.4	95850.13	50	96.01	90	110	
Na	23	45	H2	25578.650	ppb	0.6	73510704.00	25000	102.31	90	110	
Mg	24	45	No Gas	24844.468	ppb	3.6	221746522.67	25000	99.38	90	110	
Al	27	45	No Gas	24767.555	ppb	4.7	284808562.42	25000	99.07	90	110	
Si	28	45	H2	2589.265	ppb	0.5	2292070.33	2500	103.57	90	110	
P	31	45	No Gas	234.654	ppb	2.6	195170.44	250	93.86	90	110	
K	39	45	He	25252.799	ppb	0.4	10727857.67	25000	101.01	90	110	
Ca	40	45	H2	25151.721	ppb	0.2	157738266.67	25000	100.61	90	110	
Ti	47	45	No Gas	244.236	ppb	3.7	328422.36	250	97.69	90	110	
V	51	45	He	247.782	ppb	0.1	969791.25	250	99.11	90	110	
Cr	52	45	He	250.793	ppb	0.5	1148343.50	250	100.32	90	110	
Mn	55	45	No Gas	1469.946	ppb	3.4	31397960.00	1500	98	90	110	
Fe	56	45	H2	25001.152	ppb	1.1	248984016.00	25000	100	90	110	
Co	59	45	No Gas	250.430	ppb	4.2	4434993.67	250	100.17	90	110	
Ni	60	45	He	248.944	ppb	0.3	423413.24	250	99.58	90	110	
Cu	63	45	He	251.932	ppb	0.1	1117153.17	250	100.77	90	110	
Zn	66	72	No Gas	245.788	ppb	3.3	666211.29	250	98.32	90	110	
As	75	72	He	247.380	ppb	0.3	176373.91	250	98.95	90	110	
Se	78	72	H2	245.040	ppb	0.7	73280.33	250	98.02	90	110	
Sr	88	72	No Gas	247.860	ppb	3.0	6109078.79	250	99.14	90	110	
Zr	90	72	No Gas	26.224	ppb	3.9	428285.50	25	104.9	90	110	
Mo	95	115	No Gas	242.404	ppb	2.8	1185001.86	250	96.96	90	110	
Ag	107	115	No Gas	24.371	ppb	3.2	294141.41	25	97.48	90	110	
Cd	111	115	No Gas	239.997	ppb	2.7	612470.34	250	96	90	110	
Sn	118	115	No Gas	240.894	ppb	2.0	1841370.34	250	96.36	90	110	
Sb	123	115	No Gas	47.215	ppb	2.2	430641.56	50	94.43	90	110	
Ba	137	115	No Gas	483.085	ppb	1.7	1978455.48	500	96.62	90	110	
W	182	159	No Gas	25.682	ppb	3.1	296494.91	25	102.73	90	110	
Hg	201	159	No Gas	2.425	ppb	4.7	4337.75	2.5	97	90	110	
Hg	201	159	He	2.435	ppb	1.5	3079.05	2.5	97.4	90	110	
Tl	205	159	No Gas	245.950	ppb	1.8	6288944.20	250	98.38	90	110	
Pb	208	159	No Gas	248.126	ppb	1.6	8667578.39	250	99.25	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	243.424	ppb	3.1	9078257.69	250	97.37	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2195881.72	0.5	2071494.35	106	60	120	
Sc	45	No Gas	3947375.17	0.7	4025477.17	98.06	60	120	
Sc	45	H2	2194017.58	0.7	2213497.75	99.12	60	120	
Sc	45	He	343135.70	0.3	348770.57	98.38	60	120	
Ge	72	No Gas	900740.12	1.0	883390.69	101.96	60	120	
Ge	72	H2	618830.56	1.2	598767.1	103.35	60	120	
Ge	72	He	203254.56	0.3	194783.48	104.35	60	120	
In	115	No Gas	5819019.51	1.0	6067282.66	95.91	60	120	
Tb	159	No Gas	8877090.76	0.8	8945293.53	99.24	60	120	
Tb	159	He	5251162.50	0.1	5228762.33	100.43	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB2
File Name	H6F14029.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:02:31
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	124207.27	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	27.78	0.08	
B	11	6	No Gas	3.329	ppb	8.5	7369.73	4	
Na	23	45	H2	59.441	ppb	2.1	444872.72	40	>LOD
Mg	24	45	No Gas	2.353	ppb	10.9	25928.38	10	
Al	27	45	No Gas	2.162	ppb	10.7	34452.97	15	
Si	28	45	H2	1.919	ppb	9.2	6888.37	8	
P	31	45	No Gas	<0.000	ppb	N/A	40899.40	10	
K	39	45	He	6.627	ppb	60.8	53155.38	20	
Ca	40	45	H2	2.082	ppb	3.2	36963.37	25	
Ti	47	45	No Gas	0.030	ppb	32.4	215.33	0.5	
V	51	45	He	<0.000	ppb	N/A	2092.83	0.5	
Cr	52	45	He	<0.000	ppb	N/A	911.36	0.2	
Mn	55	45	No Gas	0.161	ppb	14.7	11989.93	0.2	
Fe	56	45	H2	2.295	ppb	3.3	30673.04	10	
Co	59	45	No Gas	0.016	ppb	7.2	530.01	0.15	
Ni	60	45	He	0.020	ppb	34.1	71.33	0.2	
Cu	63	45	He	0.002	ppb	493.9	1169.39	0.4	
Zn	66	72	No Gas	0.032	ppb	141.7	831.36	2	
As	75	72	He	<0.000	ppb	N/A	135.67	0.2	
Se	78	72	H2	0.048	ppb	11.4	21.33	0.2	
Sr	88	72	No Gas	0.027	ppb	20.4	1074.49	0.2	
Zr	90	72	No Gas	<0.000	ppb	N/A	113.33	2	
Mo	95	115	No Gas	0.083	ppb	26.9	447.78	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	80.00	0.08	
Cd	111	115	No Gas	0.029	ppb	19.1	78.42	0.2	
Sn	118	115	No Gas	0.070	ppb	11.4	1162.28	0.2	
Sb	123	115	No Gas	0.019	ppb	6.5	290.01	0.4	
Ba	137	115	No Gas	0.051	ppb	14.1	265.56	0.2	
W	182	159	No Gas	0.007	ppb	50.0	163.33	0.3	
Hg	201	159	No Gas	0.023	ppb	30.9	46.00	0.1	
Hg	201	159	He	0.014	ppb	12.4	22.00	0.1	
Tl	205	159	No Gas	0.044	ppb	26.7	1354.52	0.1	
Pb	208	159	No Gas	0.010	ppb	93.9	2071.18	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.033	ppb	3.4	1295.63	0.05	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2232694.98	1.3	2071494.35	107.78	60	120	
Sc	45	No Gas	3870513.42	1.5	4025477.17	96.15	60	120	
Sc	45	H2	2146867.58	0.5	2213497.75	96.99	60	120	
Sc	45	He	336370.55	0.5	348770.57	96.44	60	120	
Ge	72	No Gas	841761.04	1.4	883390.69	95.29	60	120	
Ge	72	H2	575319.19	0.1	598767.1	96.08	60	120	
Ge	72	He	188449.27	1.2	194783.48	96.75	60	120	
In	115	No Gas	5914720.76	1.5	6067282.66	97.49	60	120	
Tb	159	No Gas	8890018.81	1.5	8945293.53	99.38	60	120	
Tb	159	He	5236662.67	0.5	5228762.33	100.15	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV3
File Name	H6F14036.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 14:20:41
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.625	ppb	3.7	382087.56	25	94.5	90	110	
Be	9	6	No Gas	23.365	ppb	4.8	72417.67	25	93.46	90	110	
B	11	6	No Gas	54.117	ppb	2.7	115515.35	50	108.23	90	110	
Na	23	45	H2	25459.562	ppb	0.3	77826266.67	25000	101.84	90	110	
Mg	24	45	No Gas	24991.356	ppb	3.0	239124016.00	25000	99.97	90	110	
Al	27	45	No Gas	24899.823	ppb	3.7	306957182.09	25000	99.6	90	110	
Si	28	45	H2	2567.780	ppb	0.7	2417715.50	2500	102.71	90	110	
P	31	45	No Gas	239.710	ppb	3.3	212664.96	250	95.88	90	110	
K	39	45	He	25700.417	ppb	0.9	11550931.33	25000	102.8	90	110	
Ca	40	45	H2	25049.801	ppb	0.2	167095861.33	25000	100.2	90	110	
Ti	47	45	No Gas	244.698	ppb	2.9	352747.03	250	97.88	90	110	
V	51	45	He	247.397	ppb	0.1	1024497.31	250	98.96	90	110	
Cr	52	45	He	251.647	ppb	0.3	1219130.67	250	100.66	90	110	
Mn	55	45	No Gas	1471.062	ppb	3.9	33685876.67	1500	98.07	90	110	
Fe	56	45	H2	24947.729	ppb	0.9	264272522.67	25000	99.79	90	110	
Co	59	45	No Gas	247.685	ppb	2.7	4702122.67	250	99.07	90	110	
Ni	60	45	He	247.082	ppb	0.1	444643.69	250	98.83	90	110	
Cu	63	45	He	253.113	ppb	0.6	1187535.62	250	101.25	90	110	
Zn	66	72	No Gas	246.631	ppb	4.0	710568.90	250	98.65	90	110	
As	75	72	He	248.338	ppb	0.3	187271.63	250	99.34	90	110	
Se	78	72	H2	246.882	ppb	0.5	77965.11	250	98.75	90	110	
Sr	88	72	No Gas	251.239	ppb	4.1	6582188.35	250	100.5	90	110	
Zr	90	72	No Gas	26.240	ppb	3.9	455529.22	25	104.96	90	110	
Mo	95	115	No Gas	244.532	ppb	3.0	1265597.14	250	97.81	90	110	
Ag	107	115	No Gas	24.437	ppb	2.4	312260.09	25	97.75	90	110	
Cd	111	115	No Gas	241.797	ppb	2.7	653323.05	250	96.72	90	110	
Sn	118	115	No Gas	244.620	ppb	2.1	1979713.19	250	97.85	90	110	
Sb	123	115	No Gas	47.680	ppb	3.3	460452.76	50	95.36	90	110	
Ba	137	115	No Gas	490.662	ppb	2.6	2127656.10	500	98.13	90	110	
W	182	159	No Gas	25.434	ppb	1.4	310585.92	25	101.74	90	110	
Hg	201	159	No Gas	2.417	ppb	3.6	4573.00	2.5	96.68	90	110	
Hg	201	159	He	2.469	ppb	0.4	3259.09	2.5	98.76	90	110	
Tl	205	159	No Gas	242.369	ppb	2.6	6555720.44	250	96.95	90	110	
Pb	208	159	No Gas	245.352	ppb	1.6	9066389.16	250	98.14	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	239.968	ppb	1.8	9466164.07	250	95.99	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2349645.63	0.1	2071494.35	113.43	60	120	
Sc	45	No Gas	4232030.17	0.9	4025477.17	105.13	60	120	
Sc	45	H2	2333642.58	0.2	2213497.75	105.43	60	120	
Sc	45	He	363053.80	0.2	348770.57	104.1	60	120	
Ge	72	No Gas	957752.67	0.5	883390.69	108.42	60	120	
Ge	72	H2	653461.96	0.6	598767.1	109.13	60	120	
Ge	72	He	214981.91	0.2	194783.48	110.37	60	120	
In	115	No Gas	6161252.95	0.5	6067282.66	101.55	60	120	
Tb	159	No Gas	9390168.24	1.2	8945293.53	104.97	60	120	
Tb	159	He	5483170.00	0.3	5228762.33	104.87	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB3
File Name	H6F14037.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:23:18
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	129943.12	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	33.33	0.08	
B	11	6	No Gas	4.830	ppb	8.4	10897.57	4	>LOD
Na	23	45	H2	115.958	ppb	1.9	641199.56	40	>LOD
Mg	24	45	No Gas	5.283	ppb	4.9	54856.97	10	
Al	27	45	No Gas	4.850	ppb	5.8	68883.41	15	
Si	28	45	H2	2.345	ppb	1.7	7714.14	8	
P	31	45	No Gas	<0.000	ppb	N/A	44617.48	10	
K	39	45	He	17.392	ppb	18.8	61783.11	20	
Ca	40	45	H2	5.308	ppb	0.7	60334.74	25	
Ti	47	45	No Gas	0.078	ppb	21.8	296.67	0.5	
V	51	45	He	<0.000	ppb	N/A	1690.77	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1039.38	0.2	
Mn	55	45	No Gas	0.311	ppb	7.7	16090.79	0.2	>LOD
Fe	56	45	H2	5.135	ppb	1.3	62033.60	10	
Co	59	45	No Gas	0.043	ppb	5.9	1054.71	0.15	
Ni	60	45	He	0.051	ppb	9.4	132.67	0.2	
Cu	63	45	He	0.129	ppb	10.3	1845.46	0.4	
Zn	66	72	No Gas	0.068	ppb	46.2	972.70	2	
As	75	72	He	<0.000	ppb	N/A	165.67	0.2	
Se	78	72	H2	0.068	ppb	30.1	28.67	0.2	
Sr	88	72	No Gas	0.064	ppb	11.8	2016.82	0.2	
Zr	90	72	No Gas	0.003	ppb	78.8	180.00	2	
Mo	95	115	No Gas	0.107	ppb	18.9	595.57	0.2	
Ag	107	115	No Gas	0.001	ppb	69.3	116.67	0.08	
Cd	111	115	No Gas	0.052	ppb	11.2	148.21	0.2	
Sn	118	115	No Gas	0.101	ppb	4.3	1477.86	0.2	
Sb	123	115	No Gas	0.022	ppb	7.0	342.23	0.4	
Ba	137	115	No Gas	0.108	ppb	8.5	528.90	0.2	
W	182	159	No Gas	0.014	ppb	19.5	256.67	0.3	
Hg	201	159	No Gas	0.020	ppb	20.7	43.67	0.1	
Hg	201	159	He	0.011	ppb	23.4	18.67	0.1	
Tl	205	159	No Gas	0.077	ppb	17.5	2272.43	0.1	
Pb	208	159	No Gas	0.029	ppb	21.4	2869.03	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.058	ppb	3.8	2340.22	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2340458.31	0.9	2071494.35	112.98	60	120	
Sc	45	No Gas	4116968.67	0.8	4025477.17	102.27	60	120	
Sc	45	H2	2282195.58	0.6	2213497.75	103.1	60	120	
Sc	45	He	360693.69	1.1	348770.57	103.42	60	120	
Ge	72	No Gas	887416.94	1.1	883390.69	100.46	60	120	
Ge	72	H2	613688.59	0.9	598767.1	102.49	60	120	
Ge	72	He	201704.37	0.6	194783.48	103.55	60	120	
In	115	No Gas	6239183.47	1.1	6067282.66	102.83	60	120	
Tb	159	No Gas	9252703.24	1.1	8945293.53	103.44	60	120	
Tb	159	He	5495885.50	0.4	5228762.33	105.11	60	120	

Sample Report

Sample Name	F146-01I
File Name	H6F14038.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:25:52
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	974.417	97.442	ppb	4.1	1071980.03	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	8.89	50	
B	11	6	No Gas	2102.781	210.278	ppb	5.7	413426.55	100	>LDR
Na	23	45	H2	4593723.271	459372.327	ppb	0.5	1392364458.67	50000	>LDR
Mg	24	45	No Gas	82061.208	8206.121	ppb	4.6	75401781.33	50000	
Al	27	45	No Gas	7.050	0.705	ppb	25.1	18902.96	50000	
Si	28	45	H2	13254.563	1325.456	ppb	0.9	1244698.29	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	47674.93	500	
K	39	45	He	37139.686	3713.969	ppb	0.6	1741547.21	50000	
Ca	40	45	H2	401784.230	40178.423	ppb	0.6	266706112.00	50000	
Ti	47	45	No Gas	1.101	0.110	ppb	15.4	336.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1245.39	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	903.36	500	
Mn	55	45	No Gas	720.931	72.093	ppb	3.1	1593472.00	3000	
Fe	56	45	H2	841.987	84.199	ppb	1.0	896593.81	50000	
Co	59	45	No Gas	0.371	0.037	ppb	4.0	937.37	500	
Ni	60	45	He	0.820	0.082	ppb	31.9	191.33	500	
Cu	63	45	He	0.206	0.021	ppb	9.2	1368.07	500	
Zn	66	72	No Gas	6.441	0.644	ppb	5.9	2641.59	500	
As	75	72	He	0.697	0.070	ppb	27.6	257.67	500	
Se	78	72	H2	0.244	0.024	ppb	28.7	16.67	500	
Sr	88	72	No Gas	10445.229	1044.523	ppb	4.2	26687281.16	500	>LDR
Zr	90	72	No Gas	0.054	0.005	ppb	51.6	233.33	50	
Mo	95	115	No Gas	39.400	3.940	ppb	5.0	19325.19	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	93.33	50	
Cd	111	115	No Gas	0.029	0.003	ppb	201.6	11.70	500	
Sn	118	115	No Gas	0.443	0.044	ppb	17.1	947.81	500	
Sb	123	115	No Gas	0.190	0.019	ppb	8.6	287.78	100	
Ba	137	115	No Gas	40.933	4.093	ppb	4.8	16843.17	1000	
W	182	159	No Gas	0.732	0.073	ppb	17.9	936.71	50	
Hg	201	159	No Gas	0.085	0.009	ppb	55.7	21.00	5	
Hg	201	159	He	0.056	0.006	ppb	6.9	11.50	5	
Tl	205	159	No Gas	0.030	0.003	ppb	124.4	297.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	833.34	500	
U	238	159	No Gas	1.154	0.115	ppb	1.3	4406.35	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2171639.12	2.8	2071494.35	104.83	60	120	
Sc	45	No Gas	4061252.33	2.5	4025477.17	100.89	60	120	
Sc	45	H2	2322492.58	1.0	2213497.75	104.92	60	120	
Sc	45	He	368514.84	0.3	348770.57	105.66	60	120	
Ge	72	No Gas	933508.10	1.7	883390.69	105.67	60	120	
Ge	72	H2	648973.21	0.7	598767.1	108.38	60	120	
Ge	72	He	215499.28	0.5	194783.48	110.64	60	120	
In	115	No Gas	5826689.61	1.2	6067282.66	96.03	60	120	
Tb	159	No Gas	8947302.42	1.9	8945293.53	100.02	60	120	
Tb	159	He	5267869.67	0.1	5228762.33	100.75	60	120	

Sample Report

Sample Name	F146-02I
File Name	H6F14039.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:28:28
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	644.083	64.408	ppb	4.7	790943.62	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	11.11	50	
B	11	6	No Gas	1529.576	152.958	ppb	5.3	317098.35	100	>LDR
Na	23	45	H2	3003139.525	300313.953	ppb	0.8	962966506.67	50000	>LDR
Mg	24	45	No Gas	102311.277	10231.128	ppb	3.9	98379077.33	50000	
Al	27	45	No Gas	6.489	0.649	ppb	6.7	19119.87	50000	
Si	28	45	H2	14907.555	1490.755	ppb	0.5	1480139.71	5000	
P	31	45	No Gas	10.155	1.016	ppb	94.7	51306.48	500	
K	39	45	He	20473.098	2047.310	ppb	0.7	1043912.10	50000	
Ca	40	45	H2	390447.189	39044.719	ppb	0.8	274158688.00	50000	
Ti	47	45	No Gas	1.318	0.132	ppb	26.0	382.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	1833.46	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	946.03	500	
Mn	55	45	No Gas	759.827	75.983	ppb	3.3	1757304.75	3000	
Fe	56	45	H2	2543.248	254.325	ppb	0.8	2845511.00	50000	
Co	59	45	No Gas	0.325	0.032	ppb	2.5	892.70	500	
Ni	60	45	He	0.193	0.019	ppb	31.0	81.33	500	
Cu	63	45	He	0.683	0.068	ppb	5.8	1690.77	500	
Zn	66	72	No Gas	4.261	0.426	ppb	5.3	2101.50	500	
As	75	72	He	<0.000	<0.000	ppb	N/A	139.00	500	
Se	78	72	H2	0.057	0.006	ppb	78.4	11.33	500	
Sr	88	72	No Gas	8785.811	878.581	ppb	3.2	23243187.41	500	>LDR
Zr	90	72	No Gas	0.054	0.005	ppb	26.8	240.00	50	
Mo	95	115	No Gas	9.146	0.915	ppb	3.4	4698.61	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	71.11	50	
Cd	111	115	No Gas	0.009	0.001	ppb	64.8	7.01	500	
Sn	118	115	No Gas	0.208	0.021	ppb	53.4	797.80	500	
Sb	123	115	No Gas	0.182	0.018	ppb	6.9	292.22	100	
Ba	137	115	No Gas	50.950	5.095	ppb	2.2	21797.19	1000	
W	182	159	No Gas	0.179	0.018	ppb	22.3	303.34	50	
Hg	201	159	No Gas	0.074	0.007	ppb	13.3	19.67	5	
Hg	201	159	He	0.044	0.004	ppb	37.1	10.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	197.78	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	676.67	500	
U	238	159	No Gas	1.356	0.136	ppb	3.0	5325.61	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2289465.22	2.4	2071494.35	110.52	60	120	
Sc	45	No Gas	4250130.50	3.1	4025477.17	105.58	60	120	
Sc	45	H2	2456735.08	1.0	2213497.75	110.99	60	120	
Sc	45	He	390636.53	0.2	348770.57	112	60	120	
Ge	72	No Gas	966483.31	2.7	883390.69	109.41	60	120	
Ge	72	H2	679815.19	1.1	598767.1	113.54	60	120	
Ge	72	He	229226.36	1.0	194783.48	117.68	60	120	
In	115	No Gas	6064860.05	3.1	6067282.66	99.96	60	120	
Tb	159	No Gas	9219138.25	2.2	8945293.53	103.06	60	120	
Tb	159	He	5595364.83	0.5	5228762.33	107.01	60	120	

Sample Report

Sample Name	F146-03I
File Name	H6F14040.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:31:04
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fall	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	345.038	34.504	ppb	4.2	502301.61	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	15.56	50	
B	11	6	No Gas	1803.449	180.345	ppb	5.5	387778.58	100	>LDR
Na	23	45	H2	1193573.837	119357.384	ppb	0.8	384257834.67	50000	>LDR
Mg	24	45	No Gas	75036.032	7503.603	ppb	4.9	74070800.00	50000	
Al	27	45	No Gas	4.501	0.450	ppb	11.4	17107.23	50000	
Si	28	45	H2	14424.641	1442.464	ppb	0.2	1437425.17	5000	
P	31	45	No Gas	11.513	1.151	ppb	53.7	52794.71	500	
K	39	45	He	11627.200	1162.720	ppb	1.1	609981.42	50000	
Ca	40	45	H2	187586.404	18758.640	ppb	0.9	132194008.00	50000	
Ti	47	45	No Gas	0.991	0.099	ppb	12.8	345.34	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2327.53	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	948.03	500	
Mn	55	45	No Gas	1010.756	101.076	ppb	4.2	2396616.75	3000	
Fe	56	45	H2	6483.196	648.320	ppb	0.5	7264601.17	50000	
Co	59	45	No Gas	0.357	0.036	ppb	7.8	980.70	500	
Ni	60	45	He	0.833	0.083	ppb	12.5	202.67	500	
Cu	63	45	He	0.660	0.066	ppb	24.8	1656.77	500	
Zn	66	72	No Gas	3.847	0.385	ppb	9.5	2025.49	500	
As	75	72	He	4.221	0.422	ppb	3.7	559.34	500	
Se	78	72	H2	0.251	0.025	ppb	47.5	18.00	500	
Sr	88	72	No Gas	3100.969	310.097	ppb	4.1	8386513.00	500	
Zr	90	72	No Gas	0.526	0.053	ppb	13.6	1090.05	50	
Mo	95	115	No Gas	30.722	3.072	ppb	2.3	16212.15	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	37.78	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	3.78	500	
Sn	118	115	No Gas	0.061	0.006	ppb	53.7	705.58	500	
Sb	123	115	No Gas	0.107	0.011	ppb	35.6	227.78	100	
Ba	137	115	No Gas	81.091	8.109	ppb	2.1	35827.21	1000	
W	182	159	No Gas	0.101	0.010	ppb	39.2	216.67	50	
Hg	201	159	No Gas	0.087	0.009	ppb	23.9	22.67	5	
Hg	201	159	He	0.040	0.004	ppb	50.2	10.17	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	135.56	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	636.67	500	
U	238	159	No Gas	19.309	1.931	ppb	2.7	77021.52	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2376114.73	1.1	2071494.35	114.71	60	120	
Sc	45	No Gas	4364700.33	1.2	4025477.17	108.43	60	120	
Sc	45	H2	2465315.58	0.4	2213497.75	111.38	60	120	
Sc	45	He	385457.21	0.6	348770.57	110.52	60	120	
Ge	72	No Gas	988300.18	0.9	883390.69	111.88	60	120	
Ge	72	H2	691304.54	0.7	598767.1	115.45	60	120	
Ge	72	He	230137.62	0.5	194783.48	118.15	60	120	
In	115	No Gas	6267531.10	1.7	6067282.66	103.3	60	120	
Tb	159	No Gas	9484746.29	1.3	8945293.53	106.03	60	120	
Tb	159	He	5701212.17	0.4	5228762.33	109.04	60	120	

Sample Report

Sample Name	F146-04I
File Name	H6F14041.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:33:40
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	70.327	7.033	ppb	6.0	214279.19	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	14.44	50	
B	11	6	No Gas	519.242	51.924	ppb	5.8	114543.32	100	
Na	23	45	H2	246453.533	24645.353	ppb	0.4	77764114.67	50000	
Mg	24	45	No Gas	7116.150	711.615	ppb	4.3	7038401.33	50000	
Al	27	45	No Gas	5.271	0.527	ppb	4.2	18115.21	50000	
Si	28	45	H2	14642.503	1464.250	ppb	0.7	1425441.50	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	48633.58	500	
K	39	45	He	4489.034	448.903	ppb	1.5	269364.00	50000	
Ca	40	45	H2	29688.542	2968.854	ppb	0.3	20463030.00	50000	
Ti	47	45	No Gas	0.939	0.094	ppb	14.8	338.00	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2749.61	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	838.70	500	
Mn	55	45	No Gas	843.639	84.364	ppb	4.2	2004482.63	3000	
Fe	56	45	H2	89.627	8.963	ppb	0.6	107312.97	50000	
Co	59	45	No Gas	0.044	0.004	ppb	11.2	367.34	500	
Ni	60	45	He	0.285	0.029	ppb	18.8	97.33	500	
Cu	63	45	He	1.066	0.107	ppb	12.6	1848.13	500	
Zn	66	72	No Gas	4.095	0.410	ppb	15.4	2148.84	500	
As	75	72	He	5.248	0.525	ppb	1.5	636.68	500	
Se	78	72	H2	0.133	0.013	ppb	162.1	14.00	500	
Sr	88	72	No Gas	595.943	59.594	ppb	3.5	1650174.69	500	
Zr	90	72	No Gas	0.097	0.010	ppb	23.9	330.01	50	
Mo	95	115	No Gas	39.895	3.990	ppb	4.2	21517.44	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	40.00	50	
Cd	111	115	No Gas	0.006	0.001	ppb	143.2	6.55	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	660.02	500	
Sb	123	115	No Gas	0.084	0.008	ppb	33.0	210.00	100	
Ba	137	115	No Gas	458.098	45.810	ppb	3.2	206687.05	1000	
W	182	159	No Gas	15.514	1.551	ppb	4.8	19404.98	50	
Hg	201	159	No Gas	0.046	0.005	ppb	30.1	14.83	5	
Hg	201	159	He	0.070	0.007	ppb	49.5	14.17	5	
Tl	205	159	No Gas	0.230	0.023	ppb	2.5	872.25	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	590.00	500	
U	238	159	No Gas	3.297	0.330	ppb	2.0	13337.27	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2426831.57	0.9	2071494.35	117.15	60	120	
Sc	45	No Gas	4370550.17	0.7	4025477.17	108.57	60	120	
Sc	45	H2	2408509.17	0.4	2213497.75	108.81	60	120	
Sc	45	He	383201.01	0.4	348770.57	109.87	60	120	
Ge	72	No Gas	1011692.75	1.2	883390.69	114.52	60	120	
Ge	72	H2	687878.79	0.6	598767.1	114.88	60	120	
Ge	72	He	228167.32	0.9	194783.48	117.14	60	120	
In	115	No Gas	6408449.32	0.8	6067282.66	105.62	60	120	
Tb	159	No Gas	9573754.89	0.9	8945293.53	107.03	60	120	
Tb	159	He	5651740.33	0.3	5228762.33	108.09	60	120	

Sample Report

Sample Name	F146-06I
File Name	H6F14042.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:36:15
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Fail
ISTD QC Pass/Fail	Pass
Operator	**LYaman**

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	453.616	45.362	ppb	4.2	591952.89	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	22.22	50	
B	11	6	No Gas	1393.761	139.376	ppb	7.0	287269.32	100	>LDR
Na	23	45	H2	1527138.961	152713.896	ppb	1.3	479838453.33	50000	>LDR
Mg	24	45	No Gas	1317.265	131.726	ppb	4.4	1275253.29	50000	
Al	27	45	No Gas	5.871	0.587	ppb	4.0	18408.92	50000	
Si	28	45	H2	11952.840	1195.284	ppb	0.6	1163723.59	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	48403.42	500	
K	39	45	He	18434.254	1843.425	ppb	0.5	917009.37	50000	
Ca	40	45	H2	59647.975	5964.797	ppb	0.8	41051656.00	50000	
Ti	47	45	No Gas	1.096	0.110	ppb	27.0	352.67	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	3582.47	500	
Cr	52	45	He	6.985	0.699	ppb	2.1	5182.31	500	
Mn	55	45	No Gas	4.676	0.468	ppb	4.7	20279.04	3000	
Fe	56	45	H2	3.863	0.386	ppb	1.8	13538.70	50000	
Co	59	45	No Gas	0.026	0.003	ppb	52.3	323.33	500	
Ni	60	45	He	0.695	0.070	ppb	18.7	173.33	500	
Cu	63	45	He	0.757	0.076	ppb	10.3	1675.44	500	
Zn	66	72	No Gas	3.743	0.374	ppb	7.2	1992.15	500	
As	75	72	He	6.349	0.635	ppb	8.0	712.69	500	
Se	78	72	H2	0.660	0.066	ppb	4.4	31.00	500	
Sr	88	72	No Gas	1468.533	146.853	ppb	3.6	3966599.57	500	
Zr	90	72	No Gas	0.038	0.004	ppb	53.8	216.67	50	
Mo	95	115	No Gas	52.551	5.255	ppb	4.1	27728.92	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	38.89	50	
Cd	111	115	No Gas	0.018	0.002	ppb	149.5	9.81	500	
Sn	118	115	No Gas	0.066	0.007	ppb	137.8	710.02	500	
Sb	123	115	No Gas	0.144	0.014	ppb	10.4	264.45	100	
Ba	137	115	No Gas	47.744	4.774	ppb	1.5	21133.91	1000	
W	182	159	No Gas	2.351	0.235	ppb	1.3	2933.69	50	
Hg	201	159	No Gas	0.065	0.006	ppb	5.8	18.00	5	
Hg	201	159	He	0.035	0.003	ppb	73.1	9.17	5	
Tl	205	159	No Gas	0.013	0.001	ppb	71.2	266.67	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	587.78	500	
U	238	159	No Gas	2.551	0.255	ppb	2.0	10047.47	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2276383.93	0.9	2071494.35	109.89	60	120	
Sc	45	No Gas	4261325.67	1.1	4025477.17	105.86	60	120	
Sc	45	H2	2406571.83	0.4	2213497.75	108.72	60	120	
Sc	45	He	378748.04	1.0	348770.57	108.6	60	120	
Ge	72	No Gas	986908.52	1.4	883390.69	111.72	60	120	
Ge	72	H2	676761.17	0.4	598767.1	113.03	60	120	
Ge	72	He	224465.80	1.1	194783.48	115.24	60	120	
In	115	No Gas	6272681.72	0.9	6067282.66	103.39	60	120	
Tb	159	No Gas	9305150.19	1.2	8945293.53	104.02	60	120	
Tb	159	He	5506878.83	0.6	5228762.33	105.32	60	120	

Sample Report

Sample Name	F146-08I
File Name	H6F14043.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:38:50
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	155.999	15.600	ppb	5.4	288904.54	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	8.89	50	
B	11	6	No Gas	501.082	50.108	ppb	6.8	103901.38	100	
Na	23	45	H2	339368.422	33936.842	ppb	0.8	103281005.33	50000	
Mg	24	45	No Gas	1541.485	154.149	ppb	4.9	1459752.25	50000	
Al	27	45	No Gas	16.953	1.695	ppb	7.8	31493.20	50000	
Si	28	45	H2	11100.433	1110.043	ppb	0.3	1044783.10	5000	
P	31	45	No Gas	123.117	12.312	ppb	8.5	57908.38	500	
K	39	45	He	6608.054	660.805	ppb	1.5	355443.98	50000	
Ca	40	45	H2	15068.903	1506.890	ppb	0.3	10041765.33	50000	
Ti	47	45	No Gas	0.929	0.093	ppb	25.8	321.34	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	2164.84	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	850.03	500	
Mn	55	45	No Gas	38.719	3.872	ppb	4.5	96680.58	3000	
Fe	56	45	H2	23.181	2.318	ppb	1.0	33475.57	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	182.00	500	
Ni	60	45	He	0.133	0.013	ppb	111.8	66.00	500	
Cu	63	45	He	1.176	0.118	ppb	17.4	1830.12	500	
Zn	66	72	No Gas	4.899	0.490	ppb	9.4	2287.53	500	
As	75	72	He	21.742	2.174	ppb	2.8	1871.13	500	
Se	78	72	H2	0.052	0.005	ppb	57.6	11.00	500	
Sr	88	72	No Gas	250.700	25.070	ppb	3.6	663867.91	500	
Zr	90	72	No Gas	0.035	0.003	ppb	82.8	206.67	50	
Mo	95	115	No Gas	14.551	1.455	ppb	4.0	7597.74	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	42.22	50	
Cd	111	115	No Gas	0.027	0.003	ppb	42.1	11.99	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	583.35	500	
Sb	123	115	No Gas	0.050	0.005	ppb	48.7	170.00	100	
Ba	137	115	No Gas	76.037	7.604	ppb	3.3	33161.27	1000	
W	182	159	No Gas	1.328	0.133	ppb	8.9	1673.45	50	
Hg	201	159	No Gas	0.066	0.007	ppb	20.1	18.00	5	
Hg	201	159	He	0.054	0.005	ppb	18.7	11.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	145.55	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	695.56	500	
U	238	159	No Gas	0.019	0.002	ppb	10.4	145.56	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2280501.83	1.5	2071494.35	110.09	60	120	
Sc	45	No Gas	4171599.33	1.0	4025477.17	103.63	60	120	
Sc	45	H2	2325594.33	0.2	2213497.75	105.06	60	120	
Sc	45	He	368720.35	0.6	348770.57	105.72	60	120	
Ge	72	No Gas	967007.67	1.1	883390.69	109.47	60	120	
Ge	72	H2	669497.19	0.6	598767.1	111.81	60	120	
Ge	72	He	218344.33	0.9	194783.48	112.1	60	120	
In	115	No Gas	6185562.23	0.9	6067282.66	101.95	60	120	
Tb	159	No Gas	9179800.47	1.0	8945293.53	102.62	60	120	
Tb	159	He	5380238.17	0.6	5228762.33	102.9	60	120	

Sample Report

Sample Name	F146-09I
File Name	H6F14044.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:41:25
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	184.632	18.463	ppb	4.4	312588.05	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	5.55	50	
B	11	6	No Gas	608.865	60.886	ppb	6.6	123930.34	100	
Na	23	45	H2	483900.680	48390.068	ppb	0.9	147183450.67	50000	>LDR
Mg	24	45	No Gas	1698.585	169.858	ppb	3.6	1609861.96	50000	
Al	27	45	No Gas	7.947	0.795	ppb	9.6	20568.60	50000	
Si	28	45	H2	11391.232	1139.123	ppb	0.3	1072312.46	5000	
P	31	45	No Gas	2.508	0.251	ppb	561.9	49900.03	500	
K	39	45	He	9754.622	975.462	ppb	0.7	491079.10	50000	
Ca	40	45	H2	22275.972	2227.597	ppb	0.7	14836128.00	50000	
Ti	47	45	No Gas	0.684	0.068	ppb	19.6	286.67	500	
V	51	45	He	0.846	0.085	ppb	46.2	4823.52	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	838.70	500	
Mn	55	45	No Gas	18.324	1.832	ppb	2.8	50706.05	3000	
Fe	56	45	H2	<0.000	<0.000	ppb	N/A	8881.55	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	187.33	500	
Ni	60	45	He	0.332	0.033	ppb	25.1	100.67	500	
Cu	63	45	He	0.932	0.093	ppb	9.3	1689.44	500	
Zn	66	72	No Gas	2.096	0.210	ppb	6.2	1482.08	500	
As	75	72	He	15.475	1.548	ppb	4.4	1384.74	500	
Se	78	72	H2	0.345	0.035	ppb	18.3	20.33	500	
Sr	88	72	No Gas	489.566	48.957	ppb	4.0	1304055.78	500	
Zr	90	72	No Gas	<0.000	<0.000	ppb	N/A	146.67	50	
Mo	95	115	No Gas	20.086	2.009	ppb	5.1	10426.33	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	48.89	50	
Cd	111	115	No Gas	0.005	0.001	ppb	109.0	6.16	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	535.57	500	
Sb	123	115	No Gas	0.145	0.015	ppb	35.0	261.11	100	
Ba	137	115	No Gas	76.555	7.656	ppb	2.6	33220.27	1000	
W	182	159	No Gas	3.548	0.355	ppb	6.2	4274.08	50	
Hg	201	159	No Gas	0.072	0.007	ppb	30.1	18.83	5	
Hg	201	159	He	0.047	0.005	ppb	28.8	10.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	161.11	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	557.78	500	
U	238	159	No Gas	4.499	0.450	ppb	2.8	17224.33	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2240462.96	1.6	2071494.35	108.16	60	120	
Sc	45	No Gas	4175567.83	1.8	4025477.17	103.73	60	120	
Sc	45	H2	2326248.33	0.3	2213497.75	105.09	60	120	
Sc	45	He	363289.49	0.6	348770.57	104.16	60	120	
Ge	72	No Gas	973042.94	1.3	883390.69	110.15	60	120	
Ge	72	H2	664514.56	0.8	598767.1	110.98	60	120	
Ge	72	He	217250.64	0.6	194783.48	111.53	60	120	
In	115	No Gas	6155418.96	1.3	6067282.66	101.45	60	120	
Tb	159	No Gas	9075414.64	1.6	8945293.53	101.45	60	120	
Tb	159	He	5341083.67	0.3	5228762.33	102.15	60	120	

Sample Report

Sample Name	F146-10I
File Name	H6F14045.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:44:01
Sample Type	Sample
Total Dilution	10.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	222.930	22.293	ppb	5.1	342619.08	50	
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	6.66	50	
B	11	6	No Gas	780.278	78.028	ppb	7.0	154765.53	100	
Na	23	45	H2	732174.197	73217.420	ppb	0.8	221615701.33	50000	>LDR
Mg	24	45	No Gas	1285.450	128.545	ppb	3.6	1192643.08	50000	
Al	27	45	No Gas	14.027	1.403	ppb	4.1	27343.61	50000	
Si	28	45	H2	10758.060	1075.806	ppb	0.5	1008876.77	5000	
P	31	45	No Gas	<0.000	<0.000	ppb	N/A	47406.67	500	
K	39	45	He	10091.710	1009.171	ppb	1.0	527406.35	50000	
Ca	40	45	H2	21022.370	2102.237	ppb	0.7	13944677.67	50000	
Ti	47	45	No Gas	0.518	0.052	ppb	5.0	257.33	500	
V	51	45	He	6.439	0.644	ppb	5.1	7430.68	500	
Cr	52	45	He	2.628	0.263	ppb	4.9	2980.99	500	
Mn	55	45	No Gas	1.194	0.119	ppb	4.3	11738.37	3000	
Fe	56	45	H2	0.609	0.061	ppb	12.0	9610.71	50000	
Co	59	45	No Gas	<0.000	<0.000	ppb	N/A	176.67	500	
Ni	60	45	He	0.163	0.016	ppb	58.4	73.33	500	
Cu	63	45	He	0.896	0.090	ppb	12.5	1742.78	500	
Zn	66	72	No Gas	2.853	0.285	ppb	12.6	1666.11	500	
As	75	72	He	15.845	1.585	ppb	4.6	1445.74	500	
Se	78	72	H2	0.682	0.068	ppb	5.8	31.00	500	
Sr	88	72	No Gas	452.536	45.254	ppb	3.5	1179416.41	500	
Zr	90	72	No Gas	0.019	0.002	ppb	142.6	176.67	50	
Mo	95	115	No Gas	37.504	3.750	ppb	4.2	19062.55	500	
Ag	107	115	No Gas	<0.000	<0.000	ppb	N/A	43.33	50	
Cd	111	115	No Gas	0.009	0.001	ppb	145.5	6.97	500	
Sn	118	115	No Gas	<0.000	<0.000	ppb	N/A	597.79	500	
Sb	123	115	No Gas	0.170	0.017	ppb	7.9	278.89	100	
Ba	137	115	No Gas	91.706	9.171	ppb	4.0	39033.07	1000	
W	182	159	No Gas	9.343	0.934	ppb	4.2	10964.83	50	
Hg	201	159	No Gas	0.074	0.007	ppb	34.0	19.00	5	
Hg	201	159	He	0.048	0.005	ppb	36.2	10.83	5	
Tl	205	159	No Gas	0.010	0.001	ppb	76.6	248.89	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	567.78	500	
U	238	159	No Gas	5.378	0.538	ppb	4.0	20302.39	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2187044.01	0.6	2071494.35	105.58	60	120	
Sc	45	No Gas	4083666.17	1.1	4025477.17	101.45	60	120	
Sc	45	H2	2316692.00	1.1	2213497.75	104.66	60	120	
Sc	45	He	378543.53	0.5	348770.57	108.54	60	120	
Ge	72	No Gas	952172.79	1.2	883390.69	107.79	60	120	
Ge	72	H2	661157.48	1.5	598767.1	110.42	60	120	
Ge	72	He	222294.93	0.5	194783.48	114.12	60	120	
In	115	No Gas	6039330.06	0.8	6067282.66	99.54	60	120	
Tb	159	No Gas	8954857.42	0.7	8945293.53	100.11	60	120	
Tb	159	He	5436023.67	0.5	5228762.33	103.96	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV4
File Name	H6F14046.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:46:37
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Flal	Pass
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	23.716	ppb	4.6	355130.60	25	94.86	90	110	
Be	9	6	No Gas	23.447	ppb	4.3	67383.68	25	93.79	90	110	
B	11	6	No Gas	47.680	ppb	4.4	94445.07	50	95.36	90	110	
Na	23	45	H2	25340.939	ppb	1.2	73989976.00	25000	101.36	90	110	
Mg	24	45	No Gas	24860.308	ppb	4.4	224743690.67	25000	99.44	90	110	
Al	27	45	No Gas	24796.017	ppb	4.9	288798602.36	25000	99.18	90	110	
Si	28	45	H2	2512.893	ppb	0.5	2260113.42	2500	100.52	90	110	
P	31	45	No Gas	239.681	ppb	3.8	200909.56	250	95.87	90	110	
K	39	45	He	25529.156	ppb	0.3	10867354.00	25000	102.12	90	110	
Ca	40	45	H2	25164.930	ppb	1.0	160333360.00	25000	100.66	90	110	
Ti	47	45	No Gas	246.386	ppb	3.9	335562.17	250	98.55	90	110	
V	51	45	He	249.895	ppb	0.5	980075.85	250	99.96	90	110	
Cr	52	45	He	250.273	ppb	0.6	1148336.63	250	100.11	90	110	
Mn	55	45	No Gas	1475.837	ppb	3.3	31931182.67	1500	98.39	90	110	
Fe	56	45	H2	25053.806	ppb	0.9	253496144.00	25000	100.22	90	110	
Co	59	45	No Gas	249.579	ppb	3.4	4476630.00	250	99.83	90	110	
Ni	60	45	He	248.910	ppb	0.7	424224.99	250	99.56	90	110	
Cu	63	45	He	254.293	ppb	0.6	1129973.46	250	101.72	90	110	
Zn	66	72	No Gas	244.927	ppb	4.1	681291.94	250	97.97	90	110	
As	75	72	He	246.301	ppb	0.7	176573.14	250	98.52	90	110	
Se	78	72	H2	243.854	ppb	1.2	74162.14	250	97.54	90	110	
Sr	88	72	No Gas	245.352	ppb	4.0	6205894.61	250	98.14	90	110	
Zr	90	72	No Gas	26.125	ppb	3.6	437862.73	25	104.5	90	110	
Mo	95	115	No Gas	243.797	ppb	3.9	1201703.50	250	97.52	90	110	
Ag	107	115	No Gas	24.682	ppb	3.9	300376.52	25	98.73	90	110	
Cd	111	115	No Gas	243.311	ppb	3.1	626133.72	250	97.32	90	110	
Sn	118	115	No Gas	243.939	ppb	3.1	1880402.63	250	97.58	90	110	
Sb	123	115	No Gas	47.851	ppb	2.8	440099.33	50	95.7	90	110	
Ba	137	115	No Gas	486.422	ppb	2.2	2008872.97	500	97.28	90	110	
W	182	159	No Gas	25.613	ppb	2.5	299987.41	25	102.45	90	110	
Hg	201	159	No Gas	2.422	ppb	4.7	4394.44	2.5	96.88	90	110	
Hg	201	159	He	2.490	ppb	1.0	3120.55	2.5	99.6	90	110	
Tl	205	159	No Gas	244.193	ppb	3.3	6334694.89	250	97.68	90	110	
Pb	208	159	No Gas	245.310	ppb	2.8	8693984.39	250	98.12	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	239.212	ppb	3.2	9050704.08	250	95.68	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2178131.20	1.1	2071494.35	105.15	60	120	
Sc	45	No Gas	3999029.75	0.8	4025477.17	99.34	60	120	
Sc	45	H2	2229137.67	1.1	2213497.75	100.71	60	120	
Sc	45	He	343849.50	0.6	348770.57	98.59	60	120	
Ge	72	No Gas	924538.06	0.4	883390.69	104.66	60	120	
Ge	72	H2	629336.62	1.1	598767.1	105.11	60	120	
Ge	72	He	204380.41	0.9	194783.48	104.93	60	120	
In	115	No Gas	5868466.38	0.8	6067282.66	96.72	60	120	
Tb	159	No Gas	9006389.36	1.1	8945293.53	100.68	60	120	
Tb	159	He	5205259.33	0.6	5228762.33	99.55	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB4
File Name	H6F14047.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 14:49:14
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	121819.96	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	26.67	0.08	
B	11	6	No Gas	3.477	ppb	5.7	7509.79	4	
Na	23	45	H2	82.606	ppb	3.7	522445.36	40	>LOD
Mg	24	45	No Gas	5.575	ppb	3.3	54593.19	10	
Al	27	45	No Gas	5.279	ppb	1.6	70216.77	15	
Si	28	45	H2	1.915	ppb	17.5	7055.13	8	
P	31	45	No Gas	<0.000	ppb	N/A	42978.99	10	
K	39	45	He	19.328	ppb	21.5	59190.47	20	
Ca	40	45	H2	5.608	ppb	2.4	60058.88	25	
Ti	47	45	No Gas	0.086	ppb	16.0	291.33	0.5	
V	51	45	He	<0.000	ppb	N/A	1636.10	0.5	
Cr	52	45	He	<0.000	ppb	N/A	987.37	0.2	
Mn	55	45	No Gas	0.357	ppb	7.7	16237.63	0.2	>LOD
Fe	56	45	H2	5.575	ppb	0.5	64206.26	10	
Co	59	45	No Gas	0.048	ppb	9.7	1096.04	0.15	
Ni	60	45	He	0.057	ppb	33.0	134.67	0.2	
Cu	63	45	He	0.043	ppb	18.9	1362.07	0.4	
Zn	66	72	No Gas	0.052	ppb	71.3	885.36	2	
As	75	72	He	<0.000	ppb	N/A	154.00	0.2	
Se	78	72	H2	0.067	ppb	33.9	27.00	0.2	
Sr	88	72	No Gas	0.059	ppb	8.7	1807.91	0.2	
Zr	90	72	No Gas	0.004	ppb	72.9	190.00	2	
Mo	95	115	No Gas	0.109	ppb	18.8	582.24	0.2	
Ag	107	115	No Gas	<0.000	ppb	N/A	87.78	0.08	
Cd	111	115	No Gas	0.054	ppb	6.3	146.12	0.2	
Sn	118	115	No Gas	0.119	ppb	16.1	1547.87	0.2	
Sb	123	115	No Gas	0.026	ppb	18.2	358.89	0.4	
Ba	137	115	No Gas	0.109	ppb	5.8	508.90	0.2	
W	182	159	No Gas	0.009	ppb	58.4	186.67	0.3	
Hg	201	159	No Gas	0.026	ppb	9.8	52.17	0.1	
Hg	201	159	He	0.016	ppb	18.1	24.50	0.1	
Tl	205	159	No Gas	0.079	ppb	12.3	2240.21	0.1	
Pb	208	159	No Gas	0.037	ppb	15.7	3004.59	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.063	ppb	4.6	2399.13	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2186528.94	1.2	2071494.35	105.55	60	120	
Sc	45	No Gas	3904440.50	1.7	4025477.17	96.99	60	120	
Sc	45	H2	2200475.42	1.0	2213497.75	99.41	60	120	
Sc	45	He	340830.99	0.8	348770.57	97.72	60	120	
Ge	72	No Gas	843794.36	0.5	883390.69	95.52	60	120	
Ge	72	H2	584198.15	0.7	598767.1	97.57	60	120	
Ge	72	He	189657.33	1.2	194783.48	97.37	60	120	
In	115	No Gas	5952236.11	1.2	6067282.66	98.1	60	120	
Tb	159	No Gas	8857516.31	1.0	8945293.53	99.02	60	120	
Tb	159	He	5175096.67	0.6	5228762.33	98.97	60	120	

Sample Report

Sample Name	F146-04
File Name	H6F14048.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:51:49
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	69.838	69.838	ppb	3.9	759066.62	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	26.67	50	
B	11	6	No Gas	447.426	447.426	ppb	6.4	830645.09	100	>LDR
Na	23	45	H2	226556.334	226556.334	ppb	0.4	654336042.67	50000	>LDR
Mg	24	45	No Gas	6727.216	6727.216	ppb	3.1	58115797.33	50000	
Al	27	45	No Gas	5.303	5.303	ppb	3.3	68984.34	50000	
Si	28	45	H2	14152.812	14152.812	ppb	0.6	12609222.33	5000	>LDR
P	31	45	No Gas	5.660	5.660	ppb	28.9	48950.69	500	
K	39	45	He	4176.208	4176.208	ppb	1.3	1855069.96	50000	
Ca	40	45	H2	28218.364	28218.364	ppb	0.6	178441424.00	50000	
Ti	47	45	No Gas	0.714	0.714	ppb	0.7	1101.38	500	
V	51	45	He	0.613	0.613	ppb	9.3	6752.33	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1060.71	500	
Mn	55	45	No Gas	807.078	807.078	ppb	3.1	16689144.00	3000	
Fe	56	45	H2	86.424	86.424	ppb	2.2	876316.83	50000	
Co	59	45	No Gas	0.109	0.109	ppb	0.7	2107.50	500	
Ni	60	45	He	0.146	0.146	ppb	12.4	293.33	500	
Cu	63	45	He	0.243	0.243	ppb	0.9	2306.20	500	
Zn	66	72	No Gas	2.010	2.010	ppb	2.7	6139.39	500	
As	75	72	He	5.834	5.834	ppb	1.8	4427.06	500	
Se	78	72	H2	0.148	0.148	ppb	14.4	53.67	500	
Sr	88	72	No Gas	587.617	587.617	ppb	3.3	14237538.88	500	>LDR
Zr	90	72	No Gas	0.080	0.080	ppb	18.1	1413.41	50	
Mo	95	115	No Gas	39.592	39.592	ppb	2.6	188660.49	500	
Ag	107	115	No Gas	0.009	0.009	ppb	18.0	202.23	50	
Cd	111	115	No Gas	0.005	0.005	ppb	15.9	16.44	500	
Sn	118	115	No Gas	0.019	0.019	ppb	33.6	732.24	500	
Sb	123	115	No Gas	0.044	0.044	ppb	4.1	505.57	100	
Ba	137	115	No Gas	458.031	458.031	ppb	2.4	1828310.17	1000	
W	182	159	No Gas	15.416	15.416	ppb	2.8	172328.46	50	
Hg	201	159	No Gas	0.015	0.015	ppb	3.4	32.17	5	
Hg	201	159	He	0.022	0.022	ppb	6.6	31.83	5	
Tl	205	159	No Gas	0.278	0.278	ppb	1.7	7093.14	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	986.68	500	
U	238	159	No Gas	3.239	3.239	ppb	2.2	117021.06	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2052675.44	2.2	2071494.35	99.09	60	120	
Sc	45	No Gas	3819830.50	1.6	4025477.17	94.89	60	120	
Sc	45	H2	2212422.42	1.3	2213497.75	99.95	60	120	
Sc	45	He	350352.43	1.4	348770.57	100.45	60	120	
Ge	72	No Gas	885389.21	1.7	883390.69	100.23	60	120	
Ge	72	H2	629113.02	0.9	598767.1	105.07	60	120	
Ge	72	He	206954.95	0.6	194783.48	106.25	60	120	
In	115	No Gas	5670309.58	1.9	6067282.66	93.46	60	120	
Tb	159	No Gas	8593833.27	2.1	8945293.53	96.07	60	120	
Tb	159	He	5139446.83	0.2	5228762.33	98.29	60	120	

Sample Report

Sample Name	F146-08
File Name	H6F14049.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:54:24
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	152.363	152.363	ppb	3.8	1578440.32	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	17.78	50	
B	11	6	No Gas	466.319	466.319	ppb	5.6	899964.93	100	>LDR
Na	23	45	H2	316773.460	316773.460	ppb	0.0	989794517.33	50000	>LDR
Mg	24	45	No Gas	1440.798	1440.798	ppb	3.6	13360405.00	50000	
Al	27	45	No Gas	15.587	15.587	ppb	4.0	196837.58	50000	
Si	28	45	H2	10992.896	10992.896	ppb	0.5	10598589.00	5000	>LDR
P	31	45	No Gas	165.057	165.057	ppb	3.0	157032.86	500	
K	39	45	He	6176.988	6176.988	ppb	1.1	2966734.67	50000	
Ca	40	45	H2	14452.656	14452.656	ppb	0.2	98908522.67	50000	
Ti	47	45	No Gas	1.168	1.168	ppb	42.5	1818.84	500	
V	51	45	He	<0.000	<0.000	ppb	N/A	4219.99	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1398.08	500	
Mn	55	45	No Gas	36.303	36.303	ppb	2.7	814080.50	3000	
Fe	56	45	H2	23.654	23.654	ppb	0.7	266298.18	50000	
Co	59	45	No Gas	0.021	0.021	ppb	12.5	656.02	500	
Ni	60	45	He	0.174	0.174	ppb	4.8	372.68	500	
Cu	63	45	He	0.552	0.552	ppb	1.2	4039.94	500	
Zn	66	72	No Gas	3.486	3.486	ppb	3.3	10665.54	500	
As	75	72	He	22.225	22.225	ppb	0.7	17678.22	500	
Se	78	72	H2	0.048	0.048	ppb	2.7	24.67	500	
Sr	88	72	No Gas	241.658	241.658	ppb	2.8	6202649.89	500	
Zr	90	72	No Gas	0.050	0.050	ppb	13.8	1000.04	50	
Mo	95	115	No Gas	14.630	14.630	ppb	2.8	71832.49	500	
Ag	107	115	No Gas	0.006	0.006	ppb	43.4	167.78	50	
Cd	111	115	No Gas	<0.000	<0.000	ppb	N/A	4.09	500	
Sn	118	115	No Gas	0.022	0.022	ppb	55.4	774.47	500	
Sb	123	115	No Gas	0.035	0.035	ppb	9.7	434.45	100	
Ba	137	115	No Gas	75.271	75.271	ppb	2.4	309530.91	1000	
W	182	159	No Gas	1.330	1.330	ppb	2.7	15329.35	50	
Hg	201	159	No Gas	0.009	0.009	ppb	6.7	21.67	5	
Hg	201	159	He	0.006	0.006	ppb	16.0	12.50	5	
Tl	205	159	No Gas	<0.000	<0.000	ppb	N/A	166.67	500	
Pb	208	159	No Gas	0.008	0.008	ppb	57.8	2010.07	500	
U	238	159	No Gas	0.032	0.032	ppb	4.2	1270.07	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2133730.21	2.9	2071494.35	103	60	120	
Sc	45	No Gas	4097746.00	2.5	4025477.17	101.8	60	120	
Sc	45	H2	2393923.33	0.5	2213497.75	108.15	60	120	
Sc	45	He	382274.30	0.5	348770.57	109.61	60	120	
Ge	72	No Gas	937862.14	1.8	883390.69	106.17	60	120	
Ge	72	H2	665914.15	0.9	598767.1	111.21	60	120	
Ge	72	He	224274.49	0.2	194783.48	115.14	60	120	
In	115	No Gas	5840340.99	2.3	6067282.66	96.26	60	120	
Tb	159	No Gas	8811086.04	2.7	8945293.53	98.5	60	120	
Tb	159	He	5388682.83	0.3	5228762.33	103.06	60	120	

Sample Report

Sample Name	F146-09
File Name	H6F14050.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:56:59
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	178.724	178.724	ppb	3.3	1870958.61	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	12.22	50	
B	11	6	No Gas	592.753	592.753	ppb	5.5	1168781.79	100	>LDR
Na	23	45	H2	459912.122	459912.122	ppb	0.6	1441034026.67	50000	>LDR
Mg	24	45	No Gas	1604.618	1604.618	ppb	3.5	15174849.00	50000	
Al	27	45	No Gas	8.063	8.063	ppb	3.4	109101.21	50000	
Si	28	45	H2	11247.494	11247.494	ppb	0.7	10875343.67	5000	>LDR
P	31	45	No Gas	61.349	61.349	ppb	3.8	90831.33	500	
K	39	45	He	9048.575	9048.575	ppb	0.6	4407611.83	50000	
Ca	40	45	H2	21224.223	21224.223	ppb	0.6	145650901.33	50000	
Ti	47	45	No Gas	0.776	0.776	ppb	17.0	1294.74	500	
V	51	45	He	6.033	6.033	ppb	1.1	31534.17	500	
Cr	52	45	He	<0.000	<0.000	ppb	N/A	1183.38	500	
Mn	55	45	No Gas	17.074	17.074	ppb	3.3	395502.92	3000	
Fe	56	45	H2	1.983	1.983	ppb	1.9	30904.20	50000	
Co	59	45	No Gas	0.022	0.022	ppb	14.8	676.68	500	
Ni	60	45	He	0.325	0.325	ppb	3.3	672.02	500	
Cu	63	45	He	0.426	0.426	ppb	1.5	3491.12	500	
Zn	66	72	No Gas	1.260	1.260	ppb	3.1	4458.74	500	
As	75	72	He	16.770	16.770	ppb	0.4	13299.87	500	
Se	78	72	H2	0.414	0.414	ppb	6.7	141.67	500	
Sr	88	72	No Gas	477.017	477.017	ppb	3.4	12433773.95	500	>LDR
Zr	90	72	No Gas	0.019	0.019	ppb	9.3	463.34	50	
Mo	95	115	No Gas	19.768	19.768	ppb	2.6	99002.78	500	
Ag	107	115	No Gas	0.005	0.005	ppb	10.1	160.00	50	
Cd	111	115	No Gas	0.002	0.002	ppb	122.2	9.03	500	
Sn	118	115	No Gas	0.008	0.008	ppb	128.0	686.68	500	
Sb	123	115	No Gas	0.110	0.110	ppb	2.7	1142.27	100	
Ba	137	115	No Gas	74.002	74.002	ppb	4.4	310454.83	1000	
W	182	159	No Gas	3.281	3.281	ppb	3.4	37619.29	50	
Hg	201	159	No Gas	0.009	0.009	ppb	16.1	21.17	5	
Hg	201	159	He	0.005	0.005	ppb	7.2	11.00	5	
Tl	205	159	No Gas	0.010	0.010	ppb	12.7	474.45	500	
Pb	208	159	No Gas	0.000	0.000	ppb	1325.7	1720.05	500	
U	238	159	No Gas	4.315	4.315	ppb	2.5	159572.36	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2181486.11	1.4	2071494.35	105.31	60	120	
Sc	45	No Gas	4181103.75	0.7	4025477.17	103.87	60	120	
Sc	45	H2	2400706.25	1.2	2213497.75	108.46	60	120	
Sc	45	He	390096.48	0.2	348770.57	111.85	60	120	
Ge	72	No Gas	952710.44	0.7	883390.69	107.85	60	120	
Ge	72	H2	662373.12	0.3	598767.1	110.62	60	120	
Ge	72	He	222732.05	0.3	194783.48	114.35	60	120	
In	115	No Gas	5960451.00	0.0	6067282.66	98.24	60	120	
Tb	159	No Gas	8798192.98	0.9	8945293.53	98.36	60	120	
Tb	159	He	5297802.50	0.6	5228762.33	101.32	60	120	

Sample Report

Sample Name	F146-10
File Name	H6F14051.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 14:59:34
Sample Type	Sample
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Meas. Conc.	Units	RSD	CPS	LDR	QC Flag
Li	7	6	No Gas	214.651	214.651	ppb	6.1	2174591.58	50	>LDR
Be	9	6	No Gas	<0.000	<0.000	ppb	N/A	13.33	50	
B	11	6	No Gas	770.384	770.384	ppb	7.1	1486286.30	100	>LDR
Na	23	45	H2	699941.039	699941.039	ppb	0.6	2162219434.67	50000	>LDR
Mg	24	45	No Gas	1225.317	1225.317	ppb	4.2	11303304.00	50000	
Al	27	45	No Gas	14.366	14.366	ppb	4.1	181288.40	50000	
Si	28	45	H2	10794.447	10794.447	ppb	0.2	10290918.00	5000	>LDR
P	31	45	No Gas	33.414	33.414	ppb	0.5	70325.51	500	
K	39	45	He	9835.823	9835.823	ppb	0.7	4718641.83	50000	
Ca	40	45	H2	20200.031	20200.031	ppb	0.7	136678048.00	50000	
Ti	47	45	No Gas	0.695	0.695	ppb	4.7	1149.38	500	
V	51	45	He	11.689	11.689	ppb	0.4	55793.82	500	
Cr	52	45	He	3.869	3.869	ppb	2.6	21509.53	500	
Mn	55	45	No Gas	1.141	1.141	ppb	3.5	34257.65	3000	
Fe	56	45	H2	2.726	2.726	ppb	2.6	38446.63	50000	
Co	59	45	No Gas	0.015	0.015	ppb	12.4	541.34	500	
Ni	60	45	He	0.088	0.088	ppb	1.8	212.00	500	
Cu	63	45	He	0.574	0.574	ppb	6.6	4175.97	500	
Zn	66	72	No Gas	1.569	1.569	ppb	3.7	5180.99	500	
As	75	72	He	16.735	16.735	ppb	0.9	13076.99	500	
Se	78	72	H2	0.827	0.827	ppb	7.1	268.00	500	
Sr	88	72	No Gas	434.963	434.963	ppb	3.9	10994954.56	500	
Zr	90	72	No Gas	0.016	0.016	ppb	23.5	406.67	50	
Mo	95	115	No Gas	37.398	37.398	ppb	3.1	177548.91	500	
Ag	107	115	No Gas	0.006	0.006	ppb	19.9	170.00	50	
Cd	111	115	No Gas	0.001	0.001	ppb	154.0	7.48	500	
Sn	118	115	No Gas	0.061	0.061	ppb	10.3	1041.16	500	
Sb	123	115	No Gas	0.113	0.113	ppb	6.6	1108.94	100	
Ba	137	115	No Gas	88.497	88.497	ppb	3.6	352020.22	1000	
W	182	159	No Gas	8.965	8.965	ppb	1.8	98839.27	50	
Hg	201	159	No Gas	0.011	0.011	ppb	28.3	23.33	5	
Hg	201	159	He	0.015	0.015	ppb	13.1	22.50	5	
Tl	205	159	No Gas	0.035	0.035	ppb	5.3	1066.72	500	
Pb	208	159	No Gas	<0.000	<0.000	ppb	N/A	1115.58	500	
U	238	159	No Gas	4.956	4.956	ppb	2.2	176472.31	497	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2133873.88	1.8	2071494.35	103.01	60	120	
Sc	45	No Gas	4075520.00	3.0	4025477.17	101.24	60	120	
Sc	45	H2	2367087.33	0.9	2213497.75	106.94	60	120	
Sc	45	He	384612.61	0.7	348770.57	110.28	60	120	
Ge	72	No Gas	923501.31	2.1	883390.69	104.54	60	120	
Ge	72	H2	647730.58	0.6	598767.1	108.18	60	120	
Ge	72	He	219458.75	1.0	194783.48	112.67	60	120	
In	115	No Gas	5649190.48	1.9	6067282.66	93.11	60	120	
Tb	159	No Gas	8472046.89	2.2	8945293.53	94.71	60	120	
Tb	159	He	5124488.17	0.5	5228762.33	98.01	60	120	

Continuing Calibration Verification (CCV) Report

Sample Name	CCV5
File Name	H6F14052.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 15:02:11
Sample Type	CCV
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
Li	7	6	No Gas	24.067	ppb	3.8	362679.36	25	96.27	90	110	
Be	9	6	No Gas	23.077	ppb	3.4	67082.08	25	92.31	90	110	
B	11	6	No Gas	61.231	ppb	2.5	122477.59	50	122.46	90	110	> +/- 10%
Na	23	45	H2	25874.792	ppb	0.7	74075466.67	25000	103.5	90	110	
Mg	24	45	No Gas	25394.555	ppb	3.0	226283669.33	25000	101.58	90	110	
Al	27	45	No Gas	25350.426	ppb	1.7	291019209.00	25000	101.4	90	110	
Si	28	45	H2	2554.614	ppb	1.6	2252778.58	2500	102.18	90	110	
P	31	45	No Gas	244.081	ppb	1.8	200809.94	250	97.63	90	110	
K	39	45	He	25947.509	ppb	0.4	10973016.00	25000	103.79	90	110	
Ca	40	45	H2	25283.791	ppb	0.6	157962533.33	25000	101.14	90	110	
Ti	47	45	No Gas	246.036	ppb	2.4	330298.41	250	98.41	90	110	
V	51	45	He	247.811	ppb	0.6	965644.19	250	99.12	90	110	
Cr	52	45	He	250.576	ppb	0.6	1142296.67	250	100.23	90	110	
Mn	55	45	No Gas	1477.679	ppb	3.6	31511764.67	1500	98.51	90	110	
Fe	56	45	H2	25027.875	ppb	0.9	248311562.67	25000	100.11	90	110	
Co	59	45	No Gas	249.983	ppb	2.9	4419679.67	250	99.99	90	110	
Ni	60	45	He	246.103	ppb	0.6	416741.89	250	98.44	90	110	
Cu	63	45	He	249.573	ppb	0.7	1101826.29	250	99.83	90	110	
Zn	66	72	No Gas	246.857	ppb	2.7	664797.42	250	98.74	90	110	
As	75	72	He	245.665	ppb	1.1	172853.67	250	98.27	90	110	
Se	78	72	H2	242.960	ppb	0.8	71662.33	250	97.18	90	110	
Sr	88	72	No Gas	248.474	ppb	2.1	6084890.04	250	99.39	90	110	
Zr	90	72	No Gas	26.430	ppb	3.4	428932.39	25	105.72	90	110	
Mo	95	115	No Gas	246.658	ppb	1.6	1173159.05	250	98.66	90	110	
Ag	107	115	No Gas	24.784	ppb	2.9	291038.91	25	99.14	90	110	
Cd	111	115	No Gas	241.921	ppb	1.9	600696.73	250	96.77	90	110	
Sn	118	115	No Gas	242.867	ppb	2.5	1806318.40	250	97.15	90	110	
Sb	123	115	No Gas	47.492	ppb	1.7	421459.83	50	94.98	90	110	
Ba	137	115	No Gas	485.780	ppb	1.7	1935822.35	500	97.16	90	110	
W	182	159	No Gas	25.679	ppb	0.2	284043.80	25	102.72	90	110	
Hg	201	159	No Gas	2.404	ppb	2.9	4120.51	2.5	96.16	90	110	
Hg	201	159	He	2.444	ppb	0.4	2960.35	2.5	97.76	90	110	
Tl	205	159	No Gas	246.284	ppb	2.5	6035129.76	250	98.51	90	110	
Pb	208	159	No Gas	246.996	ppb	2.5	8268808.99	250	98.8	90	110	

Continuing Calibration Verification (CCV) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	% Rec	%Low	%High	QC Flag
U	238	159	No Gas	240.551	ppb	2.5	8596781.05	250	96.22	90	110	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2203395.89	0.6	2071494.35	106.37	60	120	
Sc	45	No Gas	3941641.67	0.5	4025477.17	97.92	60	120	
Sc	45	H2	2185705.42	0.4	2213497.75	98.74	60	120	
Sc	45	He	341627.78	0.4	348770.57	97.95	60	120	
Ge	72	No Gas	895110.83	1.2	883390.69	101.33	60	120	
Ge	72	H2	610342.67	0.9	598767.1	101.93	60	120	
Ge	72	He	200597.97	0.8	194783.48	102.99	60	120	
In	115	No Gas	5662411.04	0.3	6067282.66	93.33	60	120	
Tb	159	No Gas	8506782.16	0.9	8945293.53	95.1	60	120	
Tb	159	He	5029833.83	0.4	5228762.33	96.2	60	120	

Continuing Calibration Blank (CCB) Report

Sample Name	CCB5
File Name	H6F14053.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 15:04:47
Sample Type	CCB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
Li	7	6	No Gas	<0.000	ppb	N/A	123954.16	0.4	
Be	9	6	No Gas	<0.000	ppb	N/A	28.89	0.08	
B	11	6	No Gas	8.897	ppb	8.6	18482.16	4	>LOD
Na	23	45	H2	199.036	ppb	1.8	851215.31	40	>LOD
Mg	24	45	No Gas	5.704	ppb	2.7	55404.53	10	
Al	27	45	No Gas	5.329	ppb	0.6	70370.89	15	
Si	28	45	H2	4.065	ppb	12.1	8901.52	8	
P	31	45	No Gas	<0.000	ppb	N/A	44654.90	10	
K	39	45	He	35.318	ppb	16.7	67448.18	20	>LOD
Ca	40	45	H2	5.951	ppb	2.1	61811.86	25	
Tl	47	45	No Gas	0.092	ppb	22.1	298.00	0.5	
V	51	45	He	<0.000	ppb	N/A	2159.51	0.5	
Cr	52	45	He	<0.000	ppb	N/A	1022.04	0.2	
Mn	55	45	No Gas	0.354	ppb	5.1	16084.11	0.2	>LOD
Fe	56	45	H2	5.698	ppb	0.9	65008.69	10	
Co	59	45	No Gas	0.053	ppb	3.1	1176.72	0.15	
Ni	60	45	He	0.056	ppb	11.8	135.33	0.2	
Cu	63	45	He	0.004	ppb	435.5	1220.05	0.4	
Zn	66	72	No Gas	0.064	ppb	65.9	914.70	2	
As	75	72	He	<0.000	ppb	N/A	174.00	0.2	
Se	78	72	H2	0.070	ppb	12.3	28.33	0.2	
Sr	88	72	No Gas	0.069	ppb	1.4	2040.16	0.2	
Zr	90	72	No Gas	0.004	ppb	81.7	186.67	2	
Mo	95	115	No Gas	0.120	ppb	18.3	622.24	0.2	
Ag	107	115	No Gas	0.001	ppb	278.2	110.00	0.08	
Cd	111	115	No Gas	0.068	ppb	14.1	177.41	0.2	
Sn	118	115	No Gas	0.158	ppb	4.2	1816.79	0.2	
Sb	123	115	No Gas	0.023	ppb	7.2	321.11	0.4	
Ba	137	115	No Gas	0.110	ppb	4.0	505.56	0.2	
W	182	159	No Gas	0.005	ppb	111.9	136.67	0.3	
Hg	201	159	No Gas	0.026	ppb	12.8	49.83	0.1	
Hg	201	159	He	0.015	ppb	22.6	22.33	0.1	
Tl	205	159	No Gas	0.089	ppb	13.5	2415.80	0.1	
Pb	208	159	No Gas	0.036	ppb	23.9	2912.36	0.1	

Continuing Calibration Blank (CCB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	Limit	QC Flag
U	238	159	No Gas	0.061	ppb	2.4	2279.10	0.05	>LOD

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2221215.77	2.0	2071494.35	107.23	60	120	
Sc	45	No Gas	3881161.50	2.0	4025477.17	96.41	60	120	
Sc	45	H2	2186335.42	1.2	2213497.75	98.77	60	120	
Sc	45	He	348815.63	0.4	348770.57	100.01	60	120	
Ge	72	No Gas	844784.65	2.1	883390.69	95.63	60	120	
Ge	72	H2	591765.08	1.5	598767.1	98.83	60	120	
Ge	72	He	192884.43	0.6	194783.48	99.03	60	120	
In	115	No Gas	5827353.48	2.6	6067282.66	96.05	60	120	
Tb	159	No Gas	8643125.49	2.3	8945293.53	96.62	60	120	
Tb	159	He	5172813.67	0.3	5228762.33	98.93	60	120	

Interference Check Solution A (ICS-A) Report

Sample Name	ICSA2
File Name	H6F14054.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\H6F14.b
Acq Time	2022-06-22 15:13:17
Sample Type	ICS-A
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	0.295	ppb	61.5	118766.86	2	-50	50	
Be	9	6	No Gas	<0.000	ppb	N/A	26.67	0.4	-50	50	
B	11	6	No Gas	5.156	ppb	3.8	10120.33	10	-50	50	> +/- 20%
Na	23	45	H2	106590.213	ppb	0.8	314842037.33	100000	80	120	
Mg	24	45	No Gas	104434.583	ppb	3.6	919916757.33	100000	80	120	
Al	27	45	No Gas	103803.971	ppb	4.4	1178048889.11	100000	80	120	
Si	28	45	H2	5.499	ppb	7.5	10514.64	50	-50	50	
P	31	45	No Gas	103862.287	ppb	3.4	64763164.00	100000	80	120	
K	39	45	He	108585.507	ppb	0.7	47738102.67	100000	80	120	
Ca	40	45	H2	106743.685	ppb	0.9	689981162.67	100000	80	120	
Ti	47	45	No Gas	2164.149	ppb	3.6	2870584.75	2000	80	120	
V	51	45	He	<0.000	ppb	N/A	1834.12	1	-50	50	> +/- 20%
Cr	52	45	He	1.978	ppb	1.5	10954.38	1	-50	50	> +/- 20%
Mn	55	45	No Gas	0.410	ppb	5.0	17318.97	1	-50	50	
Fe	56	45	H2	105997.436	ppb	0.6	1088183296.00	100000	80	120	
Co	59	45	No Gas	0.147	ppb	3.8	2819.63	0.75	-50	50	
Ni	60	45	He	0.159	ppb	18.2	321.34	1	-50	50	
Cu	63	45	He	0.071	ppb	18.8	1555.42	2	-50	50	
Zn	66	72	No Gas	2.221	ppb	3.5	6781.04	20	-50	50	
As	75	72	He	<0.000	ppb	N/A	168.67	1	-50	50	
Se	78	72	H2	0.229	ppb	8.9	78.33	1	-50	50	
Sr	88	72	No Gas	1.158	ppb	2.7	28861.19	1	-50	50	> +/- 20%
Zr	90	72	No Gas	0.191	ppb	4.9	3240.40	10	-50	50	
Mo	95	115	No Gas	2148.640	ppb	2.9	9935384.88	2000	80	120	
Ag	107	115	No Gas	0.298	ppb	3.3	3499.35	0.4	-50	50	> +/- 20%
Cd	111	115	No Gas	0.093	ppb	33.8	227.57	1	-50	50	
Sn	118	115	No Gas	0.090	ppb	9.6	1224.50	1	-50	50	
Sb	123	115	No Gas	0.064	ppb	4.4	657.79	1	-50	50	
Ba	137	115	No Gas	0.387	ppb	3.9	1551.20	1	-50	50	
W	182	159	No Gas	0.132	ppb	10.7	1526.76	1	-50	50	
Hg	201	159	No Gas	0.020	ppb	0.8	38.33	0.5	-50	50	
Hg	201	159	He	0.015	ppb	30.5	22.17	0.5	-50	50	
Tl	205	159	No Gas	0.008	ppb	19.2	401.12	0.5	-50	50	
Pb	208	159	No Gas	0.062	ppb	8.7	3690.22	0.5	-50	50	

LY 06|22|22

Interference Check Solution A (ICS-A) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	0.005	ppb	2.7	251.12	0.25	-50	50	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2044058.34	0.7	2071494.35	98.68	60	120	
Sc	45	No Gas	3894860.75	1.9	4025477.17	96.76	60	120	
Sc	45	H2	2261711.75	0.7	2213497.75	102.18	60	120	
Sc	45	He	356403.72	0.7	348770.57	102.19	60	120	
Ge	72	No Gas	896002.75	1.8	883390.69	101.43	60	120	
Ge	72	H2	629544.35	0.4	598767.1	105.14	60	120	
Ge	72	He	211817.77	0.5	194783.48	108.75	60	120	
In	115	No Gas	5504142.97	2.6	6067282.66	90.72	60	120	
Tb	159	No Gas	8391782.72	2.5	8945293.53	93.81	60	120	
Tb	159	He	5068825.17	0.9	5228762.33	96.94	60	120	

Interference Check Solution AB (ICS-AB) Report

Sample Name	ICSAB2
File Name	H6F14055.d
Data Path Name	D:\Agilent\ICPMH\1\DATA\2022\F\IH6F14.b
Acq Time	2022-06-22 15:15:53
Sample Type	ICSB
Total Dilution	1.0000
Comment	---
ISTD Ref FileName	H6F14003.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	LYaman

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
Li	7	6	No Gas	20.150	ppb	3.6	300333.38	20	80	120	
Be	9	6	No Gas	19.191	ppb	3.0	51720.84	20	80	120	
B	11	6	No Gas	21.279	ppb	3.4	39853.29	20	80	120	
Na	23	45	H2	104727.961	ppb	1.5	305399925.33	100000	80	120	
Mg	24	45	No Gas	100493.998	ppb	4.0	905712874.67	100000	80	120	
Al	27	45	No Gas	100318.531	ppb	4.1	1164698355.98	100000	80	120	
Si	28	45	H2	216.832	ppb	1.2	200312.98	200	80	120	
P	31	45	No Gas	99170.031	ppb	4.9	63269284.00	100000	80	120	
K	39	45	He	105861.899	ppb	0.8	46236705.33	100000	80	120	
Ca	40	45	H2	104274.289	ppb	1.5	665443029.33	100000	80	120	
Ti	47	45	No Gas	2097.072	ppb	4.2	2845860.92	2000	80	120	
V	51	45	He	20.056	ppb	0.7	85011.06	20	80	120	
Cr	52	45	He	22.327	ppb	0.5	106905.56	20	80	120	
Mn	55	45	No Gas	20.254	ppb	4.1	445480.20	20	80	120	
Fe	56	45	H2	103711.229	ppb	0.7	1051115178.67	100000	80	120	
Co	59	45	No Gas	19.805	ppb	3.7	354325.88	20	80	120	
Ni	60	45	He	19.824	ppb	1.0	34829.05	20	80	120	
Cu	63	45	He	19.757	ppb	1.2	91525.08	20	80	120	
Zn	66	72	No Gas	21.639	ppb	3.6	60075.08	20	80	120	
As	75	72	He	19.644	ppb	0.6	14872.84	20	80	120	
Se	78	72	H2	20.538	ppb	0.6	6158.74	20	80	120	
Sr	88	72	No Gas	21.542	ppb	3.9	537476.71	20	80	120	
Zr	90	72	No Gas	6.549	ppb	4.7	108312.13	20	80	120	> +/- 20%
Mo	95	115	No Gas	2081.810	ppb	4.0	9851337.11	2000	80	120	
Ag	107	115	No Gas	19.760	ppb	2.7	230916.62	20	80	120	
Cd	111	115	No Gas	19.883	ppb	3.7	49128.95	20	80	120	
Sn	118	115	No Gas	20.800	ppb	2.5	154484.54	20	80	120	
Sb	123	115	No Gas	20.253	ppb	2.5	178864.86	20	80	120	
Ba	137	115	No Gas	20.781	ppb	3.1	82462.77	20	80	120	
W	182	159	No Gas	18.901	ppb	2.8	212773.34	20	80	120	
Hg	201	159	No Gas	1.965	ppb	2.5	3427.97	2	80	120	
Hg	201	159	He	1.952	ppb	0.9	2383.56	2	80	120	
Tl	205	159	No Gas	19.345	ppb	2.6	482477.08	20	80	120	
Pb	208	159	No Gas	19.542	ppb	1.4	666920.02	20	80	120	

Interference Check Solution AB (ICS-AB) Report

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	ExpVal	%Low	%High	QC Flag
U	238	159	No Gas	19.152	ppb	1.5	696094.82	20	80	120	

QC ISTD Table

Name	Mass	Tune Mode	CPS	CPS RSD	Ref CPS	% Rec	%QC Low	%QC High	QC Flag
Li	6	No Gas	2041925.73	2.2	2071494.35	98.57	60	120	
Sc	45	No Gas	3984735.50	2.8	4025477.17	98.99	60	120	
Sc	45	H2	2232852.25	1.1	2213497.75	100.87	60	120	
Sc	45	He	354092.58	0.9	348770.57	101.53	60	120	
Ge	72	No Gas	911097.42	2.6	883390.69	103.14	60	120	
Ge	72	H2	619654.56	1.0	598767.1	103.49	60	120	
Ge	72	He	213129.50	0.7	194783.48	109.42	60	120	
In	115	No Gas	5634919.42	3.8	6067282.66	92.87	60	120	
Tb	159	No Gas	8653517.44	3.6	8945293.53	96.74	60	120	
Tb	159	He	5070729.17	0.7	5228762.33	96.98	60	120	

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # SMSA-05-01-06

ALL SAMPLES PH<2

Book #: EIM-092
Batch: IMF024W
Matrix: WATER
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	6
☑ EMAX-6020	13
☐ EMAX-6020CA	2
☐ EMAX-	

Start	Temp	End	Temp
	91.3 °C		93.2 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A-23-01-12	.15
LCS-2	↓ -01-13	.15
MS	SAMESPIKESOLNVOLAS/CS	1,2
Blank Soil (Bead)	N/A	N/A
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SW1A-011-06-05	.5+1.0
HCl	↓ -06-02	.25+.25
H_2O_2	N/A	N/A
HNO_3(1:1)	↓	↓
Au	SM6A-23-01-21	.1
pH Strip (0-14)	HC160347	N/A
Digestate Location	METALS	
Extract Location	N/A	
☑ Reagent Water ID:	SW1A-011-11-03	
☑ Thermometer ID:	216024281E14	
☑ Pipette ID:	7427663 31	
☐ Pipette ID:		
☐ Pipette ID:		
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask		
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask		

Prepared By: CK
Standard Added By: CK Witnessed By: LY
Extract Rcvd By: LY Checked By: CK

EMAX LABORATORIES, INC.

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
22IMF024W01	IMF024WB	50	ml	6/21/22 11:31	50	50	50	1	
22IMF024W02	IMF024WL	50	ml	6/21/22 11:31	50	50	50	1	
22IMF024W03	IMF024WC	50	ml	6/21/22 11:31	50	50	50	1	
22IMF024W04	F145-01	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W05	F145-01M	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W06	F145-01S	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W07	F145-02	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W08	F145-04	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W09	F145-06	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W10	F145-08	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W11	F145-09	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W12	F145-10	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W13	F145-11	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W14	F146-01	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W15	F146-02	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W16	F146-03	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W17	F146-04	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W18	F146-06	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W19	F146-08	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W20	F146-09	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED
22IMF024W21	F146-10	50	ml	6/21/22 11:31	50	50	50	1	DISSOLVED

CK 6-21-22

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 6/21/22 11:56 Prepared By: CKaing

☑ Digestion Ended @ 6/21/22 14:21 Checked By: CK

Comments: Date 6-21-22

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ASTM11	SWIA-011-11-03	NA	1000	NA
AU	SM6A-23-01-21	1000	2.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-51-01
Name	SP (6020)
Final Volume (mL)	1000
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	30
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	10
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☐ ICP-06
☑ A42780077	☐ GFAA-07
☐	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	0.025	0.0005
ICAL2	↓ 01-03	↓	↓	↓
ICAL3	↓ 01-04	1000	↓	0.05
W	SM6B-25-50-02	1.0	0.25	0.0005
Zn	↓ 49-02	↓	↓	↓
Zr	SM6A-007-05-06	100	0.025	0.005
P	↓ 06-03	↓	0.125	0.025
Si	SM6A-23-01-08	1000	0.05	0.1
Hg	SM6B-25-48-01	0.25	0.1	0.00005
AU	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-51-02
Name	SI (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☑ GFAA-07
☑ M2761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	0.05	0.001
ICAL2	01-03	↓	↓	↓
ICAL3	01-04	1000	↓	0.1
Zn	SM1A-025-03-09	↓	0.0045	0.009
P	SM6A-007-06-03	100	0.2	0.04
Zr	↓ 05-06		0.04	0.008
W	SM6A-23-01-09	↓	0.005	0.001
Si	01-08	1000	0.1	0.2
Hg	SM6B-25-48-01	0.25	0.2	0.0001
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-52-01
Name	S2 (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☑ GFAA-07
☑ AM2761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL4	SM6A-23-01-05	mixed	5.0	mixed
ICAL5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.05	0.01
W	SM6A-23-01-09	↓	0.025	0.005
Hg	SM6B-25-48-02	2.5	0.1	0.0005
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-52-02
Name	S3 (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☑ AM2761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL 4	SM6A-23-01-05	mixed	25	mixed
ICAL 5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.125	0.025
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-48-02	2.5	0.5	0.0025
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-53-01
Name	SY (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-08-11-03
Preservative #1	HNO3 LY 06/21/22
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☑ AY2761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL 4	SM6A-23-01-05	mixed	50	mixed
ICAL 5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.25	0.05
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-48-02	2.5	1.0	0.005
Au	SM6A-23-01-21	1000	↓	2.0
				LY 06/21/22

Standard ID	SM6B-25-53-02
Name	SS (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☐ ICP-06
☑ A42780077	☐ GFAA-07
☑ AY2761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL4	SM6A-23-01-05	mixed	25	mixed
ICAL5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.125	0.025
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-48-02	2.5	0.5	0.0025
Au	SM6A-23-01-21	1000	1.0	2.0
				LY 06/21/22

Standard ID	SM6B-25-54-01
Name	CCV (6020)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☑ A42761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Internal Stnd	SM6A-23-01-18	100	1.0	2.0
Triton X-100	↓ 01-22	NA	0.05	NA
				LY 06/22/22

Standard ID	SM6B-25-54-02
Name	ISTD
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/22/22
Exp. Date	09/22/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☐ GFAA-07
☑ A42761607	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Al	SM1A-018-17-05	10,000	1.5	30
Ca	17-06			
Fe	17-07			
Mg	17-09			
K	17-08			
Na	SM1A-025-03-05			
Si	SM6A-007-07-19	1000		3.0
Mn	SM1A-025-02-10		1.0	2.0
P	SM6A-23-01-14		0.15	0.3
Ti	SM1A-025-03-07			
V	03-08			
Cr	02-06			
Co	02-07			
Ni	04-03			
Cu	02-08			
Zn	03-09			
As	02-01			
Se	03-02			
Sr	03-04			
Mo	03-01			

Standard ID	SM6B-25-16-01
Name	ICV
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04|21|22
Exp. Date	07|18|22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☑ GFAA-07
☑ ~~A42761607~~	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Cd	SM1A-025-02-05	1000	0.15	0.3
Sn	03-06			
Ba	02-02			
Tl	04-06			
Pb	02-09			
U	04-04			
Sb	01-10		0.03	0.06
Li	SM1A-018-18-01		0.015	0.03
Be	SM1A-025-02-03			
B	02-04			
Ag	03-03			
Zr	SM6A-23-01-01	100	0.15	
W	SM6A-007-05-16	1000	0.015	
Hg	07-15	10	0.15	0.003
Au	07-25	1000	1.0	2.0
				LY 04|21|22

LY 04|21|22

Standard ID	SM6B-25-16-~~02~~-01
Name	ICV cont.
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04|21|22
Exp. Date	07|18|22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☑ GFAA-07
☑ ~~A42761607~~	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICSA	SM6A-007-07-24	mixed	5.0	mixed
AU	↓ 07-25	1000	0.1	2.0
				LY 06/16/22

Standard ID	SM6B-25-47-01
Name	ICSA
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/16/22
Exp. Date	06/30/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☐	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICSA	SM6A-007-07-24	mixed	5.0	mixed
ICAL1	SM6A-23-01-02	10	0.1	0.02
ICAL2	↓ 01-03	↓	↓	↓
Zr	SM6A-007-05-06	100	0.01	
W	SM6A-23-01-09	↓	↓	↓
Si	↓ 01-08	1000	↓	0.2
Hg	SM6B-25-01-02	2.5	0.04	0.002
AU	SM6A-007-07-25	1000	0.1	2.0
				LY 06/16/22

Standard ID	SM6B-25-47-02
Name	ICSAB
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/16/22
Exp. Date	06/30/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☑ GFAA-07
☐	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL4	SM6A-23-01-05	mixed	2.5	mixed
ICAL5	↓ 01-06	↓	↓	↓
Zr	SM6A-007-05-06	100	0.0125	0.025
W	SM6A-23-01-09	↓	↓	↓
Hg	SM6B-25-01-02	2.5	0.05	0.0025
Au	SM6A-007-07-25	1000	0.1	2.0
				LH 06/06/22

Standard ID	SM6B-25-46-01
Name	CCV-2008
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/06/22
Exp. Date	06/20/22
Prepared By	LH

Micropipette ID:

☐ 339362028 ☑ ICP-06

☑ A42780077 ☐ GFAA-07

☐ ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Tune soln 3	SM6A-23-01-11	10	8.0	1.6
				LH 06/15/22

Standard ID	SM6B-25-46-02
Name	EPA Tune
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO_3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/15/22
Exp. Date	09/15/22
Prepared By	LH

Micropipette ID:

☐ 339362028 ☐ ICP-06

☑ A42780077 ☐ GFAA-07

☐ ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Sr	SM1A-025-03-04	1000	0.05	1.0
				LY 04/21/22

Standard ID	SM6B-25-17-01
Name	Sr @1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SW1A-011-10-03
Preservative #1	HNO_3
ID	SW1A-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SW1A-011-06-02
Volume (mL)	0.5
Prep. Date	04/21/22
Exp. Date	07/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☑ ICP-06

☐ A42780077 ☐ GFAA-07

☐ ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	0.1	0.001
ICAL2	↓ 01-03	↓	↓	↓
ICAL3	↓ 01-04	1000	↓	0.1
Zn	SM1A-025-03-09	↓	0.009	0.01
B	↓ 02-04	↓	↓	↓
Sr	SM6B-25-17-01	1.0	1.0	0.002
P	SM6A-007-06-03	100	0.5	0.05
Zr	↓ 05-06	↓	0.05	0.005
W	SM6A-23-01-09	↓	0.02	0.002
Si	↓ 01-08	1000	0.1	0.1
Hg	SM6B-25-01-01	0.25	0.4	0.0001
Ag	SM6A-007-07-25	1000	2.0	2.0
				LY 04/21/22

Standard ID	SM6B-25-17-02
Name	MRL1
Final Volume (mL)	1000
Solvent	Reagent Water
Solvent ID	SW1A-011-10-03
Preservative #1	HNO_3
ID	SW1A-011-06-05
Volume (mL)	30
Preservative #2	HCl
ID	SW1A-011-06-02
Volume (mL)	10
Prep. Date	04/21/22
Exp. Date	07/01/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☑ ICP-06

☐ A42780077 ☑ GFAA-07

☑ A4276160 7 ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
MIX 7A	SM6B-25-02-01	1/100	0.2	0.0004/0.04
Zn	↓ 02-02	1.0	1.75	0.0035
AU	SM6A-007-07-25	1000	1.0	2.0
				LY 04/21/22

Standard ID	SM6B-25-18-01
Name	MRL2
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04/21/22
Exp. Date	07/01/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☑ A42780077 ☐ GFAA-07

☑ AU2761607 ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL3	SM6A-23-01-04	1000	0.25	0.5
AU	SM6A-007-07-25	↓	1.0	2.0
				LY 04/21/22

Standard ID	SM6B-25-18-02
Name	MRL3 (CAT)
Final Volume (mL)	500
Solvent	Reagent Water
Solvent ID	SWIA-011-10-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	15
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	5
Prep. Date	04/21/22
Exp. Date	07/20/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ AU2761607 ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Hg	SM6A-007-06-05	100	0.125	0.25
Au	SM6A-23-01-21	1000	0.1	2.0
				LY 06/21/22

Standard ID	SM6B-25-48-01
Name	Hg @0.25ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☐ A42780077	☐ GFAA-07
☑ AM2761607	☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Hg	SM6A-007-06-05	100	1.25	2.5
Au	SM6A-23-01-21	1000	0.1	2.0
				LY 06/21/22

Standard ID	SM6B-25-48-02
Name	Hg @2.5 ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028	☑ ICP-06
☑ A42780077	☐ GFAA-07
☐	☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
ICAL1	SM6A-23-01-02	10	1.0	1.0
ICAL2	01-03	↓	↓	↓
ICAL3	01-04	100	↓	100
				LY 06/21/22

Standard ID	SM6B-25-49-01
Name	MIX 7A
Final Volume (mL)	10
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	~~10~~ 0.3
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.1
Prep. Date	06/21/22
Exp. Date	08/31/22
Prepared By	LY

LY 06/21/22

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ AM2761607 ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Zn	SMIA-025-03-09	1000	0.05	1.0
				LY 06/21/22

Standard ID	SM6B-25-49-02
Name	Zn @ 1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☑ ICP-06

☐ A42780077 ☐ GFAA-07

☐ ☐

Comments:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR ICP-MS

Book No: SM6B-25

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
Zr	SM6A-007-05-06	100	0.5	1.0
				LY 06/21/22

Standard ID	SM6B-25-50-01
Name	Zr @ 1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	06/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ A4276160 7 ☐

Comments:

Parent Name	Parent Standard ID	Conc. (mg/L)	Aliquot (mL)	Final Conc. (mg/L)
W	SM6A-23-01-09	100	0.5	1.0
				LY 06/21/22

Standard ID	SM6B-25-50-02
Name	W @ 1ppm
Final Volume (mL)	50
Solvent	Reagent Water
Solvent ID	SWIA-011-11-03
Preservative #1	HNO3
ID	SWIA-011-06-05
Volume (mL)	1.5
Preservative #2	HCl
ID	SWIA-011-06-02
Volume (mL)	0.5
Prep. Date	06/21/22
Exp. Date	09/21/22
Prepared By	LY

Micropipette ID:

☐ 339362028 ☐ ICP-06

☐ A42780077 ☐ GFAA-07

☑ A4276160 7 ☐

Comments:

200.8 tune chk SMGA-23-01-11
rcvd. 09|22|21

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: ICP-MS Tuning Solution 3

Product Number:	**ICP-MS-TS-3-100**
Lot Number:	**2029303-100**
Matrix:	2% HNO3
Purity:	99.98%-99.999%

ANAB ANSI National Accreditation Board ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ANSI National Accreditation Board ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID
Be	10.0 ± 0.1	3105a
Co	10.0 ± 0.1	3113
In	10.0 ± 0.1	3124a
Mg	10.0 ± 0.1	3131a
Pb	10.0 ± 0.1	3128

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: September 2021
Expiration Date: September 30, 2022
Certificate Issue Date: October 22, 2020

Moven Mutuvari
Moven Mutuvari, Ph.D, VP Manufacturing

[CAL] SM6A-23-01-00 02
LY 09/09/24

high-purity standards
7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number: **SM-2208-001-250**
Lot Number: **2122427-250**
Matrix: 2% HNO3 / Tr HF
Purity: 99.97%-99.9999%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID	Element	(µg/mL)	SRM ID
As	10.0 ± 0.1	3103a	Sr	10.0 ± 0.1	3153a
B	10.0 ± 0.1	3107	Ti	10.0 ± 0.1	3162a
Mo	10.0 ± 0.1	3134	Tl	10.0 ± 0.1	3158
Sb	10.0 ± 0.1	3102a	V	10.0 ± 0.1	3165
Se	10.0 ± 0.1	3149	Zn	10.0 ± 0.1	3168a
Sn	10.0 ± 0.1	3161a			

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mututuvari, Ph.D, VP Manufacturing

rcvd. 09/09/24 LY

ICAL 2 SMbA-23-01-03

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number: **SM-2208-002-250**
Lot Number: **2122428-250**
Matrix: 2% HNO3
Purity: 99.96%-99.9996%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID	Element	(µg/mL)	SRM ID
Ag	10.0 ± 0.1	3151	Cu	10.0 ± 0.1	3114
Ba	10.0 ± 0.1	3104a	Li	10.0 ± 0.1	3129a
Be	10.0 ± 0.1	3105a	Mn	10.0 ± 0.2	3132
Cd	10.0 ± 0.1	3108	Ni	10.0 ± 0.1	3136
Co	10.0 ± 0.1	3113	Pb	10.0 ± 0.1	3128
Cr	10.0 ± 0.1	3112a	U	10.0 ± 0.1	3164

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mutuvari, Ph.D, VP Manufacturing

rcvd. 09/09/21 LY

ICAL 3 SMBA-23-01-04

high-purity standards

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number: **SM-2208-003-250**
Lot Number: **2122431-250**
Matrix: 4% HNO3
Purity: 99.98%-99.9995%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID
Al	1000 ± 6	3101a
Ca	1000 ± 6	3109a
Fe	1000 ± 6	3126a
K	1000 ± 10	3141a
Mg	1000 ± 6	3131a
Na	1000 ± 6	3152a

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mututuvari, Ph.D, VP Manufacturing

rcvd. 09/09/21 LY

ICAL 4 SMbA-23-01-05

high-purity standards

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number: **SM-2208-005-A-500**
Lot Number: **2122405-500**
Matrix: 2% HNO3
Purity: 99.0%-99.9999%

ANAB ANSI National Accreditation Board ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ANSI National Accreditation Board ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID	Element	(mg/L)	SRM ID
Al	500 ± 5	3101a	Mg	500 ± 5	3131a
As	5.00 ± 0.05	3103a	Mn	30.0 ± 0.5	3132
B	1.00 ± 0.01	3107	Na	500 ± 5	3152a
Ba	10.0 ± 0.1	3104a	Ni	5.00 ± 0.05	3136
Be	0.50 ± 0.01	3105a	P	5.00 ± 0.08	3139a
Ca	500 ± 5	3109a	Pb	5.00 ± 0.05	3128
Cd	5.00 ± 0.05	3108	Se	5.00 ± 0.05	3149
Co	5.00 ± 0.05	3113	Sr	5.00 ± 0.05	3153a
Cr	5.00 ± 0.05	3112a	Tl	5.00 ± 0.05	3158
Cu	5.00 ± 0.05	3114	U	5.00 ± 0.05	3164
Fe	500 ± 5	3126a	V	5.00 ± 0.05	3165
K	500 ± 5	3141a	Zn	5.00 ± 0.05	3168a
Li	0.5 ± 0.01	3129a			

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mututuvari
Moven Mututuvari, Ph.D, VP Manufacturing

rcvd. 09/09/21 LY

ICAL 5 SM6A-23-01-06

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Special Mix

Product Number:	**SM-2208-005-B-500**
Lot Number:	**2122406-500**
Matrix:	2% HNO3 / Tr HF
Purity:	99.98%-99.999%

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID
Ag	0.500 ± 0.005	3151
Mo	5.00 ± 0.05	3134
Sb	1.00 ± 0.01	3102a
Si	50.0 ± 0.5	3150
Sn	5.00 ± 0.05	3161a
Ti	5.00 ± 0.05	3162a

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2021
Expiration Date: August 31, 2022
Certificate Issue Date: August 16, 2021

Moven Mutuvari
Moven Mutuvari, Ph.D, VP Manufacturing

rcvd 09/09/21 LY

REPORT ID: 22F146

SM6A-23-01-18

Agilent Technologies

Certificate of Analysis

rwd-03/30/22 VH

ICP-MS Internal Std Mix

Agilent Part Number: 5188-6525 **Lot Number:** 58-130CRY2

Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat'l Formula	Start Mat'l Purity	Analyte	CAS#	Labeled Conc.	Measured Conc.	SRM	Start Mat'l Formula	Start Mat'l Purity
Bi	7440-69-9	100 µg/mL	99.2 µg/mL	3106*	Bi	99.99+	Lu	7439-94-3	100 µg/mL	99.5 µg/mL	3130a*	Lu_2O_3	99.99+
Ge	7440-56-4	100 µg/mL	99.0 µg/mL	3120a*	GeO2	99.99+	Rh	7440-16-6	100 µg/mL	101 µg/mL	3144*	Rh(NO3)3-H2O	99.99+
In	7440-74-6	100 µg/mL	99.3 µg/mL	3124a*	In	99.99+	Sc	7440-20-2	100 µg/mL	100 µg/mL	3148a*	Sc_2O_3	99.99+
Li^6	7439-93-2	100 µg/mL	99.7 µg/mL	3129a*	$^6Li_2CO_3$	99.99+	Tb	7440-27-9	100 µg/mL	99.0 µg/mL	3157a*	Tb_4O_7	99.99+

* - indicates NIST SRM † - indicates CRM (when NIST SRM is not available)

Purity grades:

Starting Materials: Shown above

Matrix:

10% HNO_3: HNO_3 (CAS No. 7697-37-2) high purity grade

Traceability:

This standard has been produced gravimetrically and volumetrically using ISO 9001 quality procedures. Agilent ICP / ICP-MS Spectrometer was used to determine the concentration of the main elements via NIST SRMs shown above, as well as the impurities. Other reference standards used: 57-198CR, 51-164CR, 57-135CR.

Trace Metallic Impurities in the Actual Solution, in µg/L, via Agilent ICP-MS Analysis, results are accurate to ±10%:

Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.	Element	Conc.
Ag	<0.06	Co	<0.2	Hf	0.4	Nb	0.2	Ru	<0.3	Ti	<1
Al	3	Cr	<2	Hg	<0.3	Nd	<0.03	Sb	0.2	Tl	0.4
As	<5	Cs	<0.2	Ho	<0.02	Ni	<0.8	Se	<10	Tm	0.04
Au	<2	Cu	<0.7	Ir	7	P	<200	Si	200	U	<0.06
B	6	Dy	<0.07	K	<100	Pb	0.8	Sm	<0.03	V	<0.3
Ba	2	Er	0.3	La	0.1	Pd	<0.08	Sn	<0.3	W	<0.05
Be	<0.6	Eu	0.04	Mg	3	Pr	<0.02	Sr	5	Y	1
Ca	50	Fe	5	Mn	<0.5	Pt	<0.1	Ta	<0.1	Yb	<0.5
Cd	0.2	Ga	0.09	Mo	<0.01	Rb	<0.09	Te	<0.7	Zn	3
Ce	0.08	Gd	<0.1	Na	<30	Re	<0.05	Th	0.4	Zr	3

Balances are calibrated regularly with weight sets traceable to NIST.

Agilent reference standards are guaranteed stable and accurate to ±0.5% of measured analyte concentration. This uncertainty is at 95% confidence interval, a coverage factor of 2. For these solutions we use the highest purity acids applicable, 18 megohm double deionized water and acid-leached, triple rinsed bottles. All glassware used is class A. This standard was manufactured following the guidelines set forth under ISO 17025 and ISO 17034 regulations.

Date of release: March 15, 2022

Date of expiration: September 30, 2023

Brijender S Tonk

QC Coordinator

Visit Agilent on the world wide web: www.agilent.com/chem/supplies

AU SM6A-007-07-25

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAU1
Lot Number:	R2-AU695955
Matrix:	10% (v/v) HCl
Value / Analyte(s):	1 000 µg/mL ea: Gold
Starting Material:	H[AuCl4]
Starting Material Lot#:	2340
Starting Material Purity:	99.9983%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1001 ± 5 µg/mL

Density: 1.022 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1002 ± 4 µg/mL**
ICP Assay NIST SRM 3121 Lot Number: 991806

Assay Method #2 **1001 ± 5 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

exp. 07|20|2022 W

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag	0.029000	M	Eu	<	0.000210	O	Na	0.003300	M	Se	<	0.014000	M	Zn	0.000370	
M	Al	< 0.001900	M	Fe		0.002100	M	Nb	< 0.000110	O	Si		0.003300	M	Zr	<	0.001700
M	As	< 0.005700	M	Ga	<	0.001100	M	Nd	< 0.000110	M	Sm	<	0.000110				
s	Au	<	M	Gd	<	0.000110	M	Ni	< 0.002500	M	Sn	<	0.001600				
M	B	< 0.005000	M	Ge	<	0.004300	M	Os	< 0.000110	M	Sr	<	0.000810				
M	Ba	< 0.001300	M	Hf	<	0.000310	O	P	< 0.052000	M	Ta	<	0.000110				
M	Be	< 0.000610	M	Hg	<	0.001200	M	Pb	< 0.001900	M	Tb	<	0.000110				
M	Bi	< 0.002700	M	Ho	<	0.000110	M	Pd	0.003600	M	Te	<	0.002600				
O	Ca	0.001400	M	In		0.000071	M	Pr	< 0.000110	M	Th	<	0.004100				
M	Cd	< 0.000410	M	Ir	<	0.000210	M	Pt	0.008800	M	Ti	<	0.003100				
M	Ce	< 0.000210	O	K	<	0.011000	M	Rb	< 0.001500	M	Tl	<	0.000110				
M	Co	< 0.000210	M	La	<	0.000110	M	Re	< 0.000110	M	Tm	<	0.000110				
O	Cr	< 0.005200	O	Li		0.000063	M	Rh	< 0.001500	M	U	<	0.000110				
M	Cs	< 0.000810	M	Lu	<	0.000110	M	Ru	< 0.001700	O	V	<	0.002700				
O	Cu	0.001000	O	Mg		0.000230	O	S	< 0.052000	M	W	<	0.003900				
M	Dy	< 0.000110	O	Mn	<	0.002100	M	Sb	0.003200	M	Y	<	0.000110				
M	Er	< 0.000110	M	Mo	<	0.001400	O	Sc	< 0.001400	M	Yb	<	0.000110				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 196.97 +3 6 Au(Cl)63

Chemical Compatibility -Stable in HCl, and HNO3, as the chloride complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels. 2-10 ppb Au is stable for #1day maximum in 1% HNO3 / LDPE container. 100 ppb is stable for #2 days maximum in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 10% HCl / LDPE container.

Au Containing Samples (Preparation and Solution) - Metal (Aqua Regia); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	Estimated D.L.	Order	Interferences (underlined indicates severe)
ICP-MS 197 amu	5 ppt	N/A	181Ta16O
ICP-OES 208.209 nm	0.04/0.01 µg/mL	1	Ir, Re
ICP-OES 242.795 nm	0.02/0.003 µg/mL	1	Mn, Os, Th, Ta, Pt, Co, F
ICP-OES 267.595 nm	0.03/0.003 µg/mL	1	Nb, Ta, U, Cr, Th, Rh, Ru

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 01, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- September 01, 2024

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



SM6A-23-01-21 rcvd. 05|13|22

INORGANIC VENTURES™
Refine your results. Redefine your industry.

Certificate of Analysis

300 Technology Drive
Christiansburg, VA 24073 USA
inorganicventures.com

P: 800-669-6799/540-585-3030
F: 540-585-3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Custom Grade Solution
Catalog Number:	CGAU1
Lot Number:	S2-AU706428
Matrix:	10% (v/v) HCl
Value / Analyte(s):	1 000 µg/mL ea: Gold
Starting Material:	HAuCl4
Starting Material Lot#:	2426
Starting Material Purity:	99.9985%

exp. 05|13|23

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 999 ± 6 µg/mL

Density: 1.021 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **999 ± 5 µg/mL**
ICP Assay NIST SRM 3121 Lot Number: 170531

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag		0.022000	M	Eu	<	0.000011	O	Na		0.003500	M	Se	<	0.013000	M	Zn		0.002700
M	Al		0.000960	O	Fe		0.001600	M	Nb	<	0.000011	O	Si	<	0.005000	M	Zr	<	0.000210
M	As	<	0.002100	M	Ga	<	0.000150	M	Nd	<	0.000011	M	Sm	<	0.000011				
s	Au	<		M	Gd	<	0.000011	M	Ni	<	0.000650	M	Sn		0.000420				
O	B	<	0.003000	M	Ge	<	0.000130	M	Os	<	0.001200	M	Sr	<	0.000062				
M	Ba	<	0.000045	M	Hf	<	0.000011	O	P	<	0.026000	M	Ta	<	0.000011				
O	Be	<	0.000072	M	Hg	<	0.001200	M	Pb	<	0.000031	M	Tb	<	0.000011				
M	Bi	<	0.000011	M	Ho	<	0.000011	M	Pd		0.001300	M	Te	<	0.000240				
O	Ca		0.007500	M	In	<	0.000098	M	Pr	<	0.000011	M	Th	<	0.000190				
M	Cd	<	0.000021	M	Ir	<	0.000170	M	Pt		0.005100	O	Ti	<	0.000380				
M	Ce	<	0.000041	M	K	<	0.004500	M	Rb	<	0.000011	M	Tl	<	0.000011				
M	Co	<	0.000038	M	La	<	0.000011	M	Re	<	0.000011	M	Tm	<	0.000011				
O	Cr	<	0.001600	O	Li	<	0.000079	M	Rh		0.000070	M	U	<	0.000011				
M	Cs	<	0.000060	M	Lu	<	0.000011	M	Ru	<	0.000065	O	V	<	0.000710				
M	Cu		0.002900	O	Mg		0.000880	O	S	<	0.022000	M	W	<	0.000140				
M	Dy	<	0.000011	M	Mn	<	0.000130	M	Sb	<	0.000031	M	Y	<	0.000011				
M	Er	<	0.000011	M	Mo	<	0.000046	M	Sc	<	0.000120	M	Yb	<	0.000011				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 196.97 +3 6 Au(Cl)63

Chemical Compatibility -Stable in HCl, and HNO3, as the chloride complex. Avoid basic media. Stable with most metals and inorganic anions in acidic media.

Stability - 2-100 ppb levels. 2-10 ppb Au is stable for #1day maximum in 1% HNO3 / LDPE container. 100 ppb is stable for #2 days maximum in 1% HNO3 / LDPE container. 1-10,000 ppm solutions chemically stable for years in 10% HCl / LDPE container.

Au Containing Samples (Preparation and Solution) - Metal (Aqua Regia); Oxides (Soluble in HCl); Ores (Dissolve in HCl / HNO3).

Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 197 amu	5 ppt	N/A	181Ta16O
ICP-OES 208.209 nm	0.04/0.01 µg/mL	1	Ir, Re
ICP-OES 242.795 nm	0.02/0.003 µg/mL	1	Mn, Os, Th, Ta, Pt, Co, F
ICP-OES 267.595 nm	0.03/0.003 µg/mL	1	Nb, Ta, U, Cr, Th, Rh, Ru

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

July 04, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- July 04, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



SM16A-007-06-03

125 Market Street
New Haven, CT 06513
USA

Rcvd. 05/16/19 W

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

AccuStandard®

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-41W-0.01X-1
Description: Phosphorous ICP-MS Standard
Element: Phosphorus (P)
SRM: 3139a
Lot: 218035007
Matrix: Water
Hazards: *Refer to SDS for complete safety information*



Signal Word: Warning

Date Certified: Mar 7, 2018
Expiration: Mar 7, 2023
Density: 1.000 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material



Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	nd<0.02	Pb	nd<0.2	Sc	nd<0.02	Ti	nd<0.02
Al	N/A	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	nd<0.2	Se	N/A	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	nd<0.02	Pr	nd<0.2	Si	nd<0.2	Tm	nd<0.02
Au	nd<0.02	Cs	N/A	Hg	nd<0.2	Mo	nd<0.02	Pt	nd<0.2	Sm	nd<0.2	U	nd<0.2
B	nd<0.2	Cu	N/A	Ho	nd<0.02	Na	nd<0.02	Rb	N/A	Sn	nd<0.02	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	nd<0.2	Nb	nd<0.2	Re	nd<0.2	Sr	nd<0.02	W	nd<0.2
Be	nd<0.02	Er	nd<0.02	Ir	N/A	Nd	nd<0.02	Rh	nd<0.2	Ta	nd<0.2	Y	nd<0.02
Bi	nd<0.2	Eu	nd<0.02	K	nd<0.2	Ni	nd<0.02	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	nd<0.02	Fe	nd<0.02	La	nd<0.02	Os	N/A	S	N/A	Te	nd<0.2	Zn	nd<0.02
Cd	nd<0.02	Ga	nd<0.02	Li	nd<0.02	P	*	Sb	nd<0.2	Th	nd<0.02	Zr	nd<0.02

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All weights are traceable through NIST, Test No. 822-275872-11

All glassware used in preparation is Class A and calibrated regularly.

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

AccuStandard

SM6A-23-01-08

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

rcvd. 09/21/21 LY

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-52W-0.1X-1
Description: Silicon ICP-MS Standard
Element: Silicon (Si)
SRM: 3150
Lot: 221025136
Matrix: Water, tr HF
Hazards: *Refer to SDS for complete safety information*



Signal Word: Warning

Date Certified: Feb 24, 2021
Expiration: Feb 24, 2026
Density: 1.004 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Certified Concentration: 1000 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	nd<0.02	Pb	N/A	Sc	nd<0.02	Ti	nd<0.02
Al	N/A	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	nd<0.2	Se	N/A	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	nd<0.02	Pr	nd<0.2	Si	*	Tm	nd<0.02
Au	nd<0.02	Cs	N/A	Hg	nd<0.2	Mo	nd<0.02	Pt	nd<0.2	Sm	nd<0.2	U	nd<0.2
B	nd<0.2	Cu	nd<0.02	Ho	nd<0.02	Na	nd<0.02	Rb	N/A	Sn	N/A	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	nd<0.2	Nb	nd<0.2	Re	nd<0.2	Sr	nd<0.02	W	nd<0.2
Be	nd<0.02	Er	nd<0.02	Ir	N/A	Nd	nd<0.02	Rh	nd<0.2	Ta	N/A	Y	nd<0.02
Bi	nd<0.2	Eu	nd<0.02	K	nd<0.2	Ni	N/A	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	nd<0.02	Fe	N/A	La	nd<0.02	Os	N/A	S	N/A	Te	N/A	Zn	nd<0.02
Cd	N/A	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	N/A	Th	nd<0.02	Zr	nd<0.02

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

Customer Copy

For use in routine laboratory analysis.

SMeA-007-05-06

125 Market Street
New Haven, CT 06513
USA

AccuStandard®, Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-71N-0.01X-1
Description: Zirconium ICP-MS Standard
Element: Zirconium (Zr)
SRM: 3169
Lot: 215095138-01
Matrix: 2-5% Nitric acid
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Oct 20, 2017
Expiration: Oct 20, 2022
Density: 1.011 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes

Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	N/A	Pb	nd<0.2	Sc	nd<0.02	Ti	nd<0.02
Al	nd<0.02	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	N/A	Se	nd<0.2	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	N/A	Pr	N/A	Si	nd<0.2	Tm	N/A
Au	nd<0.02	Cs	N/A	Hg	N/A	Mo	nd<0.02	Pt	N/A	Sm	nd<0.2	U	N/A
B	nd<0.2	Cu	N/A	Ho	N/A	Na	N/A	Rb	N/A	Sn	N/A	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	N/A	Nb	nd<0.2	Re	N/A	Sr	nd<0.02	W	nd<0.2
Be	N/A	Er	N/A	Ir	nd<0.2	Nd	N/A	Rh	N/A	Ta	nd<0.2	Y	N/A
Bi	nd<0.2	Eu	N/A	K	nd<0.2	Ni	nd<0.02	Ru	nd<0.02	Tb	N/A	Yb	nd<0.02
Ca	nd<0.02	Fe	nd<0.02	La	nd<0.02	Os	N/A	S	N/A	Te	N/A	Zn	nd<0.02
Cd	nd<0.02	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	nd<0.2	Th	N/A	Zr	*

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A and calibrated regularly.

All weights are traceable through NIST, Test No. 822-275872-11

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.

We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001:2015

SM6A-23-01-09

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

rcvd 09/21/21 LY

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-65W-0.01X-1
Description: Tungsten ICP-MS Standard
Element: Tungsten (W)
SRM: 3163
Lot: 221045158
Matrix: Water, tr NH4OH
Hazards: *Refer to SDS for complete safety information*

None Required

Signal Word: Warning

Date Certified: May 4, 2021
Expiration: May 4, 2026
Density: 1.000 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	N/A	Lu	N/A	Pb	N/A	Sc	nd<0.02	Ti	N/A
Al	N/A	Co	N/A	Ge	N/A	Mg	N/A	Pd	nd<0.2	Se	N/A	Tl	N/A
As	N/A	Cr	N/A	Hf	nd<0.02	Mn	N/A	Pr	nd<0.2	Si	N/A	Tm	nd<0.02
Au	N/A	Cs	N/A	Hg	N/A	Mo	N/A	Pt	nd<0.2	Sm	nd<0.2	U	N/A
B	N/A	Cu	nd<0.02	Ho	nd<0.02	Na	N/A	Rb	N/A	Sn	N/A	V	nd<0.02
Ba	N/A	Dy	nd<0.02	In	N/A	Nb	N/A	Re	N/A	Sr	nd<0.02	W	*
Be	N/A	Er	nd<0.02	Ir	N/A	Nd	nd<0.02	Rh	N/A	Ta	N/A	Y	nd<0.02
Bi	N/A	Eu	nd<0.02	K	N/A	Ni	nd<0.02	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	N/A	Fe	N/A	La	nd<0.02	Os	N/A	S	N/A	Te	N/A	Zn	N/A
Cd	N/A	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	N/A	Th	N/A	Zr	N/A

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #19305, traceable to NIST.

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

In order to verify the concentration(s), the final solution was checked by plasma emission spectroscopy (ICP) against material traceable to the above listed NIST SRM(s).

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All trace level elemental impurities were determined via plasma emission spectroscopy on the concentrate.

All glassware used in preparation is Class A.

All weights are traceable through NIST, Test No. 684/289871-17

All bottles are acid leached and triple rinsed with deionized water prior to use.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary

Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

Accustandard

SM6A-007-06-05

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

received: 07/09/19
LY

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: ICP-MS-34N-0.01X-1
Description: Mercury ICP-MS Standard
Element: Mercury (Hg)
SRM: 3133
Lot: 218115112
Matrix: 2-5% Nitric acid
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Nov 26, 2018
Expiration: Nov 26, 2023
Density: 1.028 g/mL
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Certified Concentration: 100 µg/mL

Trace Elements in µg/mL

Ag	nd<0.02	Ce	nd<0.2	Gd	nd<0.02	Lu	nd<0.02	Pb	nd<0.2	Sc	nd<0.02	Ti	nd<0.02
Al	nd<0.02	Co	nd<0.02	Ge	nd<0.2	Mg	nd<0.02	Pd	nd<0.2	Se	nd<0.2	Tl	nd<0.2
As	nd<0.2	Cr	nd<0.02	Hf	nd<0.02	Mn	nd<0.02	Pr	nd<0.2	Si	nd<0.2	Tm	nd<0.02
Au	nd<0.02	Cs	N/A	Hg	*	Mo	nd<0.02	Pt	nd<0.2	Sm	nd<0.2	U	nd<0.2
B	nd<0.2	Cu	N/A	Ho	nd<0.02	Na	nd<0.02	Rb	N/A	Sn	nd<0.02	V	nd<0.02
Ba	nd<0.02	Dy	nd<0.02	In	nd<0.2	Nb	nd<0.2	Re	nd<0.2	Sr	nd<0.02	W	nd<0.2
Be	nd<0.02	Er	nd<0.02	Ir	nd<0.2	Nd	nd<0.02	Rh	nd<0.2	Ta	N/A	Y	nd<0.02
Bi	nd<0.2	Eu	nd<0.02	K	nd<0.2	Ni	nd<0.02	Ru	nd<0.02	Tb	nd<0.02	Yb	nd<0.02
Ca	nd<0.02	Fe	N/A	La	nd<0.02	Os	N/A	S	N/A	Te	nd<0.2	Zn	nd<0.02
Cd	nd<0.02	Ga	nd<0.02	Li	nd<0.02	P	N/A	Sb	nd<0.2	Th	nd<0.02	Zr	nd<0.02

This solution was assayed gravimetrically, using a balance calibrated against weight sets, ID #88270, traceable to NIST

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±2.4%.

We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as high purity acids and ASTM Type I 18 megohm deionized water.

All weights are traceable through NIST, Test No. 684/289871-17

All glassware used in preparation is Class A and calibrated regularly.

Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

QR-ORG/INO-001
Rev. 5/18

ICSA SM6A-007-07-24

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

Toll: 800.669.6799 - 540.585.3030
Fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	6020ICS-0A
Lot Number:	S2-MEB700788
Matrix:	1% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Chloride,
	2 000 µg/mL ea: Carbon,
	1 000 µg/mL ea: Calcium, Aluminum, Iron, Potassium, Magnesium, Sodium, Phosphorus, Sulfur,
	20 µg/mL ea: Titanium, Molybdenum

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	1 000 ± 4 µg/mL	Calcium, Ca	1 000 ± 4 µg/mL
Carbon, C	2 000 ± 4 µg/mL	Chloride, Cl	10 000.0 ± 50.0 µg/mL
Iron, Fe	1 000 ± 4 µg/mL	Magnesium, Mg	1 000 ± 4 µg/mL
Molybdenum, Mo	20.00 ± 0.10 µg/mL	Phosphorus, P	1 000 ± 6 µg/mL
Potassium, K	1 000 ± 4 µg/mL	Sodium, Na	1 000 ± 4 µg/mL
Sulfur, S	1 000 ± 4 µg/mL	Titanium, Ti	20.00 ± 0.13 µg/mL

Density: 1.031 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
C	Acidimetric	84L	84L
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Mo	ICP Assay	3134	130418
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2
P	ICP Assay	3139a	060717
P	Acidimetric	84L	84L
S	Acidimetric	84L	84L
S	ICP Assay	traceable to 3154	M2-S657208
Ti	ICP Assay	3162a	130925

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

M	Ag		0.003000	M	Cu		0.009200	M	La	<	0.000110	M	Pr	<	0.000110	M	Ta	<	0.000610
s	Al	<		M	Dy	<	0.000110	O	Li		0.004300	M	Pt	<	0.000110	M	Tb	<	0.000110
O	As	<	0.022000	M	Er	<	0.000110	M	Lu	<	0.000110	M	Rb	<	0.008200	M	Te	<	0.001800
M	Au	<	0.002900	M	Eu	<	0.000110	s	Mg	<		M	Re	<	0.000110	M	Th	<	0.000110
M	B	<	0.001800	s	Fe	<		O	Mn		0.005200	M	Rh	<	0.000110	s	Ti	<	
M	Ba		0.003000	M	Ga		0.036000	s	Mo	<		M	Ru	<	0.000100	M	Tl	<	0.000110
M	Be	<	0.000310	M	Gd	<	0.000110	s	Na	<		s	S	<		M	Tm	<	0.000110
M	Bi	<	0.000310	M	Ge	<	0.001100	M	Nb	<	0.000110	M	Sb	<	0.000610	M	U	<	0.000110
s	Ca	<		M	Hf	<	0.000210	M	Nd	<	0.000410	M	Sc	<	0.000610	O	V	<	0.002100
M	Cd	<	0.029000	M	Hg	<	0.000300	O	Ni		0.002200	M	Se	<	0.002900	M	W	<	0.002400
M	Ce	<	0.000110	M	Ho	<	0.000110	M	Os	<	0.000700	O	Si	<	0.021000	M	Y	<	0.000210
M	Co		0.001400	M	In	<	0.000110	s	P	<		M	Sm	<	0.000110	M	Yb	<	0.000110
M	Cr		0.023000	M	Ir	<	0.000100	M	Pb	<	0.000110	M	Sn	<	0.000810	M	Zn		0.002800
M	Cs	<	0.000510	s	K	<		M	Pd	<	0.000110	O	Sr		0.009100	M	Zr		0.001700

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit www.inorganicventures.com/TCT

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

January 08, 2021

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- January 08, 2025

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control



Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director



SMIA-018-17-05
Rec 5/24/21 NT
Exp 11/18/22

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M11

Aluminum (Al) – 10,000 µg/mL

Lot #: 1077245-30

Matrix: 10% HNO_3

Element	Certified Concentration & Uncertainty
Al	10,010 ± 50 µg/mL (w/v)
	9402 ± 48 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure aluminum nitrate [$Al(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3101a, lot #140903**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Ce	<2	Gd	<2	Lu	<2	Pb	<10	Se	<20	Tl	<5
Al	MAJOR	Co	<10	Ge	<5	Mg	76	Pd	<5	Si	<1000	Tm	<2
As	<20	Cs	<5	Hf	<2	Mn	<10	Pr	<2	Sm	<2	U	<5
Au	<5	Cr	24	Hg	<5	Mo	<5	Pt	<5	Sn	<5	V	<10
B	<50	Cu	<10	Ho	<2	Na	830	Rb	<5	Sr	120	W	<5
Ba	<10	Dy	<2	In	nd	Nb	<5	Re	<2	Ta	<5	Y	<5
Be	<5	Er	<2	Ir	<2	Nd	<2	Rh	<5	Tb	<5	Yb	<2
Bi	<2	Eu	<2	K	<250	Ni	<20	Ru	<5	Te	<10	Zn	<20
Ca	<250	Fe	<100	La	<5	Os	<5	Sb	<5	Th	<5	Zr	<5
Cd	<5	Ga	265	Li	<20	P	<1000	Sc	<50	Ti	<20		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMIA-025-01-10

rcvd 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100023

Antimony (Sb) – 1000 µg/mL

Lot #: 1129139-6

Matrix: 5% HNO_3/0.1% HF

Element	Certified Concentration & Uncertainty
Sb	999.0 ± 5.0 µg/mL (w/v)
	979.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure antimony (Sb). The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3102a, lot #140911**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	2	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	MAJOR	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	7	Cr	<0.5	Hg	8	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	1	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	1	W	1
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	33	La	6	Ni	<2	Rh	<0.5	Ta	2	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021 exp. 06/09/23

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 800.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CMIA-025-02-01

rcvd. 12/22/24

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100031

Arsenic (As) – 1000 µg/mL

Lot #: 1103713-64

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
As	1003 ± 5 µg/mL (w/v)
	989.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure arsenic (As) metal. The solution was diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3103a, lot #100818**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	MAJOR	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	1	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	1	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

EXP. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMA-025-02-02

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100041

Barium (Ba) – 1000 µg/mL

Lot #: 1112442-51

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Ba	996.0 ± 5.0 µg/mL (w/v)
	983.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure barium nitrate [$Ba(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3104a, lot #140909**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	MAJOR	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	11	Y	<5
Ca	<250	Fe	<100	La	13	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<2
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

Exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-028-02-03

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100051

Beryllium (Be) – 1000 µg/mL

Lot #: 1072683-57

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Be	999.0 ± 5.0 µg/mL (w/v)
	980.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to, **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure beryllium acetate [$Be_4O(C_2H_3O_2)_6$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3105a, lot #090514**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	0.5	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 800.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-02-04

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100074

Boron (B) – 1000 µg/mL

Lot #: 1024903-65

Matrix: H_2O

Element	Certified Concentration & Uncertainty
B	1008 ± 2 µg/mL (w/v)
	1010 ± 2 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure boric acid (H_3BO_3) dissolved and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3107, lot #110830**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	12	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	MAJOR	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

EXP. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CM IA-025-02-05

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-100081

Cadmium (Cd) – 1000 µg/mL

Lot #: 1199704-7

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Cd	999.0 ± 3.0 µg/mL (w/v)
	994.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9997% pure cadmium (Cd) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3108, lot #130116**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	8	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	4	Mn	1	Pd	0.9	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	0.7	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	MAJOR	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	3
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-018-17-06
Rec 5/24/21 HT
Exp 11/18/22

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M91

Calcium (Ca) – 10,000 µg/mL

Lot #: 1072921-36

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Ca	10,040 ± 20 µg/mL (w/v)
	9657 ± 20 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure calcium carbonate ($CaCO_3$). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3109a, lot #130213**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	31	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	302	Y	<5
Ca	MAJOR	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

CMA-025-02-06

rcvd - 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000121

Chromium (Cr) – 1000 µg/mL

Lot #: 1123848-53

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Cr	1003 ± 5 µg/mL (w/v)
	995.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure chromium (Cr). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3112a, lot #170630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	14	Te	53
Al	3	Cs	<0.5	Hf	11	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	3	Cr	MAJOR	Hg	<0.5	Mn	<1	Pd	0.6	Se	<2	Tl	0.7
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	2
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	2	W	7
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	0.8	Tb	<0.5	Zn	3
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 800.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-02-07

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000131

Cobalt (Co) – 1000 µg/mL

Lot #: 1107088-60

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Co	1002 ± 2 µg/mL (w/v)
	997.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.998% pure cobalt (Co) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3113, lot #190630**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	MAJOR	Ge	<0.5	Lu	<0.2	P	<100	Sb	22	Te	<1
Al	6	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	5
As	81	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	4	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	2	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	3	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

EXP. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CMIA-025-02-08

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000141

Copper (Cu) – 1000 µg/mL

Lot #: 1074805-71

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Cu	1004 ± 3 µg/mL (w/v)
	996.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9% pure copper (Cu) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3114, lot #121207**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	MAJOR	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 800.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-018-17-07
Rec 5/24/21 NT
Exp 11/18/22

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M261

Iron (Fe) – 10,000 µg/mL

Lot #: 1114187-4

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Fe	10,040 ± 30 µg/mL (w/v)
	9648 ± 32 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure iron nitrate nonahydrate [$Fe(NO_3)_3$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3126a, lot #140812**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	46	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	35	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	<5	W	<5
Bi	3	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	MAJOR	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMA-025-02-09

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000281

Lead (Pb) – 1000 µg/mL

Lot #: 1046594-72

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Pb	994.0 ± 2.0 µg/mL (w/v)
	992.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lead (Pb) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3128, lot #101026**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	MAJOR	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SM1A-018-18-01 Rec 6/23/21 TH

Product #: S4400-1000291

Lithium (Li) – 1000 µg/mL

Lot #: 1094768-6

Matrix: 3% HNO_3

Element	Certified Concentration & Uncertainty
Li	993 ± 5 µg/mL (w/v)
	983 ± 5 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure lithium carbonate (Li_2CO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3129a, lot #100714**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	42	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	27	Cs	0.6	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	44	Pt	<0.5	Sm	<0.2	V	<1
Ba	2	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	0.7	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	2	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	MAJOR	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	3
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

expiry 9/15/22

March 15, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-018-17-09
Rec 5/24/21 NT
Exp 11/18/22

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M311

Magnesium (Mg) – 10,000 µg/mL

Lot #: 1075232-33

Matrix: 4% HNO_3

Element	Certified Concentration & Uncertainty
Mg	9902 ± 42 µg/mL (w/v)
	9424 ± 40 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.999% pure magnesium nitrate [$Mg(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3131a, lot #140110**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	MAJOR	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	19	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	103	Er	<2	Ir	<2	Nb	<5	Rb	<5	Sn	23	W	<5
Bi	<2	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMIA-025-02-10

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000321

Manganese (Mn) – 1000 µg/mL

Lot #: 1063019-60

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Mn	991.0 ± 6.0 µg/mL (w/v)
	986.0 ± 6.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure manganese (Mn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3132, lot #050429**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	3	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	43	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	17	Hg	<0.5	Mn	MAJOR	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	0.9	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

06/09/23

exp. 06/09/21 12/22/21

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA

5580 Skylane Boulevard P: 707.525.5788

Santa Rosa, CA 95403 P: 800.878.7654

F: 707.545.7901

Europe

Nieuwe Hemweg 7P P: +31 20 638 05 97

1013BG Amsterdam F: +31 20 420 28 36

The Netherlands

www.cpiinternational.com

SM1A-025-03-01

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000343

Molybdenum (Mo) – 1000 µg/mL

Lot #: 1138256-5

Matrix: 2% HNO_3/0.1% HF

Element	Certified Concentration & Uncertainty
Mo	1001 ± 3 µg/mL (w/v)
	981.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure molybdenum (Mo). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3134, lot #130418**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	6.626	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	81.41
As	<2	Cr	5.808	Hg	<0.5	Mn	1.573	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	MAJOR	Pr	<0.2	Si	<100	Tm	<0.2
B	9.551	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	50.33
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	29.52	La	0.597	Ni	5.983	Rh	<0.5	Ta	1.802	Yb	<0.2
Cd	79.26	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CPI INTERNATIONAL

SM1A-025-04-03

Certificate of Analysis

Rec 2/4/22 TH

Nickel ICP Standard - 1000 ug/mL

Catalog Number: TM-014L, TM-014L-25
Lot Number: 200305
Manufacture Date: 03/05/20
Certified Date: 03/10/20

Expiration: 08/01/2023
Matrix: 5% Nitric Acid
Hazards: Irritant, Corrosive (See MSDS)

Bulk Number	Analyte	CAS #	Purity	Certified Concentration (ug/mL Ni)
W-1775H-06	Nickel (II) nitrate hexahydrate	13478-00-7	99.999%	1000 ± 5.75

Density: 1.043 g/mL at 22.2°C

Packaging, Storage, Instructions For Use

Store tightly capped at room temperature (15-30°C).

This certified reference material (CRM) is packaged in low density polyethylene. Small aliquots should be poured out of the bottle rather than directly pipetted out of bottle in order to prevent contamination or premature degradation. A 1 mL sample size is recommended. Smaller sample volumes may negatively affect estimated uncertainty.

Traceability Information

Analyte Source Materials: The highest purity analyte source materials are used in the manufacture of this CRM. The actual purity is referenced above. Analyte source material purity and associated uncertainty has been analytically verified against appropriate NIST SRMs, if available.

Method: Certified concentration confirmed by ICP against NIST SRM # 3136 with n=5.

Balance: All analytical balances are calibrated on a semiannual basis by an ISO 17025 accredited calibration laboratory and are traceable to NIST. Traceable Calibration Certificate available upon request.

All balances are checked daily by an in-house standard operating procedure. The weights used for this daily verification are calibrated annually by an ISO 17025 accredited calibration laboratory and are certified traceable to NIST. Certificate of Calibration and Traceability available upon request.

Thermometer: All thermometers are NIST traceable through thermometers that are calibrated annually by an ISO 17025 accredited calibration laboratory.

Glassware: All glassware used in the manufacture of our CRMs is Class A. An in-house standard operating procedure is used to verify all glassware prior to it being placed into service. Volumetric pipetors are calibrated every four months by an ISO 17025 accredited calibration laboratory.

CPI INTERNATIONAL

Catalog Number: TM-014L, TM-014L-25
Lot Number: 200305

Intended Uses

- Calibration of analytical instruments
- Validation of analytical methods
- Preparation of working level reference materials, i.e. "check standards"
- Detection limit studies

Trace Metal Impurity Analysis

Impurity information is captured by ICP analysis and is reported below in ug/L. The values below are typical of a Nickel solution at 10,000 ug/mL.

Aluminum <1	Cadmium <0.5	Lead <8	Nickel **M**	Thallium <15
Antimony <20	Calcium **N**	Magnesium **N**	Potassium **N**	Tin <10
Arsenic <10	Chromium <1.5	Manganese <0.3	Selenium <20	Titanium <1
Barium <0.3	Cobalt <2	Mercury **N**	Silver <3	Vanadium <2
Beryllium <0.1	Iron <1	Molybdenum <5	Strontium <0.1	Zinc <2
Copper <3				

N = Not Tested For **M** = Major Element

Uncertainty

The ± uncertainty associated with the certified concentration is the expanded uncertainty at 95% confidence interval (CI) with K=2. This expanded uncertainty incorporates contributions from manufacturing, homogeneity, and stability.

Homogeneity

This CRM was thoroughly mixed in production. Batch homogeneity was established through analysis of samples chosen at random. A minimum 1 mL sample size is recommended.

Stability/Expiration

The stability of this CRM is based on short-term and long-term monitoring of the certified concentration. The expiration date is guaranteed to be valid from the manufacture date and is based on results of long-term monitoring.

Ewart Morris

Ewart Morris, Inorganics Technical Manager

Mark Hammersla

Mark Hammersla, President

JMA-018-17-08
Rec 5/24/21 HT
Exp 11/18/22

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M411

Potassium (K) – 10,000 µg/mL

Lot #: 1053109-57

Matrix: 1% HNO_3

Element	Certified Concentration & Uncertainty
K	9958 ± 49 µg/mL (w/v)
	9715 ± 48 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.99% pure potassium nitrate (KNO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3141a, lot #140813**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	<10	Ge	<5	Lu	<2	P	<1000	Sb	22	Te	<10
Al	<20	Cs	<5	Hf	<2	Mg	<50	Pb	86	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	<5	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	<250	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	<2	Nb	<5	Rb	245	Sn	25	W	<5
Bi	67	Eu	<2	K	MAJOR	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

May 18, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SMIA-025-03-02

rcvd. 12/22/21
LY 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000491

Selenium (Se) – 1000 µg/mL

Lot #: 1135995-21

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Se	1010 ± 7 µg/mL (w/v)
	1001 ± 7 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure selenium (Se). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3149, lot #100901**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	0.9	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	2	Hg	<0.5	Mn	<1	Pd	<0.5	Se	MAJOR	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SM1A-025-03-03

rcvd 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000511

Silver (Ag) – 1000 µg/mL

Lot #: 1106123-69

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Ag	1009 ± 5 µg/mL (w/v)
	1001 ± 4 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure silver (Ag) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3151, lot #160729**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	MAJOR	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	0.5	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	0.9	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	1	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-03-05

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-10M521

Sodium (Na) – 10,000 µg/mL

Lot #: 1055526-56

Matrix: 3% HNO_3

Element	Certified Concentration & Uncertainty
Na	9911 ± 46 µg/mL (w/v)
	9623 ± 45 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10,000 µg/mL by gravimetric methods using 99.997% pure sodium carbonate (Na_2CO_3). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3152a, lot #120715** The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<5	Co	103	Ge	<5	Lu	<2	P	<1000	Sb	<5	Te	<10
Al	40	Cs	<5	Hf	<2	Mg	<50	Pb	<10	Sc	<50	Ti	<20
As	<20	Cr	<5	Hg	<5	Mn	<10	Pd	<5	Se	<20	Tl	<5
Au	<5	Cu	<10	Ho	<2	Mo	6	Pr	<2	Si	<1000	Tm	<2
B	<50	Dy	<2	In	nd	Na	MAJOR	Pt	<5	Sm	<2	V	<10
Ba	<10	Er	<2	Ir	5	Nb	<5	Rb	13	Sn	23	W	<5
Bi	5	Eu	<2	K	<250	Nd	<2	Re	<2	Sr	<10	Y	<5
Ca	<250	Fe	<100	La	<5	Ni	<20	Rh	<5	Ta	<5	Yb	<2
Cd	<5	Ga	<5	Li	<20	Os	<5	Ru	<5	Tb	<5	Zn	<20
Ce	<2	Gd	<2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021 exp. 06/09/23

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-03-04

rcvd 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000531

Strontium (Sr) – 1000 µg/mL

Lot #: 1096004-52

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Sr	**997.0 ± 6.0 µg/mL (w/v)**
	993.0 ± 6.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9965% pure strontium nitrate [$Sr(NO_3)_2$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3153a, lot #990906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	2	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	104	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	MAJOR	Y	3
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	2	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	0.6	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

SM1A-025-04-06 Product #: S4400-1000581

Thallium (Tl) – 1000 µg/mL

Lot #: 1124114-23

Rec 2/15/22 TH

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Tl	996.0 ± 5.0 µg/mL (w/v)
	992.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO 17034**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% pure thallium (Tl) dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3158, lot #151215**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	1	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	5	Te	27
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	10	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	3	Mn	<1	Pd	<0.5	Se	<2	Tl	MAJOR
Au	<0.5	Cu	6	Ho	<0.2	Mo	13	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	1	W	<0.5
Bi	0.8	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	0.9	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2021
Certification Date

exp 6/17/23 TH

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

SM1A-025-03-06

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000613

Tin (Sn) – 1000 µg/mL

Lot #: 1128650-10

Matrix: 2% HNO_3/0.5% HF

Element	Certified Concentration & Uncertainty
Sn	1005 ± 4 µg/mL (w/v)
	986.0 ± 3.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure tin (Sn). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3161a, lot #140917**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	13	Co	33	Ge	<0.5	Lu	<0.2	P	<100	Sb	5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	2	Sc	<5	Ti	<2
As	<2	Cr	3	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	3
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	MAJOR	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	0.7
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	2	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021 exp. 06/09/23

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A-025-03-07

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000623

Titanium (Ti) – 1000 µg/mL

Lot #: 1038255-56

Matrix: 2% HNO_3/0.5% HF

Element	Certified Concentration & Uncertainty
Ti	998 ± 3 µg/mL (w/v)
	979 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99+% pure titanium (Ti) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3162a, lot #130925**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	56	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	0.7	Te	<1
Al	9	Cs	<0.5	Hf	1	Mg	<5	Pb	<1	Sc	<5	Ti	MAJOR
As	<2	Cr	2	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	36	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	6
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	15	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp. 16/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-025-04-04

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000641

Uranium (U) – 1000 µg/mL

Lot #: 1112440-15

Matrix: 2% HNO_3

Rec 2/7/22 TH

Element	Certified Concentration & Uncertainty
U	996.0 ± 5.0 µg/mL (w/v)
	990.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.99% Uranyl (VI) Nitrate Hexahydrate [$UO_2(NO_3)_2{\cdot}6H_2O$]. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3164**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	2	Hf	<0.2	Mg	<5	Pb	4	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	54	Pt	<0.5	Sm	<0.2	V	<1
Ba	5	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	1
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 17, 2021
Certification Date

exp 6/17/23

TH 2/7/22

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMIA-025-03-08

rcvd. 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000651

Vanadium (V) – 1000 µg/mL

Lot #: 1199921-3

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
V	1002 ± 5 µg/mL (w/v)
	990.0 ± 5.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.995% pure vanadium pentoxide (V_2O_5). The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3165, lot #160906**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	5	Pb	<1	Sc	<5	Ti	13
As	<2	Cr	152	Hg	<0.5	Mn	8	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	MAJOR
Ba	1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	2	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	267	Fe	140	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	0.8	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021
Certification Date

exp. 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM1A w025-03-09

rcvd · 12/22/21

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000681

Zinc (Zn) – 1000 µg/mL

Lot #: 1095528-74

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Zn	998.0 ± 2.0 µg/mL (w/v)
	989.0 ± 2.0 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.9999% pure zinc (Zn) metal. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3168a, lot #120629**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	3	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	<0.5	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	3	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	MAJOR
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 9, 2021

Certification Date

exp · 06/09/23

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SMQA-007-07-19
rcvd. 03/04/21 LY

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description: Silicon

Product Number:	**100050-3-100**
Lot Number:	**2012025-100**
Matrix:	1% HNO3 / Tr HF
Density:	1.008 g/mL ± 0.002 g/mL @ 21.5°C ± 0.3°C

Certified Value:

Element	µg/mL	SRM ID
Si	1000 ± 5	3150

The Certified value is based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Uncertified Values:

Trace Metal Impurity Scan: The data reported are based upon a scan of this specific lot via ICP-OES/ICP-MS analysis. The values are reported in µg/L.

Ag	<0.02	Cu	<0.02	Li	<0.02	Rb	<0.02	Th	<0.02
Al	2	Dy	<0.02	Lu	<0.02	Re	<0.02	Ti	12
As	<0.05	Er	<0.02	Mg	<0.6	Rh	<0.02	Tl	<0.02
Au	<0.02	Eu	<0.02	Mn	<0.3	Ru	<0.02	Tm	<0.02
B	<50	Fe	<1	Mo	<0.02	Sb	<0.2	U	<0.05
Ba	<0.6	Ga	<0.02	Na	<3	Sc	<0.02	V	<0.05
Be	<0.02	Gd	<0.02	Nb	<1	Se	<0.1	W	<0.02
Bi	<0.02	Ge	<1	Nd	<0.02	Si	M	Y	<0.02
Ca	<2	Hf	<0.02	Ni	<0.02	Sm	<0.02	Yb	<0.02
Cd	<1	Ho	<0.02	Os	<0.02	Sn	<0.5	Zn	<0.02
Ce	<0.02	In	<0.02	Pb	<0.05	Sr	<0.02	Zr	<0.2
Co	<0.05	Ir	<0.02	Pd	<0.02	Ta	na		
Cr	<0.05	K	<1	Pr	<0.02	Tb	<0.02		
Cs	<0.6	La	<0.02	Pt	<0.02	Te	<0.02		

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for eighteen months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date:	February 2021
Expiration Date:	August 31, 2022
Certificate Issue Date:	May 13, 2020

Moven Mutuvari

Moven Mututuvari, Ph. D, VP Manufacturing

SMBA-23-01-14

rcvd. 12/22/21 LY

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: S4400-1000391

Phosphorus (P) – 1000 µg/mL

Lot #: 1134200-4

Matrix: 0.05% HNO_3

Element	Certified Concentration & Uncertainty
P	999.4 ± 5.0 µg/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using phosphoric acid (H_3PO_4) diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3139a**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

December 10, 2021 **Certification Date**

exp. 06/10/23 LY 12/22/21

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM6A-23-01-01

Rcvd - 08|19|21 LY

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-100PPM691-100

Zirconium (Zr) – 100 µg/mL

Lot #: 10085420-5

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Zr	99.98 ± 0.50 µg/mL

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or fumace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034**, **ISO/IEC 17025** and **ISO 9001**. This CRM was prepared to a nominal concentration of 100 µg/mL by gravimetric methods using a single-element concentrate diluted with filtered (0.22 µm), 18 M-ohm deionized water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3169**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

August 13, 2021
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Exp. 02|13|23 LY

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

SM6A-007-05-16
Rvd. 08/29/18 LV

Agilent

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICP-074
Lot Number: CR-3874

Lot Issue Date: 24-Aug 2017
Expiration Date: 30-Sep 2024

Product Name: Tungsten ICP Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Analyte Concentration	Traceability & Method
tungsten	ammonium metatungstate	RM12633	99.999%	1000 ± 2 µg/mL	NIST SRM 3163; ICP-OES

Solvent: trace ammonium hydroxide in low TOC water (< 50 ppb)

Non-Certified Values:

Density: 0.9992 g/mL @ 20.00 ± 0.05°C

Trace Metallic Impurities in Solution Standard in µg/mL

*	Al	<0.005 ND	*	Ga	<0.005 ND	n	Nb		n	S	
*	Sb	<0.005 ND	n	Ge		n	Os		n	Ta	
*	As	<0.005 ND	n	Au		*	Pd	<0.005 ND	n	Te	
*	Ba	<0.005 ND	n	Hf		*	P	<0.005 ND	n	Tb	
*	Be	<0.005 ND	n	Ho		*	Pt	<0.005 ND	*	Tl	<0.005 ND
*	Bi	<0.005 ND	*	In	<0.005 ND	*	K	<0.005 ND	*	Th	<0.005 ND
*	B	<0.005 ND	n	Ir		n	Pr		n	Tm	
*	Cd	<0.005 ND	*	Fe	<0.005 ND	*	Re		*	Sn	<0.005 ND
*	Cs	<0.005 ND	*	La	<0.005 ND	*	Rh	<0.005 ND	*	Ti	<0.005 ND
*	Ca	<0.005 ND	*	Pb	<0.005 ND	n	Rb		s	W	
n	Ce		*	Li	<0.005 ND	n	Ru		n	U	
*	Cr	<0.005 ND	n	Lu		n	Sm		*	V	<0.005 ND
*	Co	<0.005 ND	*	Mg	<0.005 ND	n	Sc		n	Yb	
*	Cu	<0.005 ND	*	Mn	<0.005 ND	*	Se	<0.005 ND	n	Y	
n	Dy		*	Hg	<0.005 ND	*	Si	<0.005 ND	*	Zn	<0.005 ND
*	Er	<0.005 ND	*	Mo	<0.005 ND	*	Ag	<0.005 ND	n	Zr	
*	Eu	<0.005 ND	n	Nd		*	Na	<0.005 ND			
*	Gd	<0.005 ND	*	Ni	<0.005 ND	*	Sr	<0.005 ND			

* - element checked; i - spectral interference; n – element not checked; D – element detected; ND – element not detected; s - standard element

ANAB ACCREDITED ISO GUIDE 34 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

SM6A-007-07-15

rcvd. 01|25|21 LY

CPI INTERNATIONAL

CERTIFICATE OF ANALYSIS

Single-Element Aqueous CRM

Product #: 4400-10PPM331-100

Mercury (Hg) – 10.0 µg/mL

Lot #: 1082269-9

Matrix: 2% HNO_3

Element	Certified Concentration & Uncertainty
Hg	10.00 ± 0.10 µg/mL (w/v)
	9.933 ± 0.100 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This CRM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 17034, ISO/IEC 17025 and ISO 9001**. This CRM was prepared to a nominal concentration of 10.0 µg/mL by gravimetric methods using single-element concentrate. The solution was diluted with filtered (0.22um), 18 M-ohm water and stabilized with the appropriate high-purity acid as indicated in the listed matrix. The balances used in the preparation of this CRM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined using the "High Performance ICP-OES" protocol developed by NIST, and both the certified concentration and uncertainty values are traceable to **NIST SRM 3133, lot #160921**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	MAJOR	Mn	<1	Pd	<0.5	Se	<2	Tl	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

exp. 07|18|22

Chuck Goudreau

Chuck Goudreau, Certifying Officer

January 18, 2021

Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

Health and Safety Information: Refer to the Safety Data Sheet (SDS).

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

www.cpiinternational.com

ICV 1

SM6A-23-01-12
rcvd. 12/20/21 vy

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Custom Inorganic Standard

Product Number: **HPS-2208-006-500**
Lot Number: **2134407-500**
Matrix: 2% HNO3 / Tr HF
Purity: 99.0%-99.9999%

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO
REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

Certified Values:

Element	(mg/L)	SRM ID	Element	(mg/L)	SRM ID
Ag	10.0 ± 0.1	3151	Ni	10.0 ± 0.1	3136
As	10.0 ± 0.1	3103a	Pb	10.0 ± 0.1	3128
B	10.0 ± 0.1	3107	Sb	10.0 ± 0.1	3102a
Ba	10.0 ± 0.1	3104a	Se	10.0 ± 0.1	3149
Be	10.0 ± 0.1	3105a	Sn	10.0 ± 0.1	3161a
Cd	10.0 ± 0.1	3108	Sr	10.0 ± 0.1	3153a
Co	10.0 ± 0.1	3113	Ti	10.0 ± 0.1	3162a
Cr	10.0 ± 0.1	3112a	Tl	10.0 ± 0.1	3158
Cu	10.0 ± 0.1	3114	U	10.0 ± 0.1	3164
Li	10.0 ± 0.1	3129a	V	10.0 ± 0.1	3165
Mn	10.0 ± 0.2	3132	Zn	20.0 ± 0.2	3168a
Mo	10.0 ± 0.1	3134			

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: December 2021
Expiration Date: December 31, 2022
Certificate Issue Date: December 15, 2021

Moven Mutuvari
Moven Mutuvari, Ph.D, VP Manufacturing

SMBA-23-01-13

ICV 2

rcv9 - 12/20/21 LY

hps high-purity standards

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: Interference Check Standard 7

Product Number:	**INFCS-7-500**
Lot Number:	**2111116-500**
Matrix:	5% HNO3
Purity:	99.98%-99.9995%
Density:	1.046 g/mL ± 0.002 g/mL @ 21.8°C ± 0.3°C

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO 17034
REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

Certified Values:

Element	(mg/L)	SRM ID
Al	1000 ± 6	3101a
Ca	1000 ± 6	3109a
Fe	1000 ± 6	3126a
K	1000 ± 10	3141a
Mg	1000 ± 10	3131a
Na	1000 ± 6	3152a

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: December 2021
Expiration Date: December 31, 2022
Certificate Issue Date: April 23, 2021

Moven Mututuvari

Moven Mututuvari, Ph.D, VP Manufacturing

LABORATORY REPORT FOR

ARCADIS

PG&E TOPOCK-GMP

METHOD E218.6
HEXAVALENT CHROMIUM

SDG#: 22F146

CASE NARRATIVE

Client : ARCADIS

Project: PG&E TOPOCK-GMP

SDG : 22F146

METHOD E218.6
HEXAVALENT CHROMIUM

A total of ten (10) water samples were received on 06/16/22 to be analyzed for Hexavalent Chromium in accordance with Method E218.6 and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. Hexavalent Chromium was not detected in HCF013WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. HCF013WL/HCF013WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of MS/MSD was analyzed. Hexavalent Chromium was within MS QC limits in F146-04M/F146-04S. Refer to Matrix QC summary form for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RESULTS

METHOD E218.6
HEXAVALENT CHROMIUM

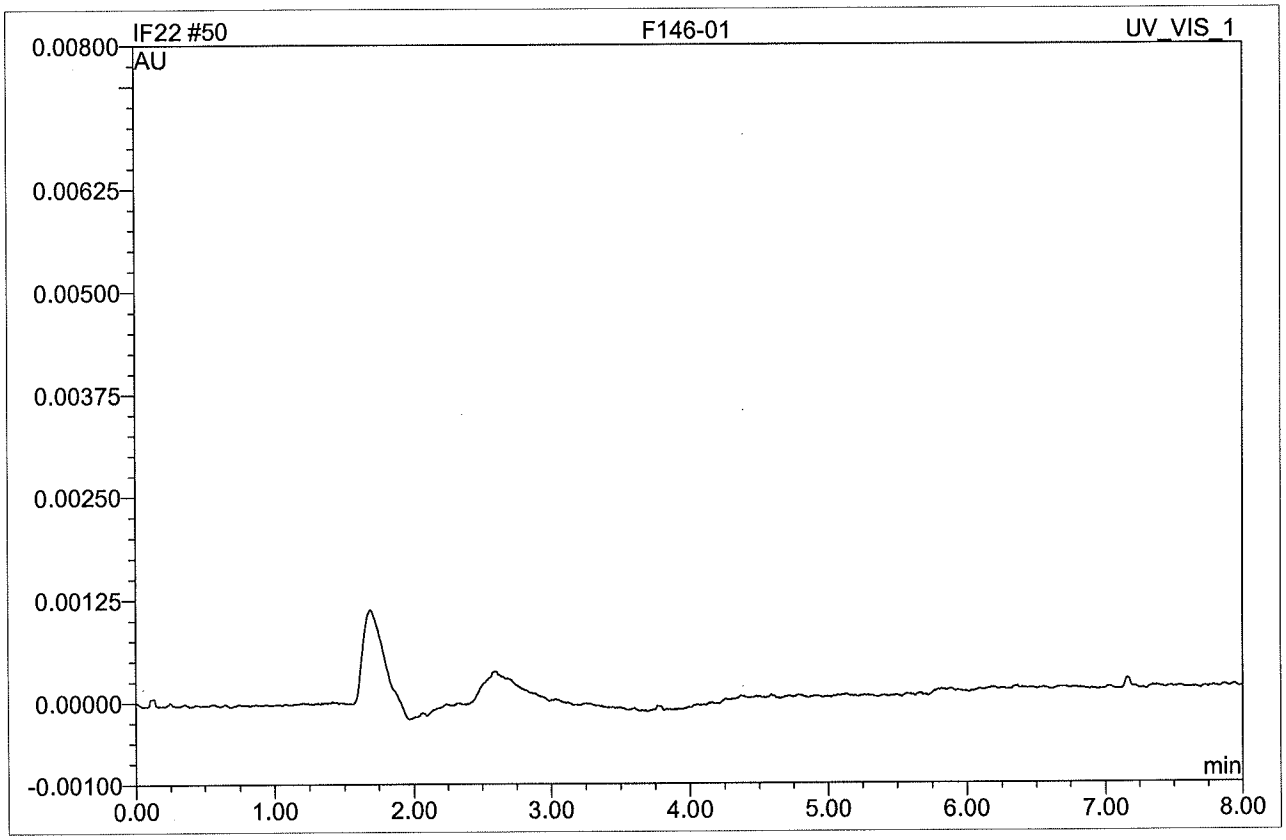
Client : ARCADIS
Project : PG&E TOPOCK-GMP
Batch No. : 22F146

Matrix : WATER
InstrumentID : 59

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N. FACTOR	MOIST (%)	LOQ (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HCF013WB	ND	1	NA	0.2	0.05	06/22/2215:35	NA	IF22035	IF22033	HCF013W	NA	NA
LCS1W	HCF013WL	1.96	1	NA	0.2	0.05	06/22/2215:46	NA	IF22036	IF22033	HCF013W	NA	NA
LCD1W	HCF013WC	2.00	1	NA	0.2	0.05	06/22/2215:56	NA	IF22037	IF22033	HCF013W	NA	NA
MW-56D-Q222	F146-01	ND	1	NA	0.2	0.05	06/22/2216:07	NA	IF22038	IF22033	HCF013W	06/14/2213:13	06/16/22
MW-56M-Q222	F146-02	ND	1	NA	0.2	0.05	06/22/2216:17	NA	IF22039	IF22033	HCF013W	06/14/2212:49	06/16/22
MW-56S-Q222	F146-03	ND	1	NA	0.2	0.05	06/22/2216:27	NA	IF22040	IF22033	HCF013W	06/14/2212:24	06/16/22
MW-55-045-Q222	F146-04	ND	1	NA	0.2	0.05	06/22/2216:38	NA	IF22041	IF22033	HCF013W	06/14/2210:52	06/16/22
MW-55-045-Q222MS	F146-04M	1.09	1	NA	0.2	0.05	06/22/2216:51	NA	IF22042	IF22033	HCF013W	06/14/2210:52	06/16/22
MW-55-045-Q222MSD	F146-04S	1.08	1	NA	0.2	0.05	06/22/2217:02	NA	IF22043	IF22033	HCF013W	06/14/2210:52	06/16/22
MW-55-045-EB-Q222	F146-05	ND	1	NA	0.2	0.05	06/22/2217:12	NA	IF22044	IF22033	HCF013W	06/14/2210:20	06/16/22
MW-55-120-Q222	F146-06	7.70	1	NA	0.2	0.05	06/22/2217:43	NA	IF22047	IF22045	HCF013W	06/14/2211:25	06/16/22
EB-737-Q222	F146-07	ND	1	NA	0.2	0.05	06/22/2217:54	NA	IF22048	IF22045	HCF013W	06/14/2214:20	06/16/22
MW-92-037-Q222	F146-08	ND	1	NA	0.2	0.05	06/22/2218:04	NA	IF22049	IF22045	HCF013W	06/15/2209:22	06/16/22
MW-92-072-Q222	F146-09	ND	1	NA	0.2	0.05	06/22/2218:15	NA	IF22050	IF22045	HCF013W	06/15/2208:52	06/16/22
MW-92-102-Q222	F146-10	3.93	1	NA	0.2	0.05	06/22/2218:25	NA	IF22051	IF22045	HCF013W	06/15/2208:24	06/16/22

IF22 038 F146-01

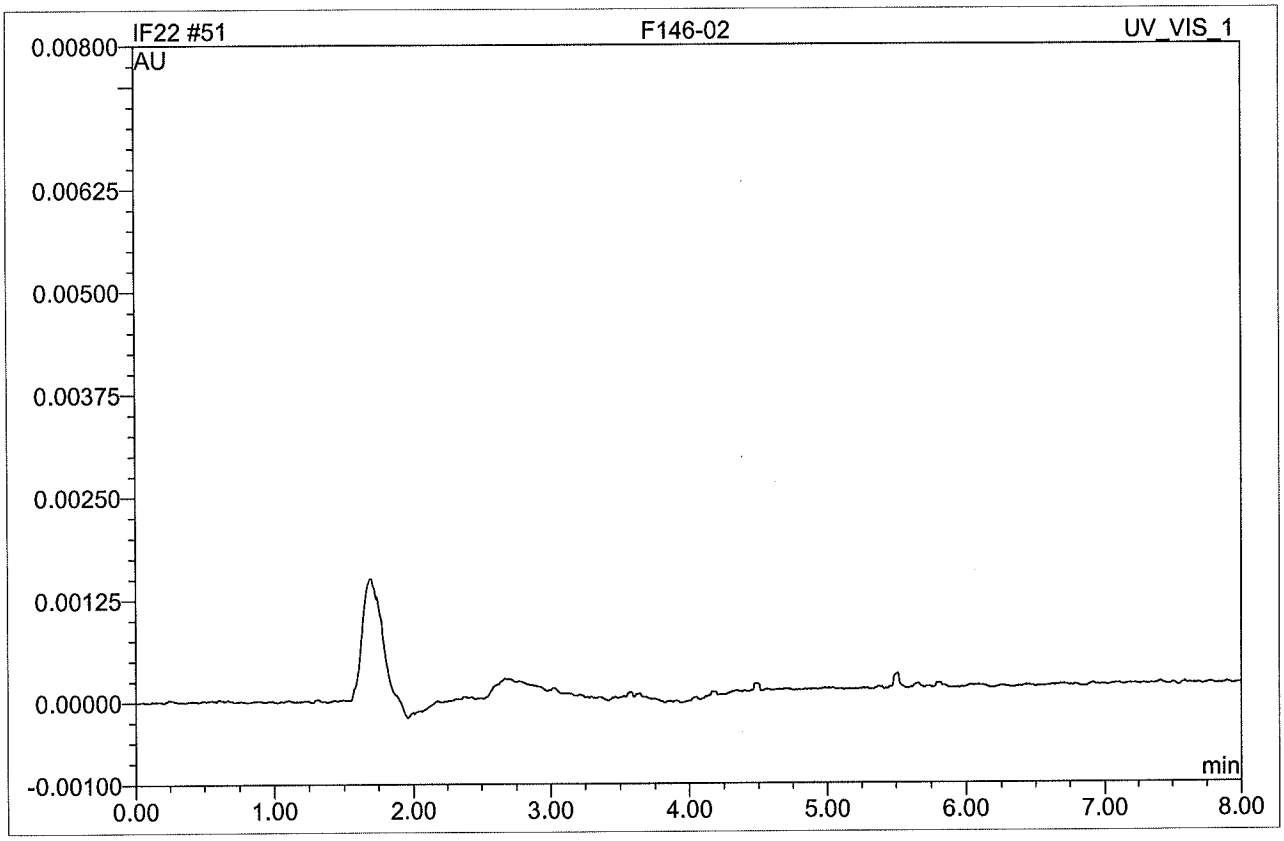
Sample Name:	**F146-01**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 16:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 039 F146-02

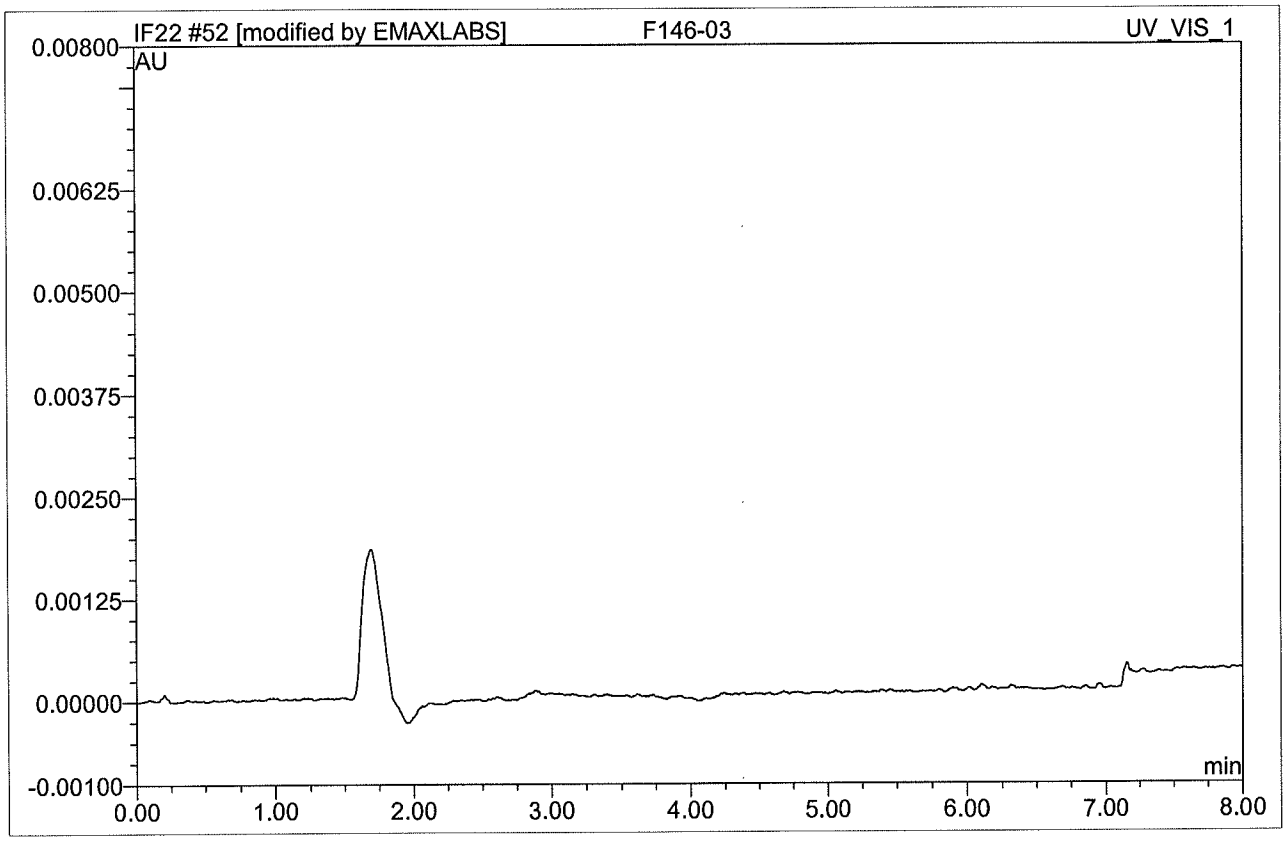
Sample Name:	**F146-02**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 16:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 040 F146-03

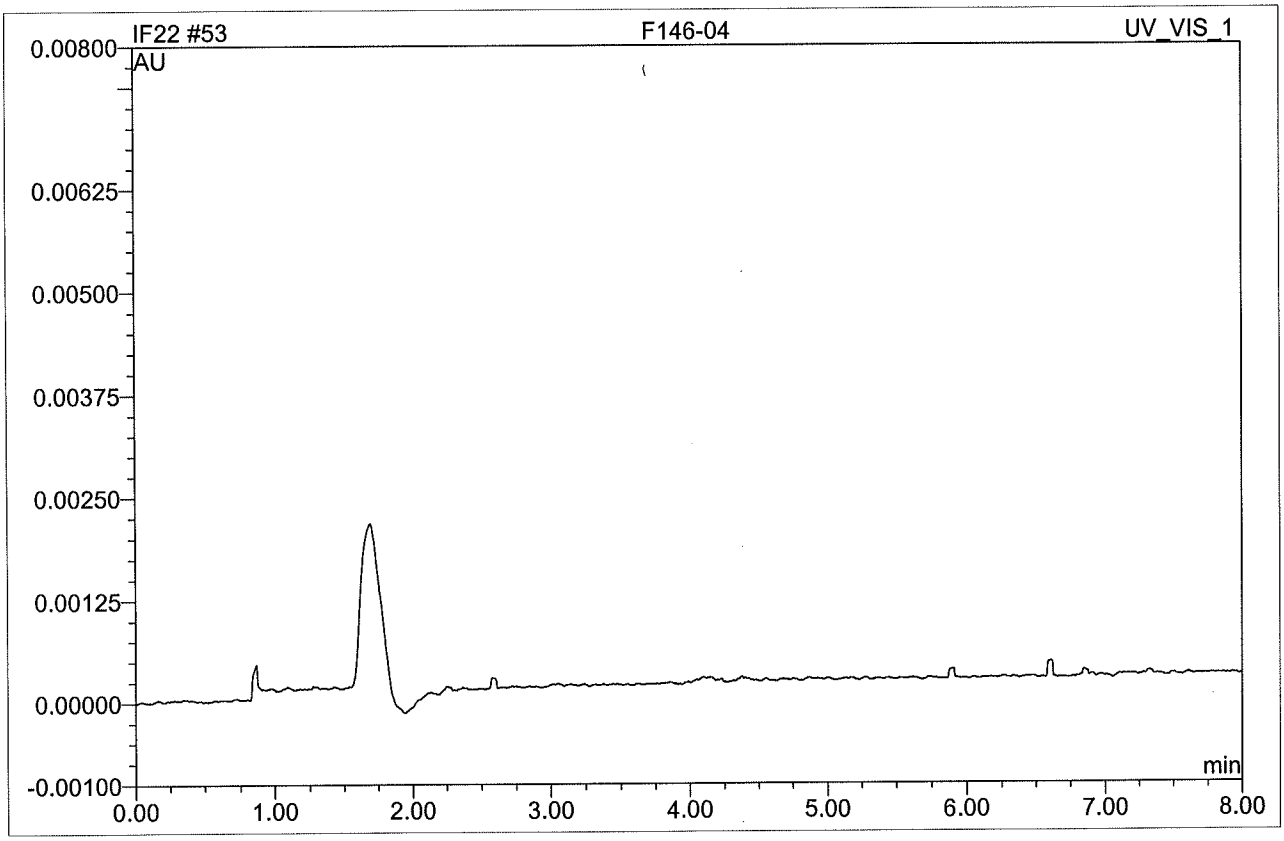
Sample Name:	**F146-03**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 16:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 041 F146-04

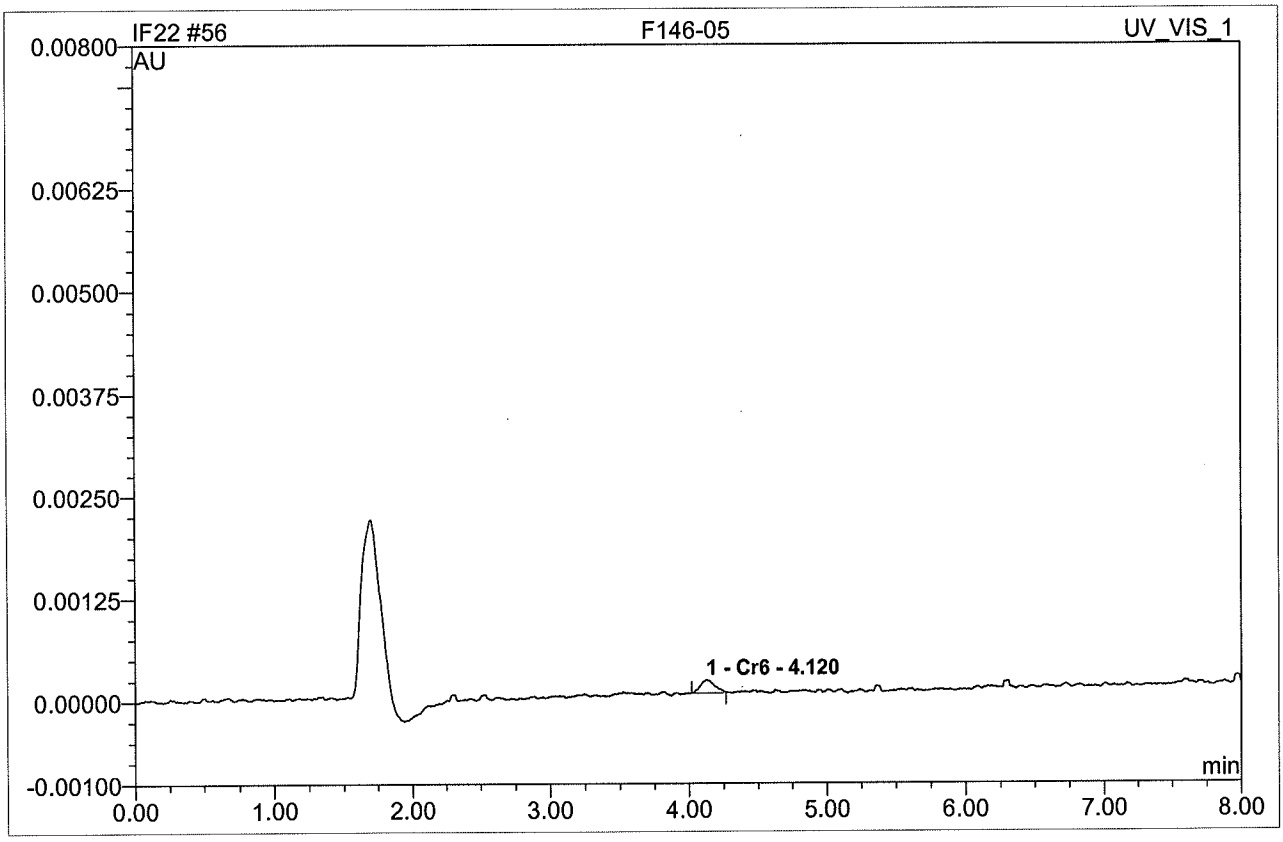
Sample Name:	**F146-04**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 16:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 044 F146-05

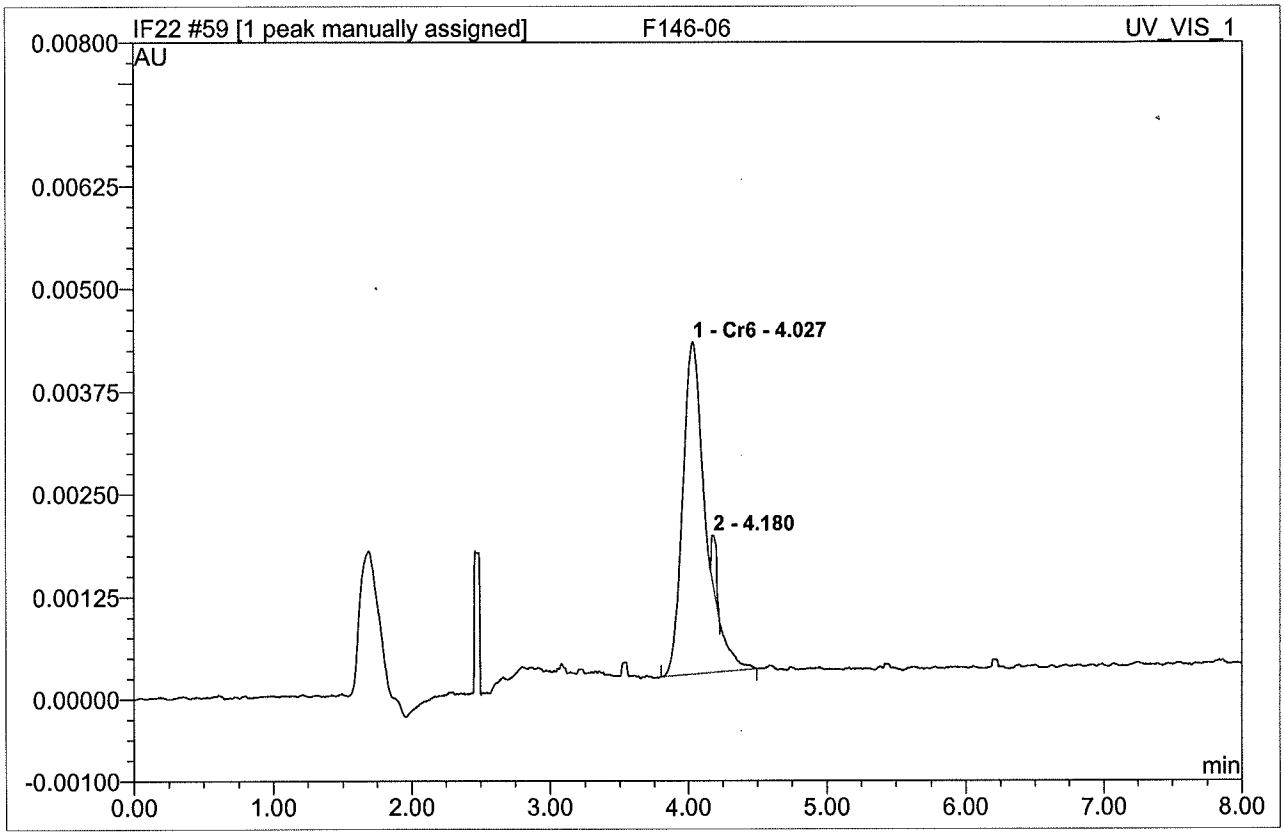
Sample Name:	**F146-05**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 17:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.12	Cr6	0.0001590	0.0000191	100.00	0.195	BMB
Total:			0.000	0.000	100.00	0.195	

IF22 047 F146-06

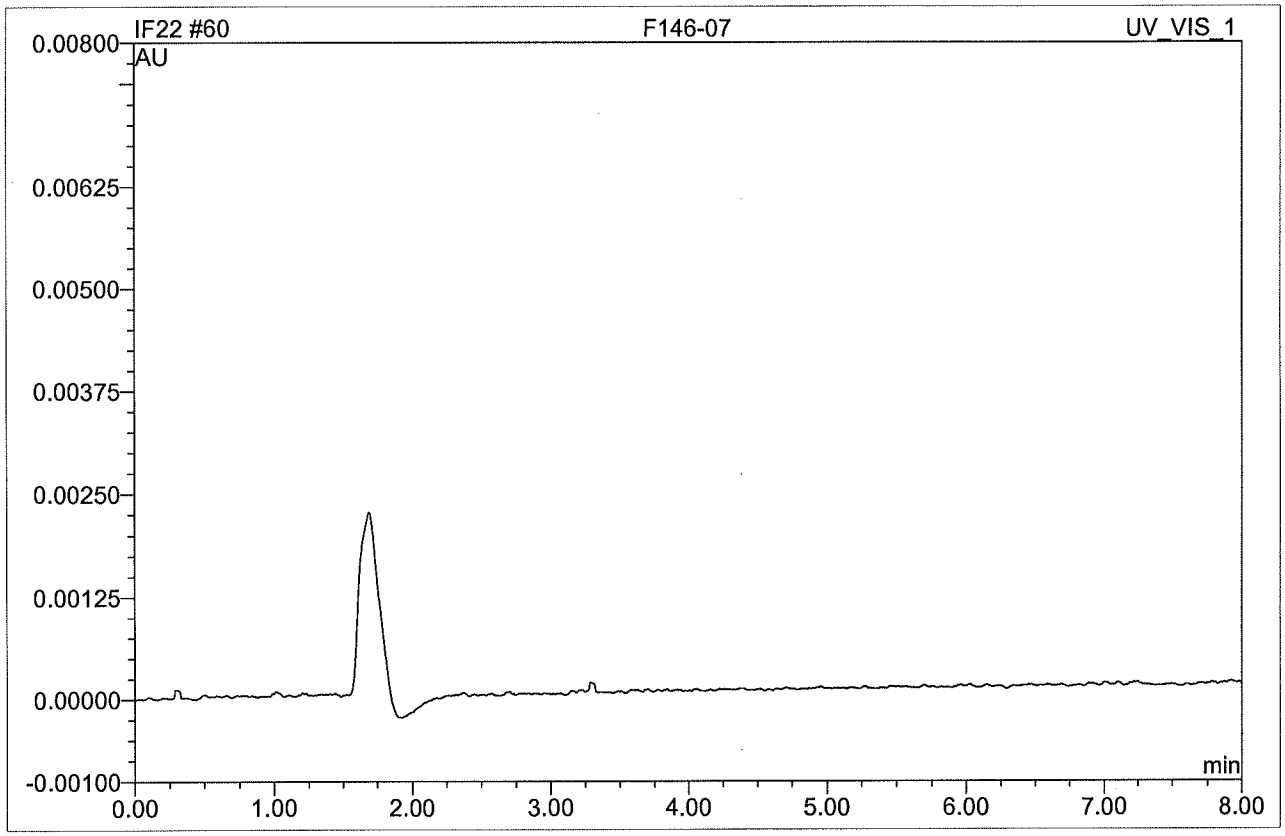
Sample Name:	**F146-06**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 17:43**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.03	Cr6	0.0040490	0.0007855	96.61	7.705	BMB^
2	4.18	n.a.	0.0006360	0.0000275	3.39	n.a.	Rd
Total:			0.005	0.001	100.00	7.705	

IF22 048 F146-07

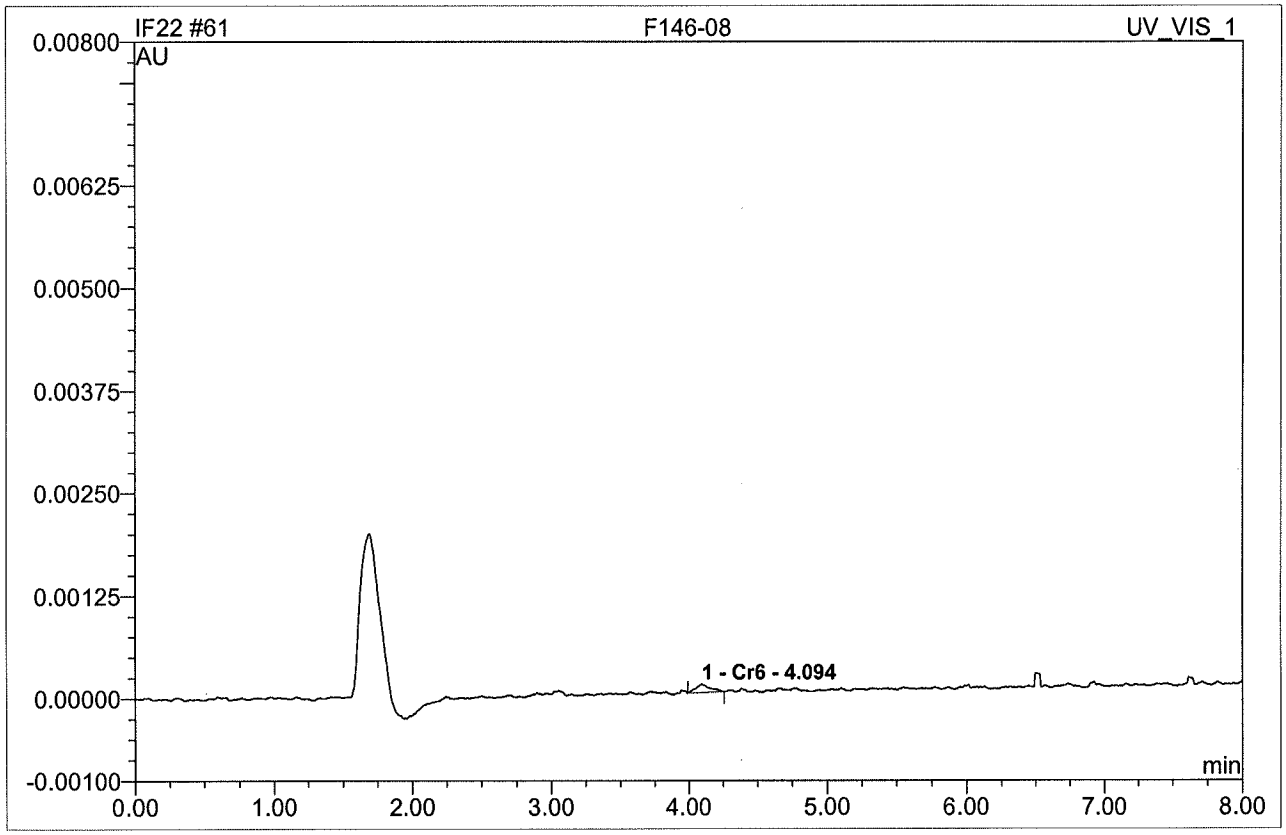
Sample Name:	**F146-07**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 17:54**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 049 F146-08

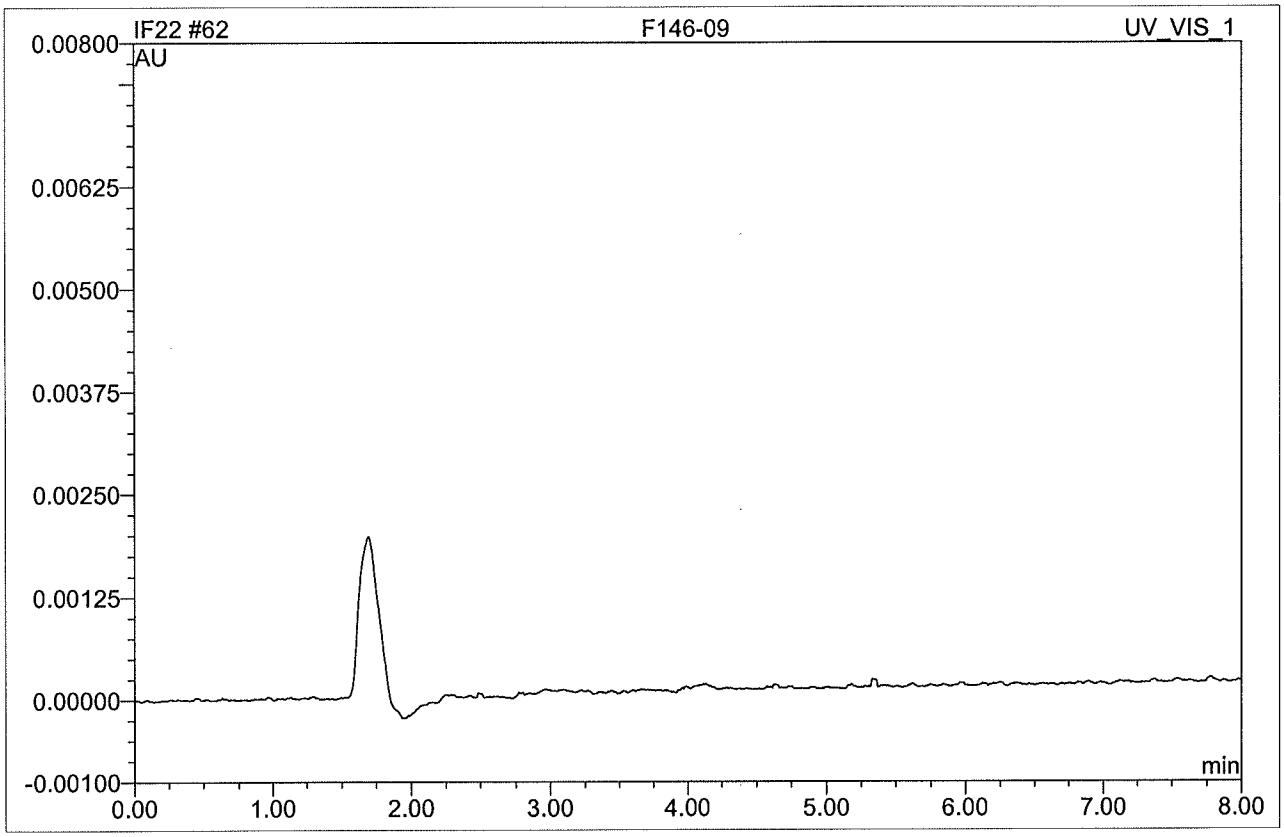
Sample Name:	**F146-08**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 18:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.09	Cr6	0.0001020	0.0000123	100.00	0.128	BMB
Total:			0.000	0.000	100.00	0.128	

IF22 050 F146-09

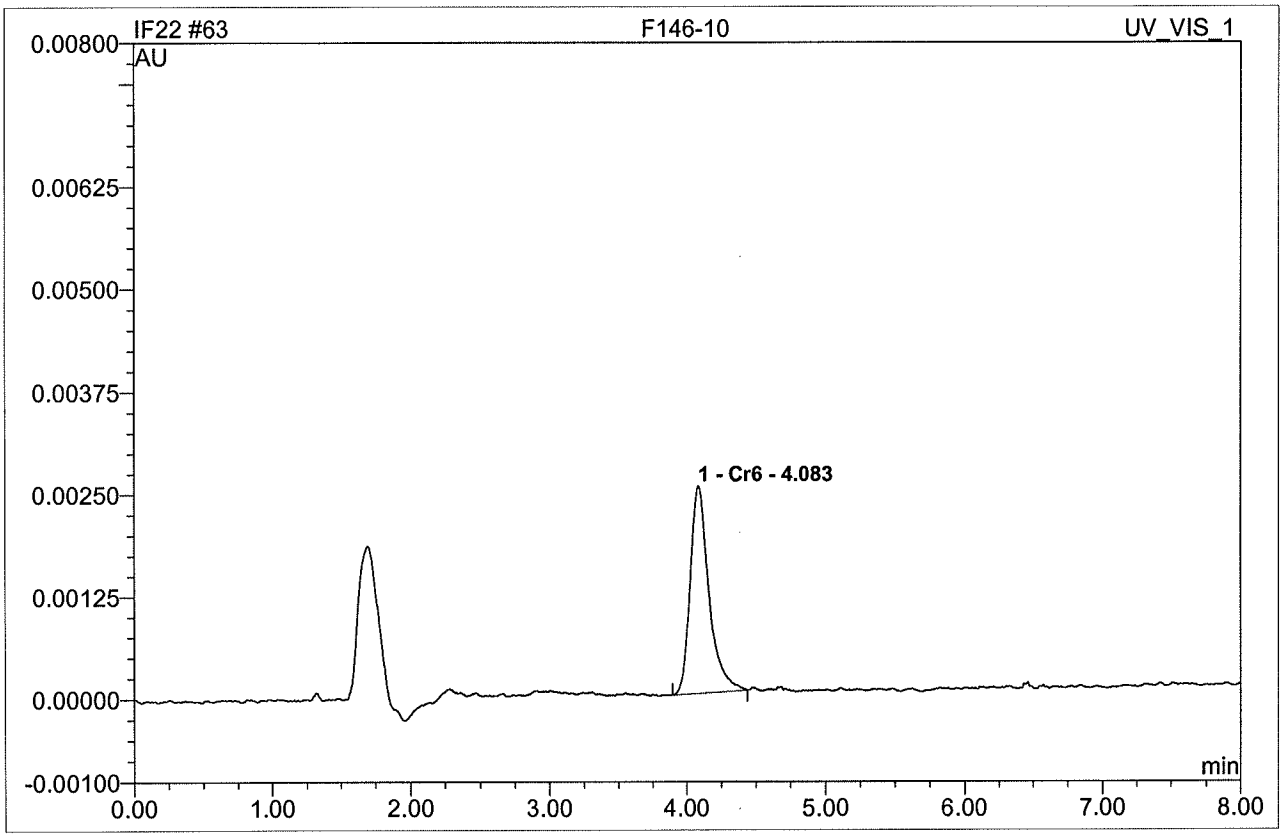
Sample Name:	**F146-09**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 18:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 051 F146-10

Sample Name:	**F146-10**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 18:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.08	Cr6	0.0025350	0.0004000	100.00	3.928	BMB
Total:			0.003	0.000	100.00	3.928	

QC SUMMARIES

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F146
METHOD : E218.6

MATRIX : WATER % MOISTURE: NA
DILUTION FACTOR: 1 1 1
SAMPLE ID : MBLK1W LCS1W LCD1W
LAB SAMPLE ID : HCF013WB HCF013WL HCF013WC
LAB FILE ID : IF22035 IF22036 IF22037
DATE PREPARED : NA NA NA
DATE ANALYZED : 06/22/2215:35 06/22/2215:46 06/22/2215:56
PREP BATCH : HCF013W HCF013W HCF013W
CALIBRATION REF: IF22033 IF22033 IF22033

ACCESSION:

PARAMETERS	MBResult (ug/L)	SpkAmt (ug/L)	LCSResult (ug/L)	LCSRec (%)	SpikeAmt (ug/L)	LCDResult (ug/L)	LCDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	2.00	1.96	98.0	2.00	2.00	100	2	90-110	20

MB: Method Blank sample LCS: Lab Control Sample LCD: Lab Control Sample Duplicate

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : ARCADIS
PROJECT : PG&E TOPOCK-GMP
BATCH NO. : 22F146
METHOD : E218.6

MATRIX	: WATER		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MW-55-045-Q222	MW-55-045-Q222MS	MW-55-045-Q222MSD
LAB SAMPLE ID	: F146-04	F146-04M	F146-04S
LAB FILE ID	: IF22041	IF22042	IF22043
DATE PREPARED	: NA	NA	NA
DATE ANALYZED	: 06/22/2216:38	06/22/2216:51	06/22/2217:02
PREP BATCH	: HCF013W	HCF013W	HCF013W
CALIBRATION REF	: IF22033	IF22033	IF22033

ACCESSION:

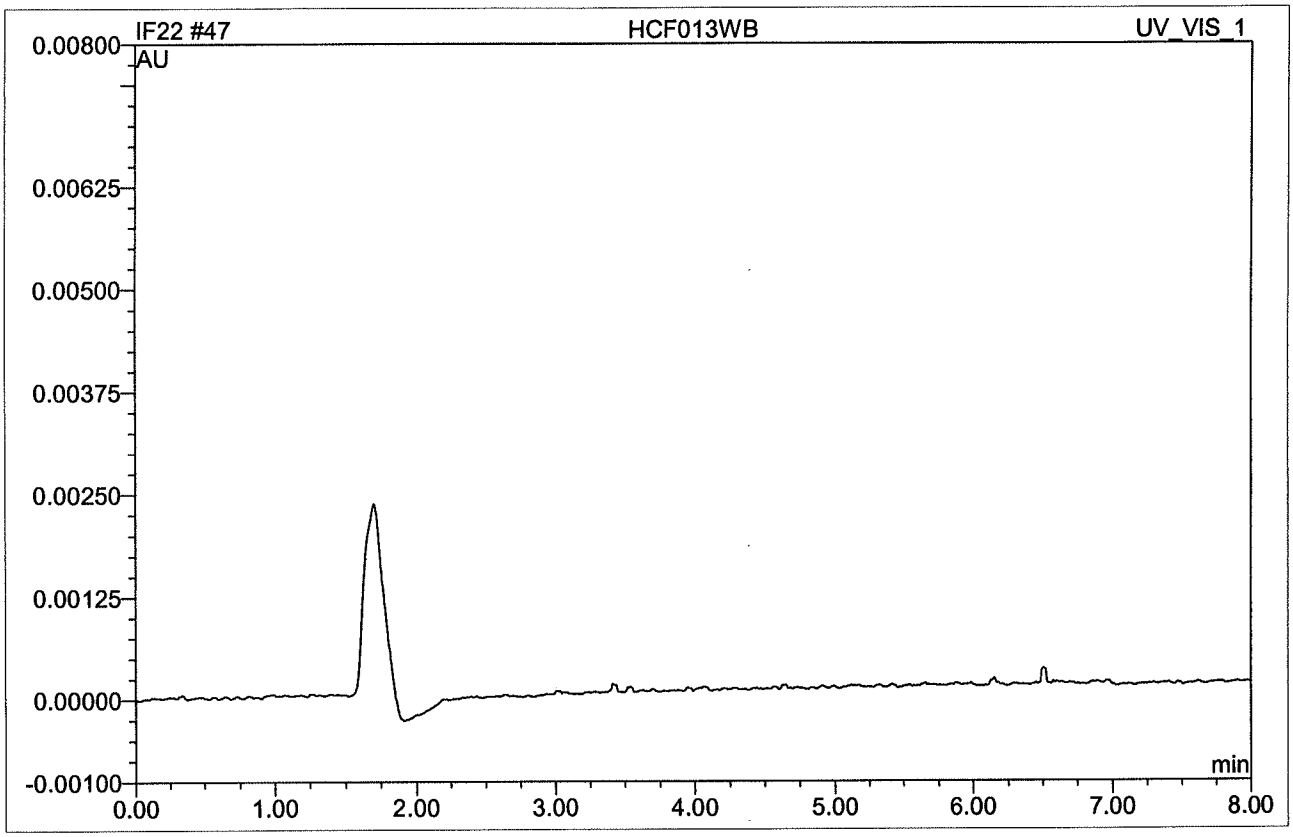
PARAMETERS	PSResult (ug/L)	SpkAmt (ug/L)	MSResult (ug/L)	MSRec (%)	SpikeAmt (ug/L)	MSDResult (ug/L)	MSDRec (%)	RPD (%)	QCLimit (%)	MaxRPD (%)
HEXAVALENT CHROMIUM	ND	1.00	1.09	109	1.00	1.08	108	1	90-110	20

PS: Parent Sample MS: Matrix Spike MSD: Matrix Spike Duplicate

QC DATA

IF22 035 HCF013WB

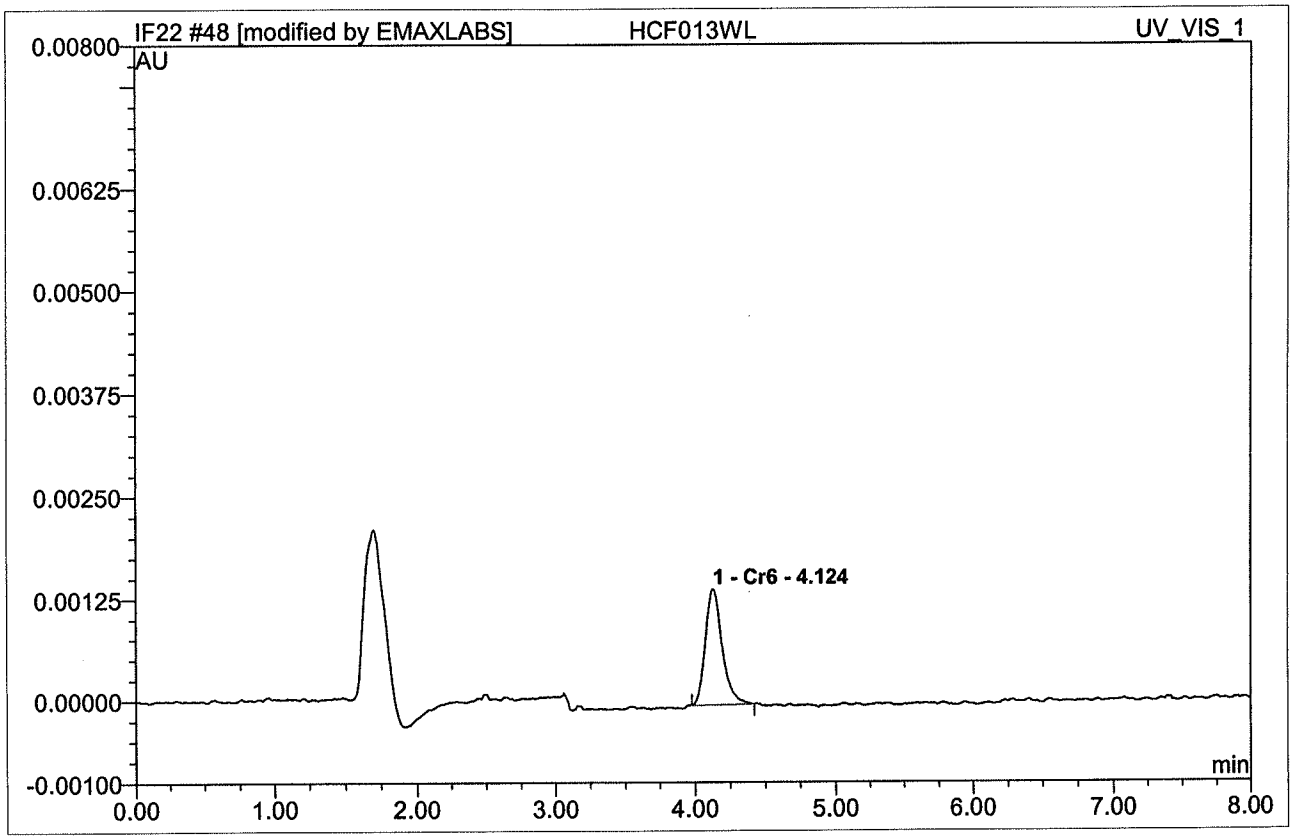
Sample Name:	**HCF013WB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 15:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 036 HCF013WL

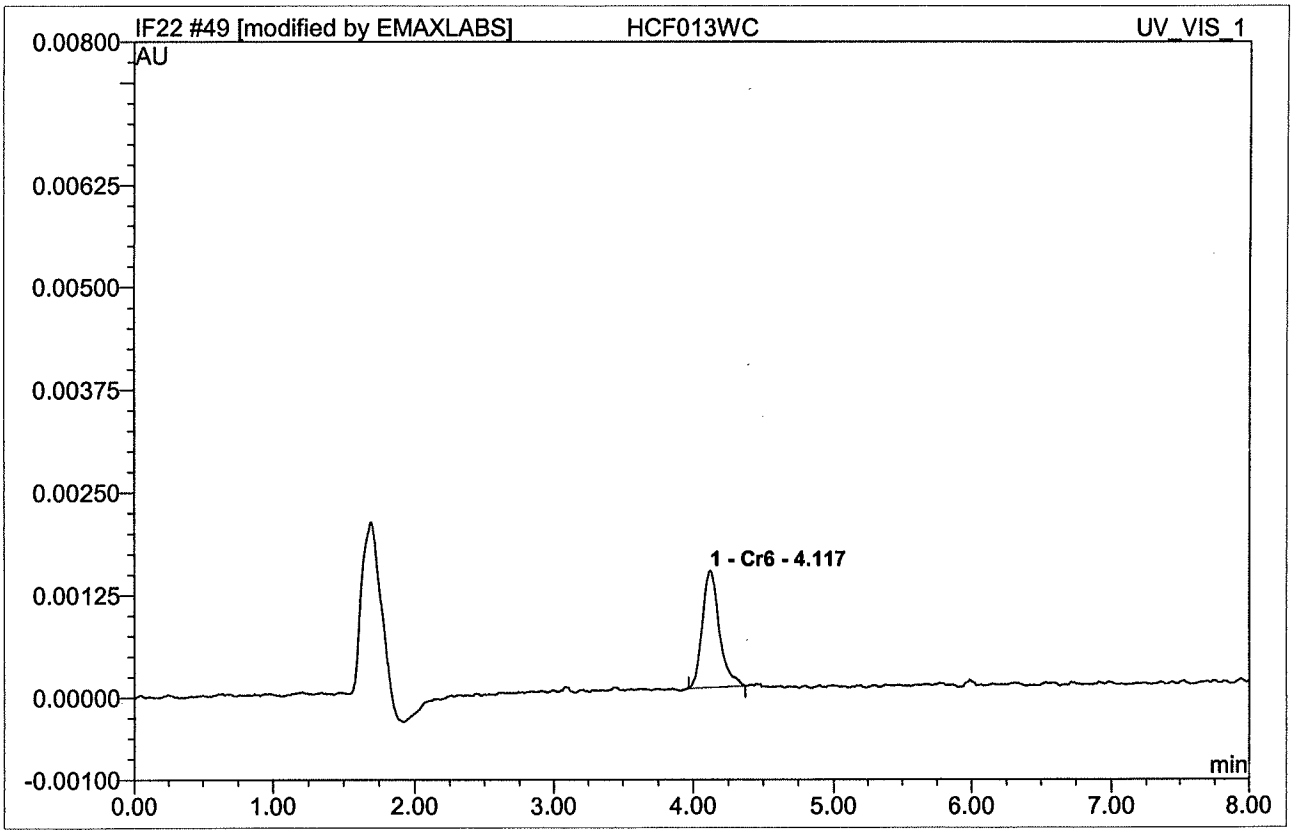
Sample Name:	**HCF013WL**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 15:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.12	Cr6	0.0014260	0.0001994	100.00	1.962	BMB*
Total:			0.001	0.000	100.00	1.962	

IF22 037 HCF013WC

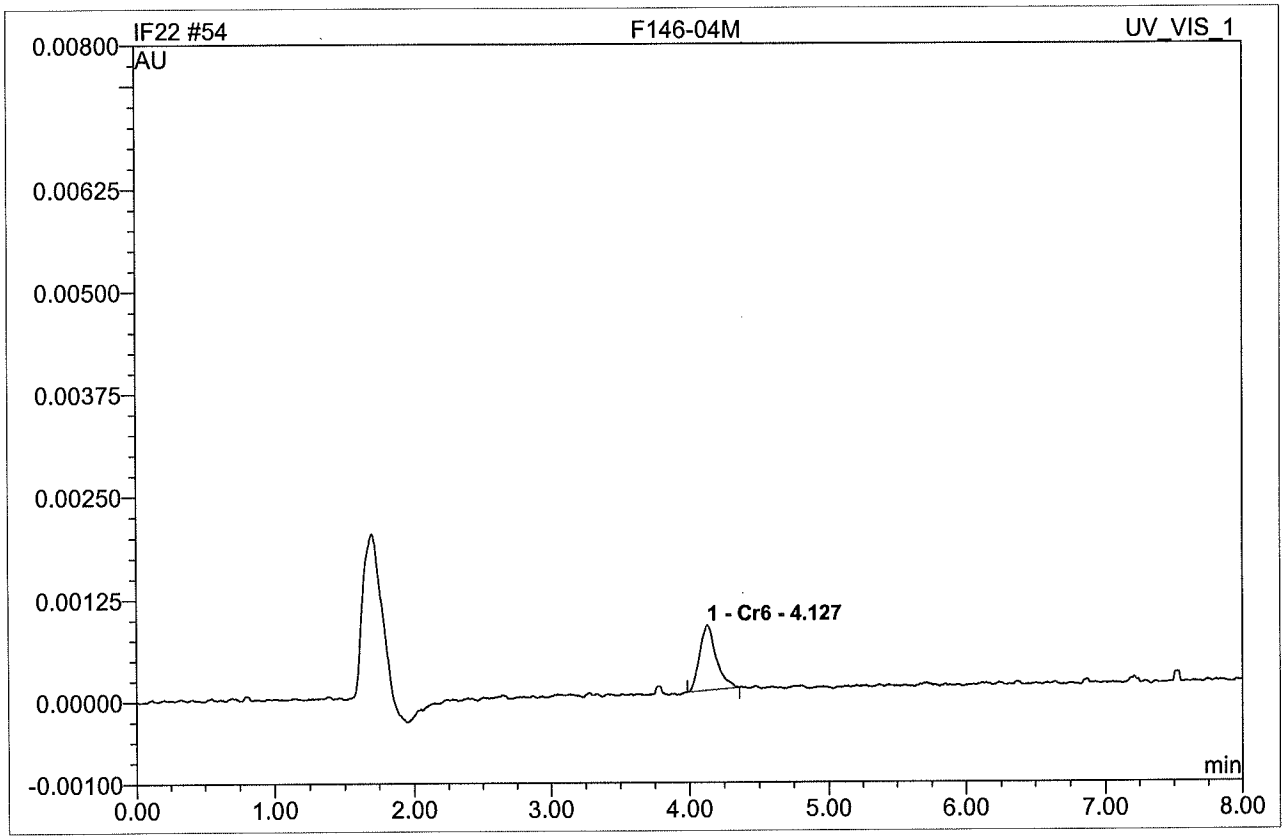
Sample Name:	**HCF013WC**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 15:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.12	Cr6	0.0014240	0.0002027	100.00	1.995	BMB*
Total:			0.001	0.000	100.00	1.995	

IF22 042 F146-04M

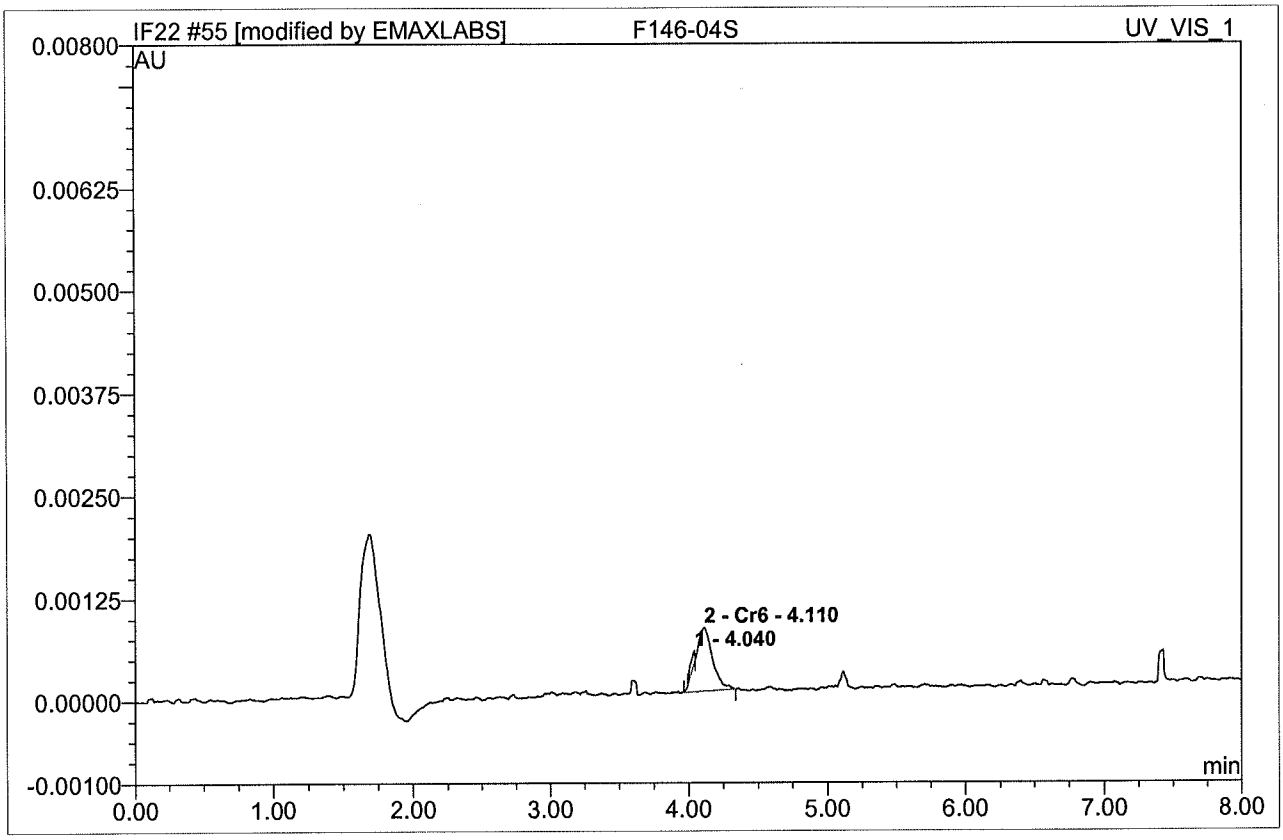
Sample Name:	**F146-04M**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 16:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.13	Cr6	0.0007990	0.0001102	100.00	1.087	BMB
Total:			0.001	0.000	100.00	1.087	

IF22 043 F146-04S

Sample Name:	**F146-04S**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 17:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.04	n.a.	0.0001460	0.0000066	5.71	n.a.	Ru*
2	4.11	Cr6	0.0007780	0.0001090	94.29	1.076	BMB*
Total:			0.001	0.000	100.00	1.076	

INITIAL CALIBRATION

IC RESULT FORM CalVersion : CR6.F21/IF21(2022)

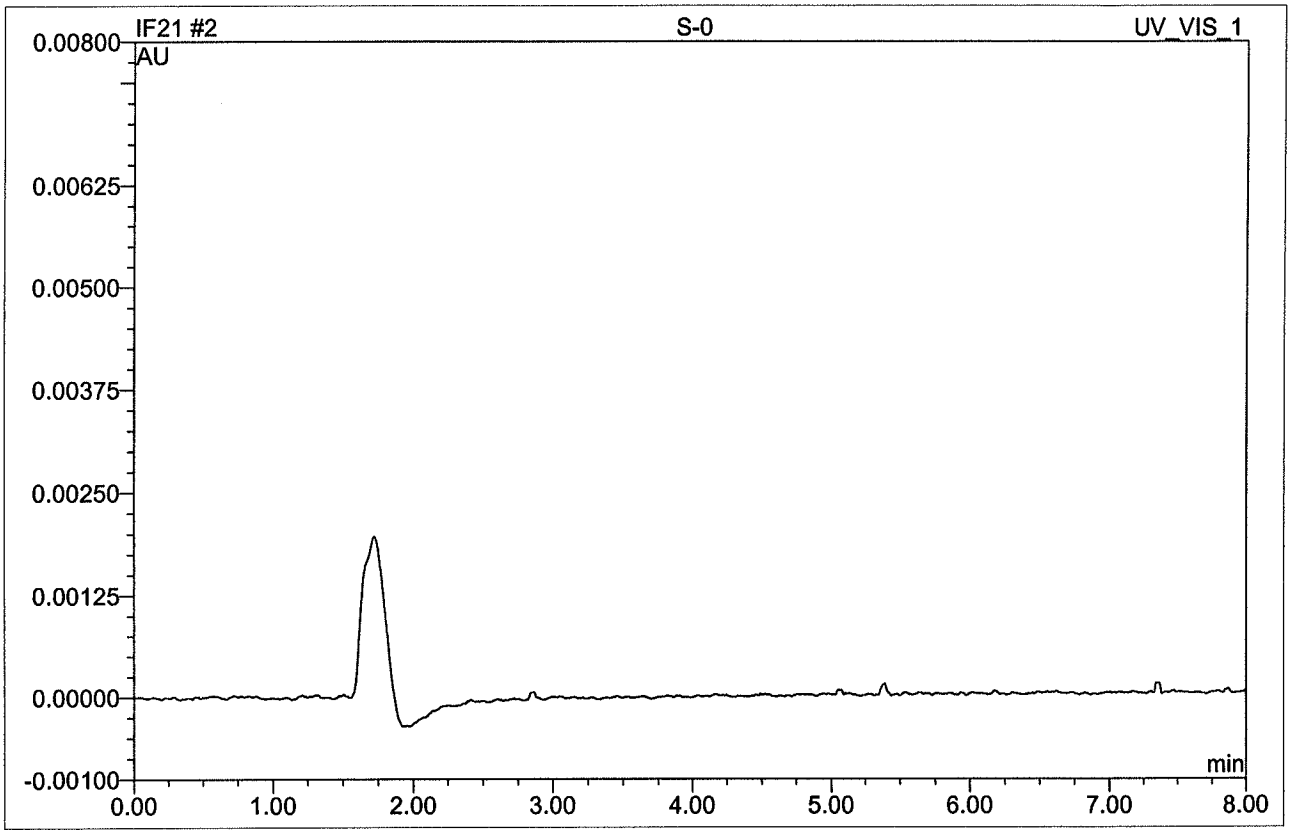
LFID	LSID	SelCmp	Cr6	DateTime	DF
IF21001	IB	C	ND	06/21/2211:27	1
IF21002	S-0	C	ND	06/21/2211:38	1
IF21003	S-1	C	0.202	06/21/2211:48	1
IF21004	S-2	C	0.491	06/21/2211:59	1
IF21005	S-3	C	0.996	06/21/2212:09	1
IF21006	S-4	C	2.002	06/21/2212:19	1
IF21007	S-5	C	5.002	06/21/2212:30	1
IF21008	S-6	C	7.499	06/21/2212:40	1
IF21009	S-7	C	10.000	06/21/2212:51	1
IF21010	ICV	C	100%	06/21/2213:01	1
IF21011	ICB	C	ND	06/21/2213:11	1
IF21012	LOW CCV	C	0.182	06/21/2213:22	1

METHOD: IC59F21
SOLVENT: BUFFER (SP2-05-13-04)

YM 06/23/22

IF21 002 S-0

Sample Name:	**S-0**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 11:38**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



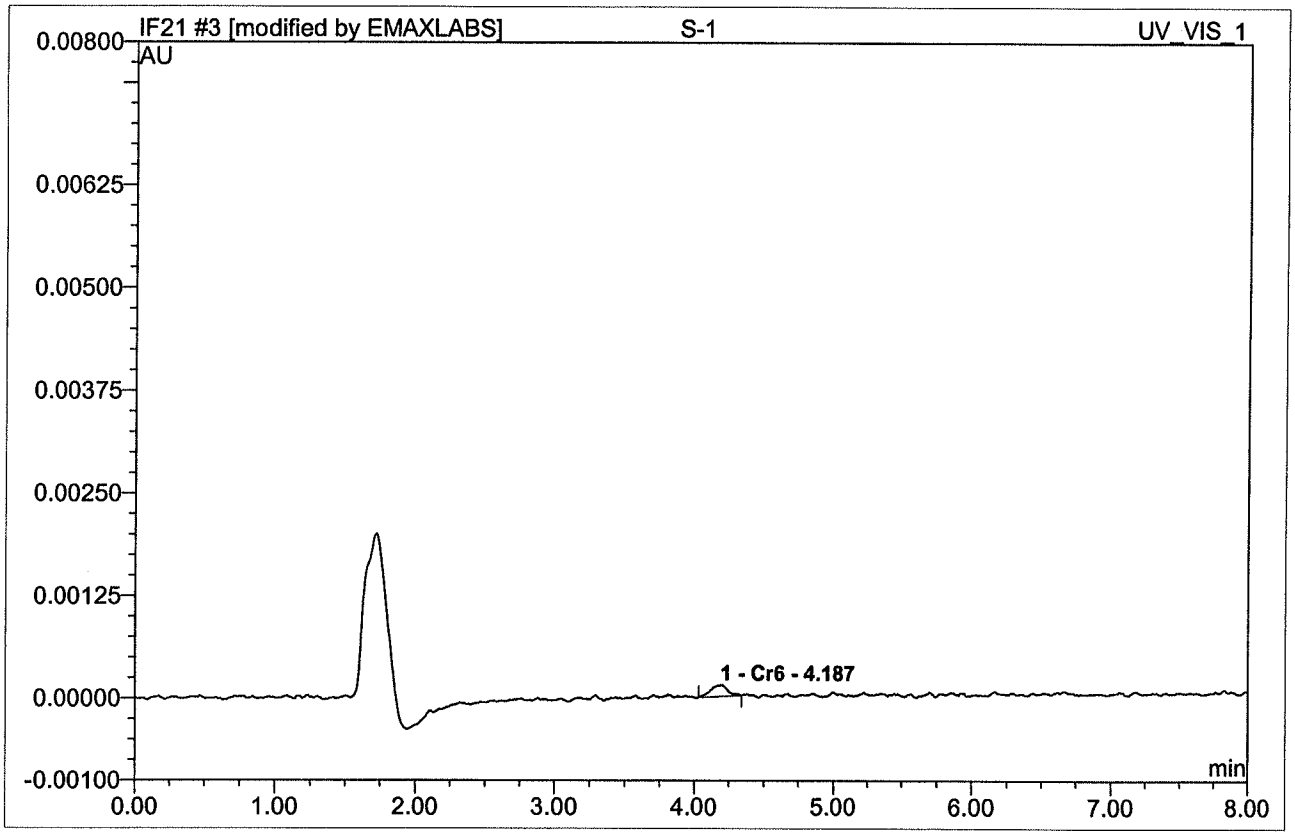
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

YM 06/27/22

IF21 003 S-1

0.2 PPB

Sample Name:	**S-1**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 11:48**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



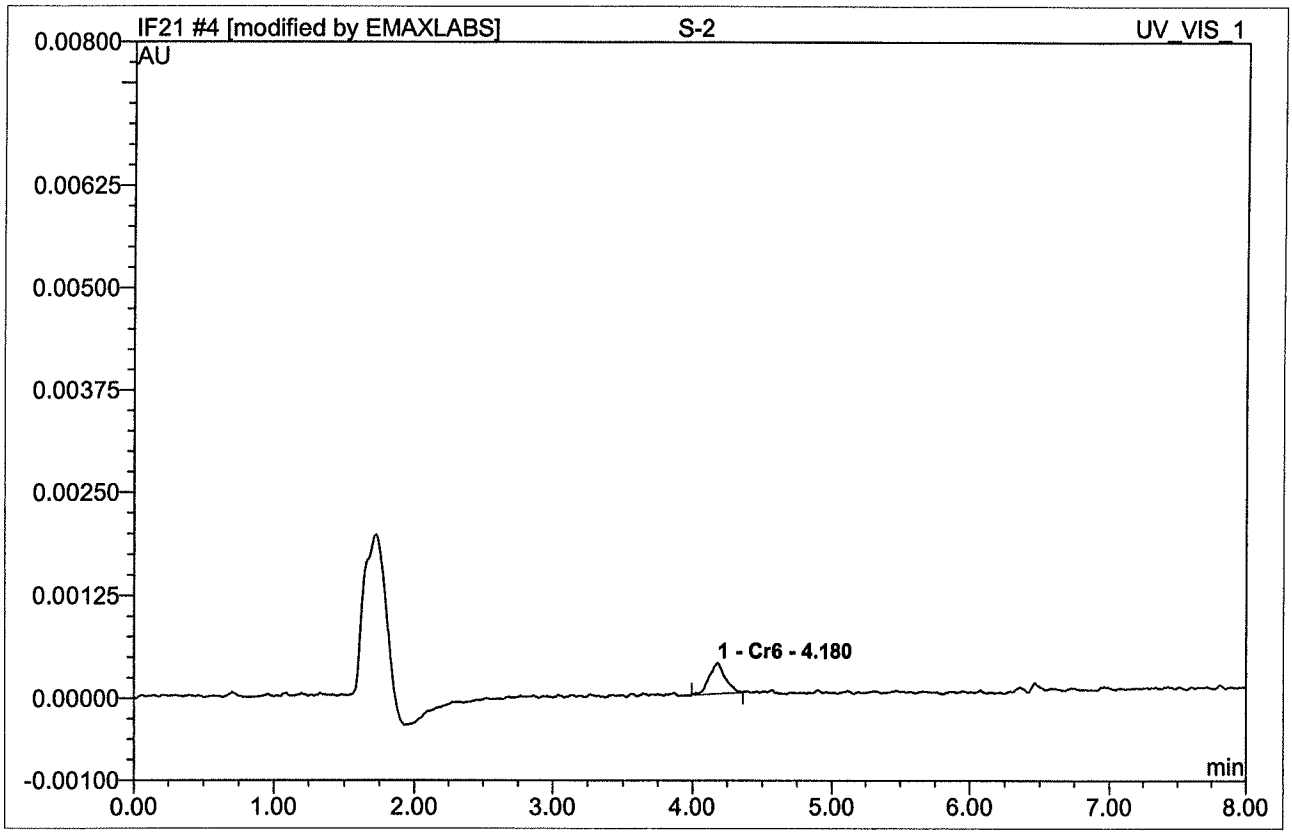
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0001360	0.0000198	100.00	0.202	BMB*
Total:			0.000	0.000	100.00	0.202	

YM 06/27/22

IF21 004 S-2

0.5 PPB

Sample Name:	**S-2**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 11:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



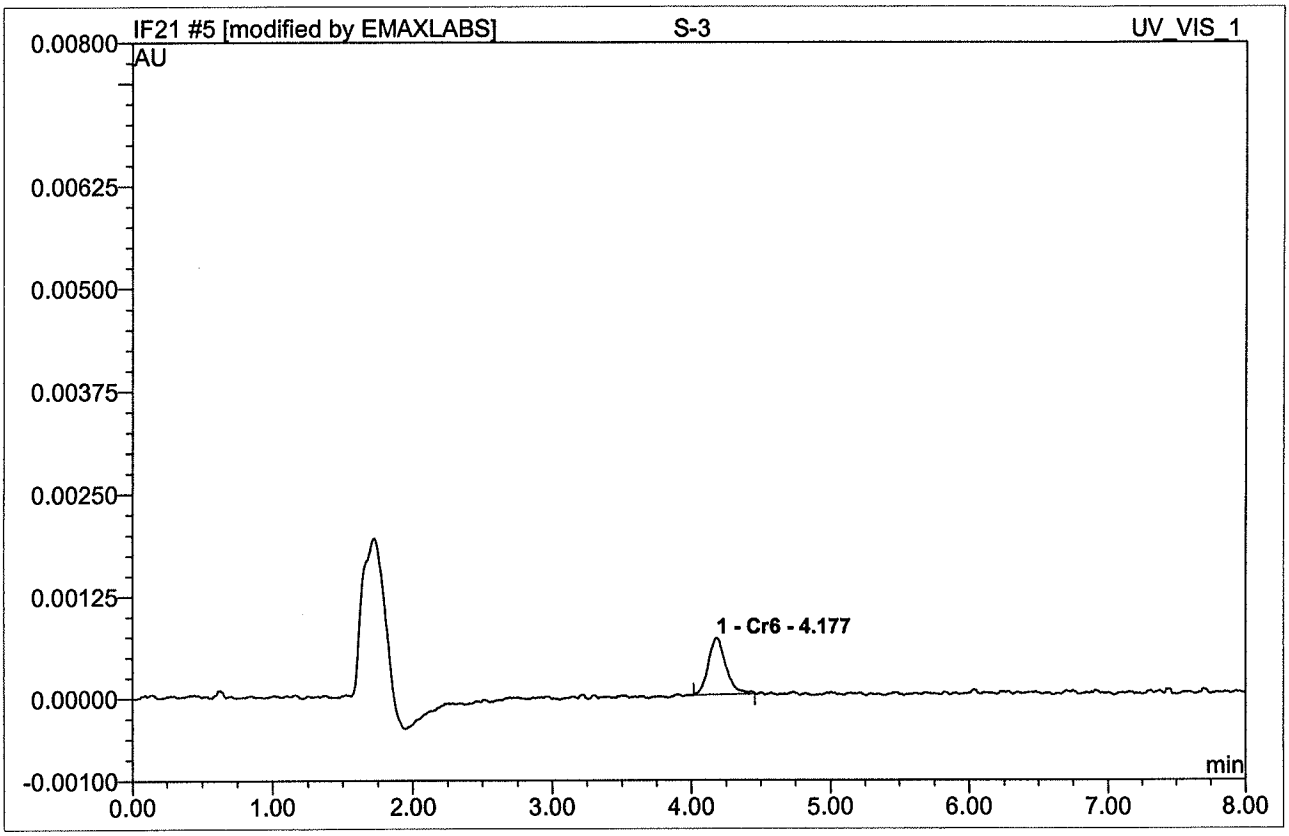
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0003720	0.0000493	100.00	0.491	BMB*
Total:			0.000	0.000	100.00	0.491	

YM 06/27/22

IF21 005 S-3

1.0 PPB

Sample Name:	**S-3**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:09**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



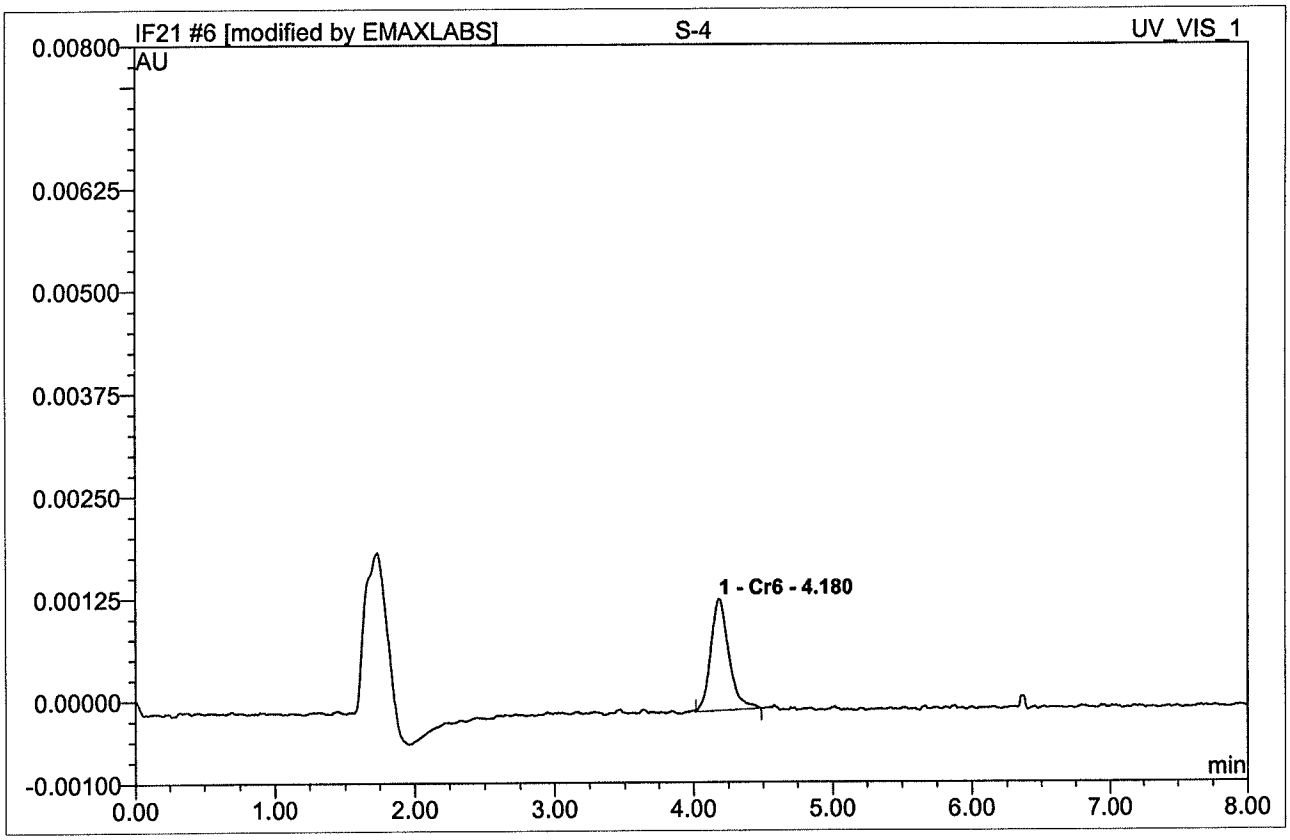
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0006930	0.0001009	100.00	0.996	BMB*
Total:			0.001	0.000	100.00	0.996	

YM 06/27/22

IF21 006 S-4

2.0 PPB

Sample Name:	**S-4**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:19**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



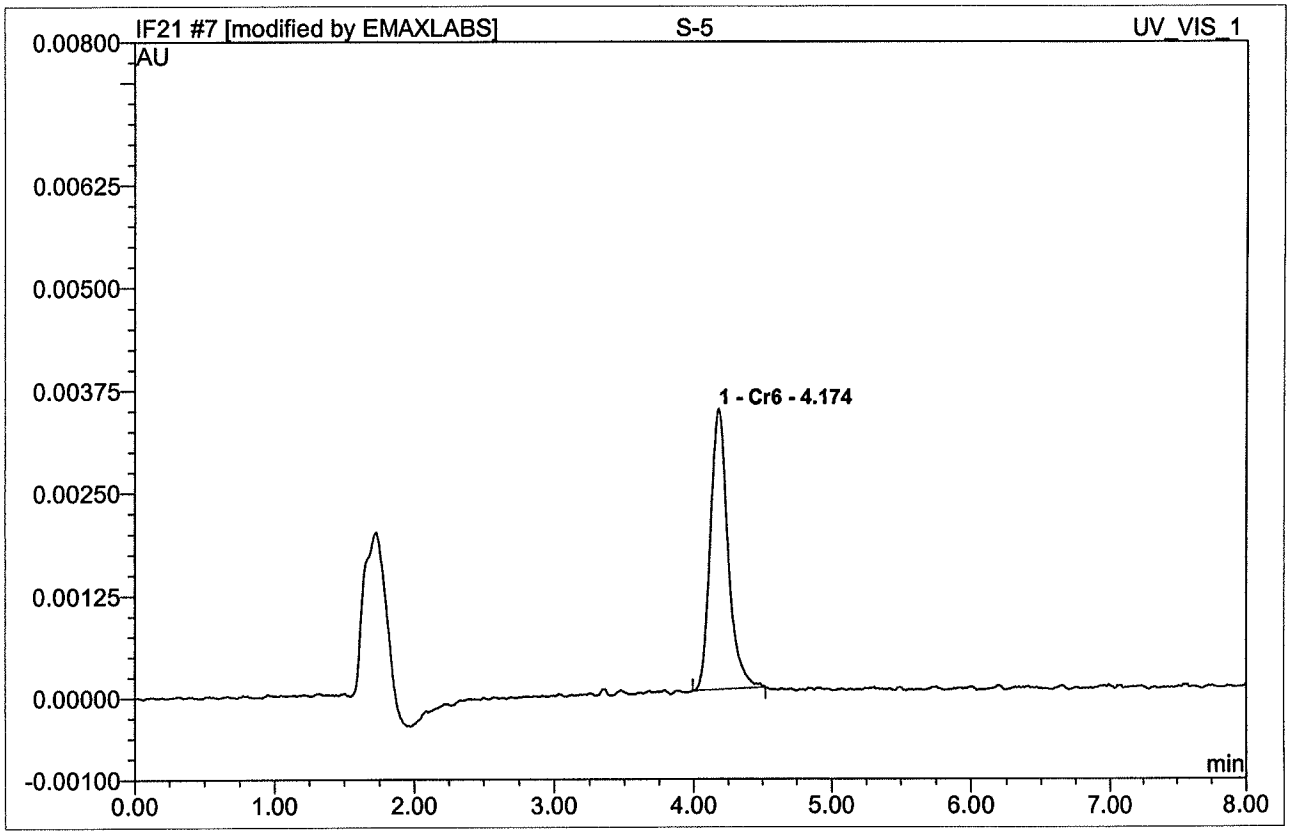
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.18	Cr6	0.0013630	0.0002035	100.00	2.002	BMB*
Total:			0.001	0.000	100.00	2.002	

YM 06/22/22

IF21 007 S-5

5.0 PPB

Sample Name:	**S-5**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



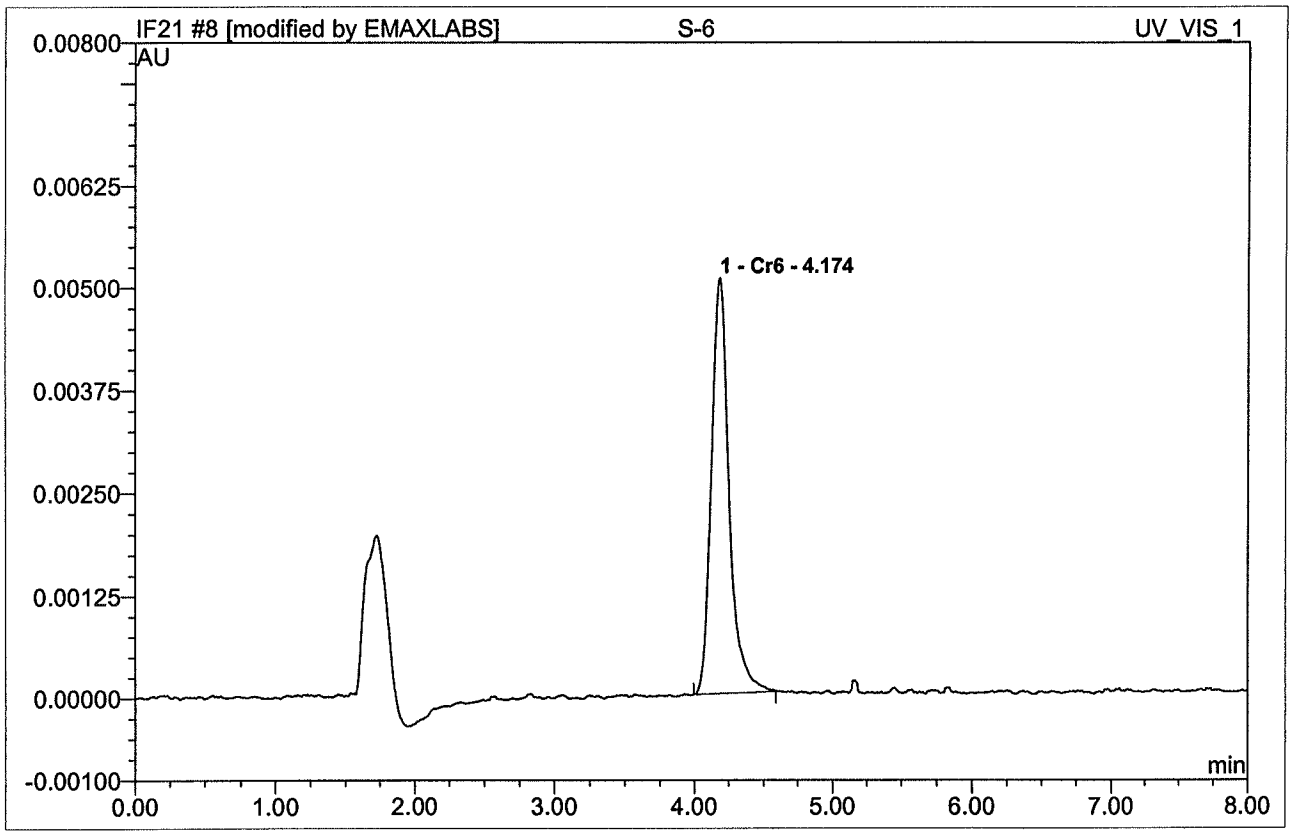
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.17	Cr6	0.0034230	0.0005096	100.00	5.002	BMB*
Total:			0.003	0.001	100.00	5.002	

YM 06/27/22

IF21 008 S-6

7.5 PPB

Sample Name:	**S-6**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:40**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



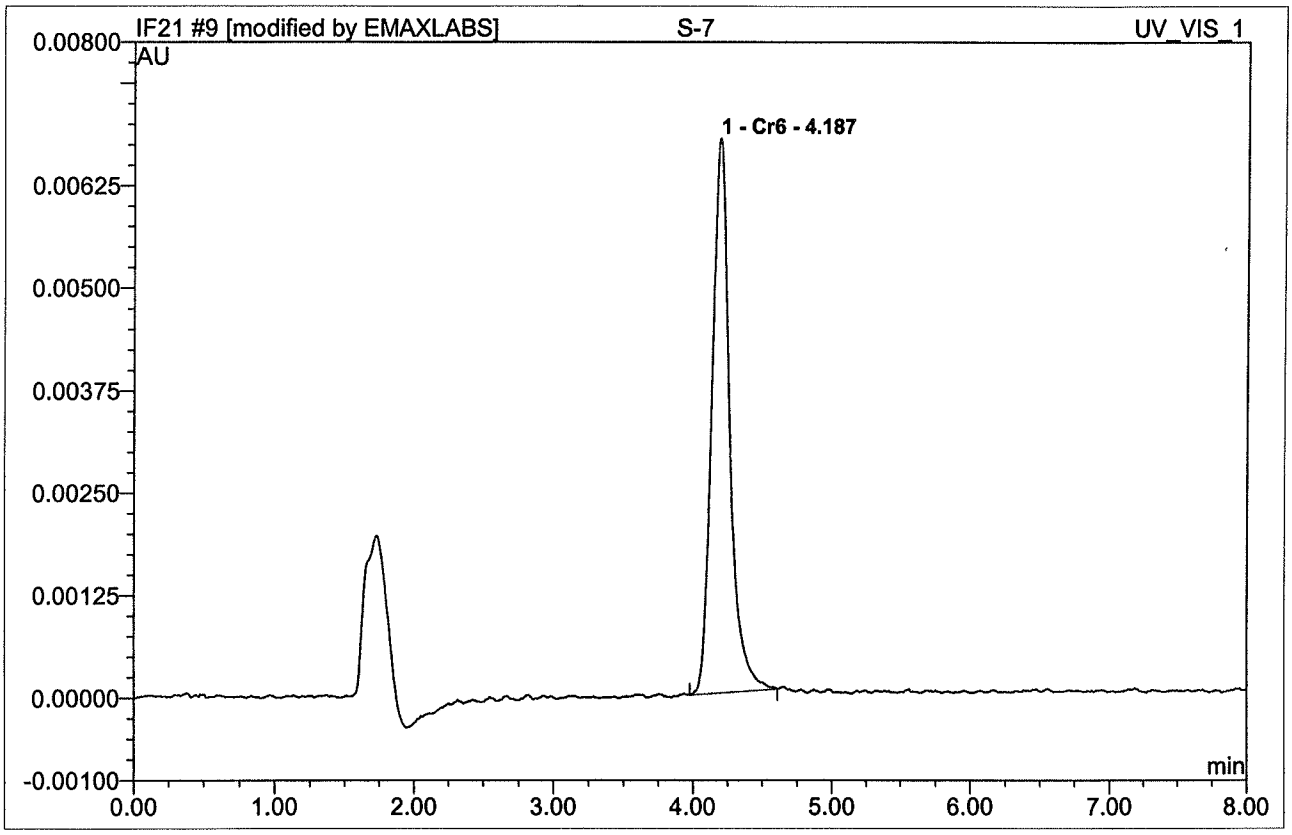
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.17	Cr6	0.0050660	0.0007644	100.00	7.499	BMB*
Total:			0.005	0.001	100.00	7.499	

ym 06/22/22

IF21 009 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 12:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



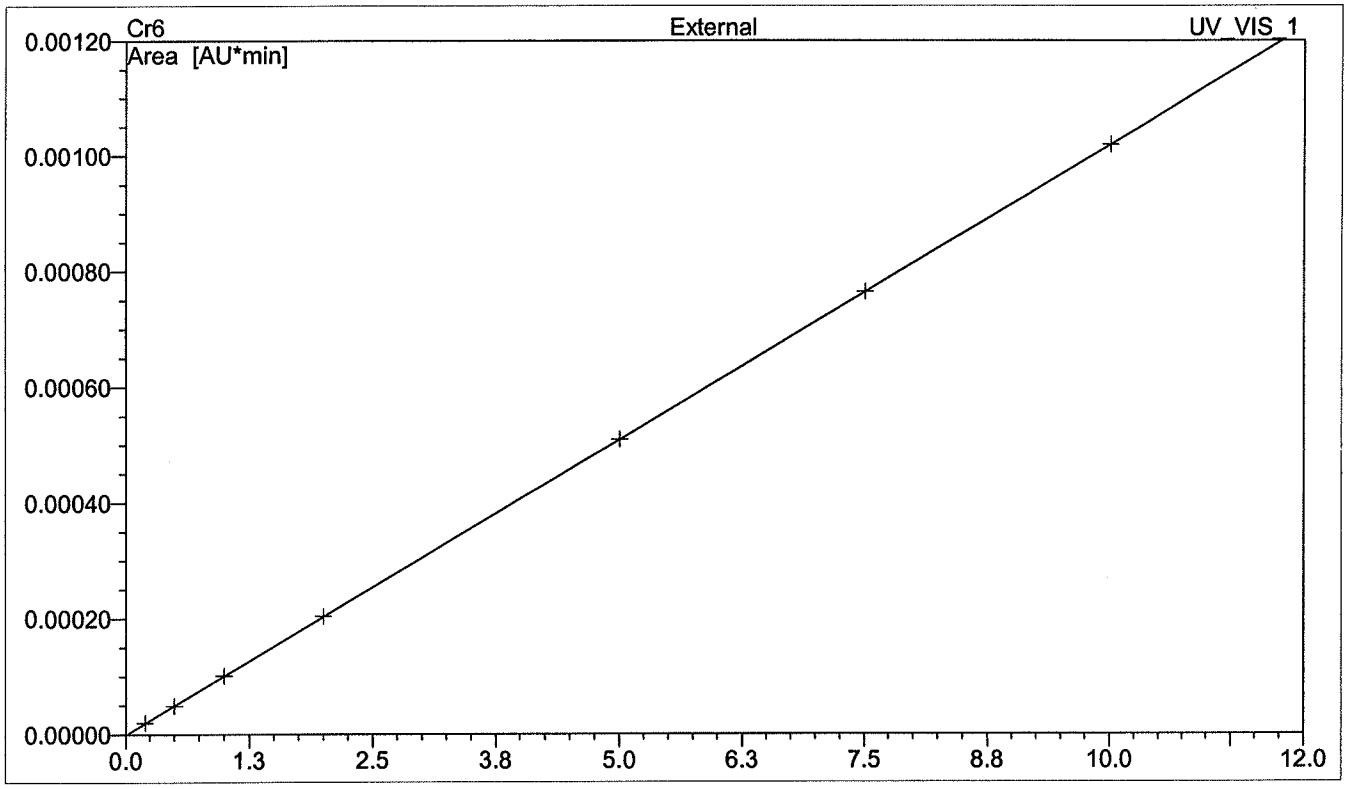
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.19	Cr6	0.0067700	0.0010196	100.00	10.000	BMB*
Total:			0.007	0.001	100.00	10.000	

YM 06/22/22

9 S-7

10 PPB

Sample Name:	**S-7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1.0000**
Recording Time:	**6/21/2022 12:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	R-Square	Offset	Slope	Curve
1	4.19	Cr6	0LOff	7	1.0000	-0.0000008	0.0001020	0.0000
Average:					1.0000	0.0000	0.0001	0.0000

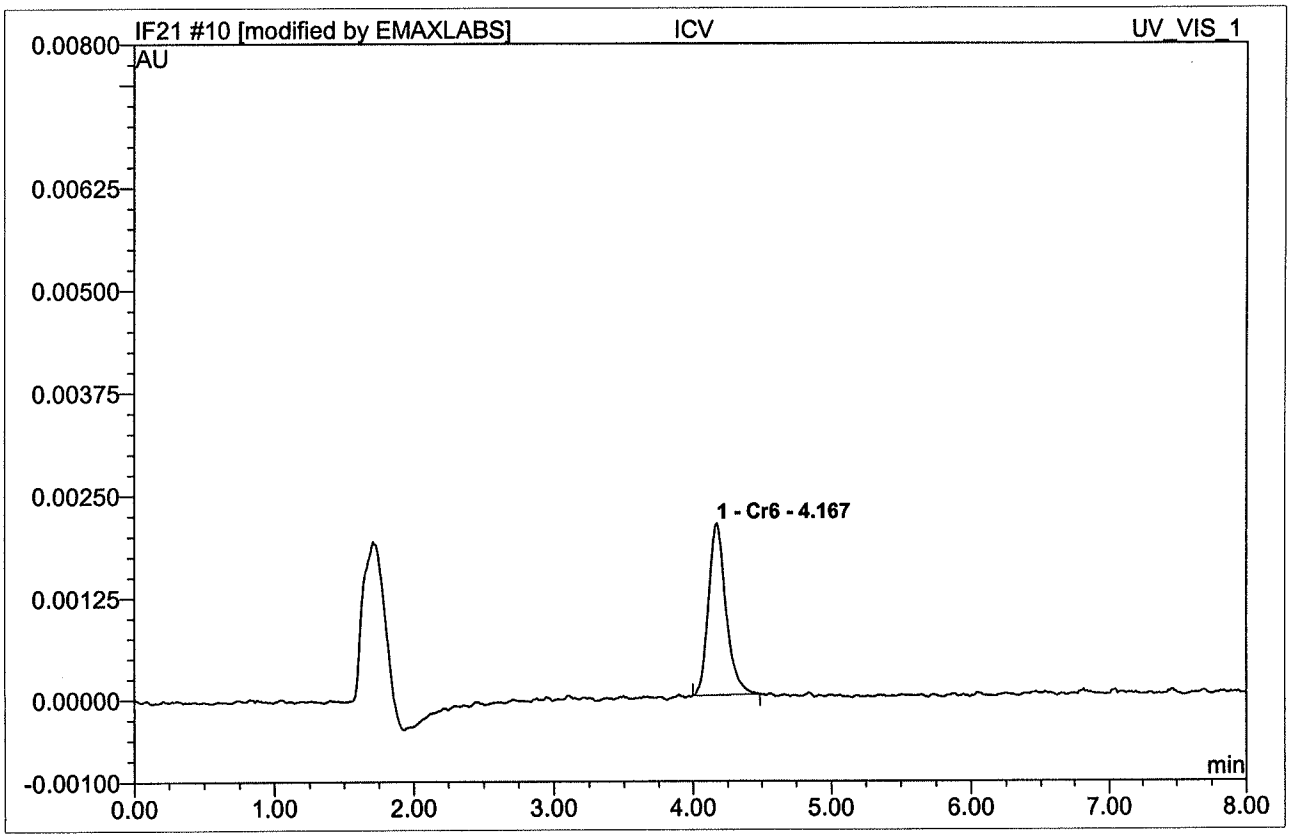
YM 6/27/22

SECOND SOURCE VERIFICATION

IF21 010 ICV

3.0 PPB

Sample Name:	**ICV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 13:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



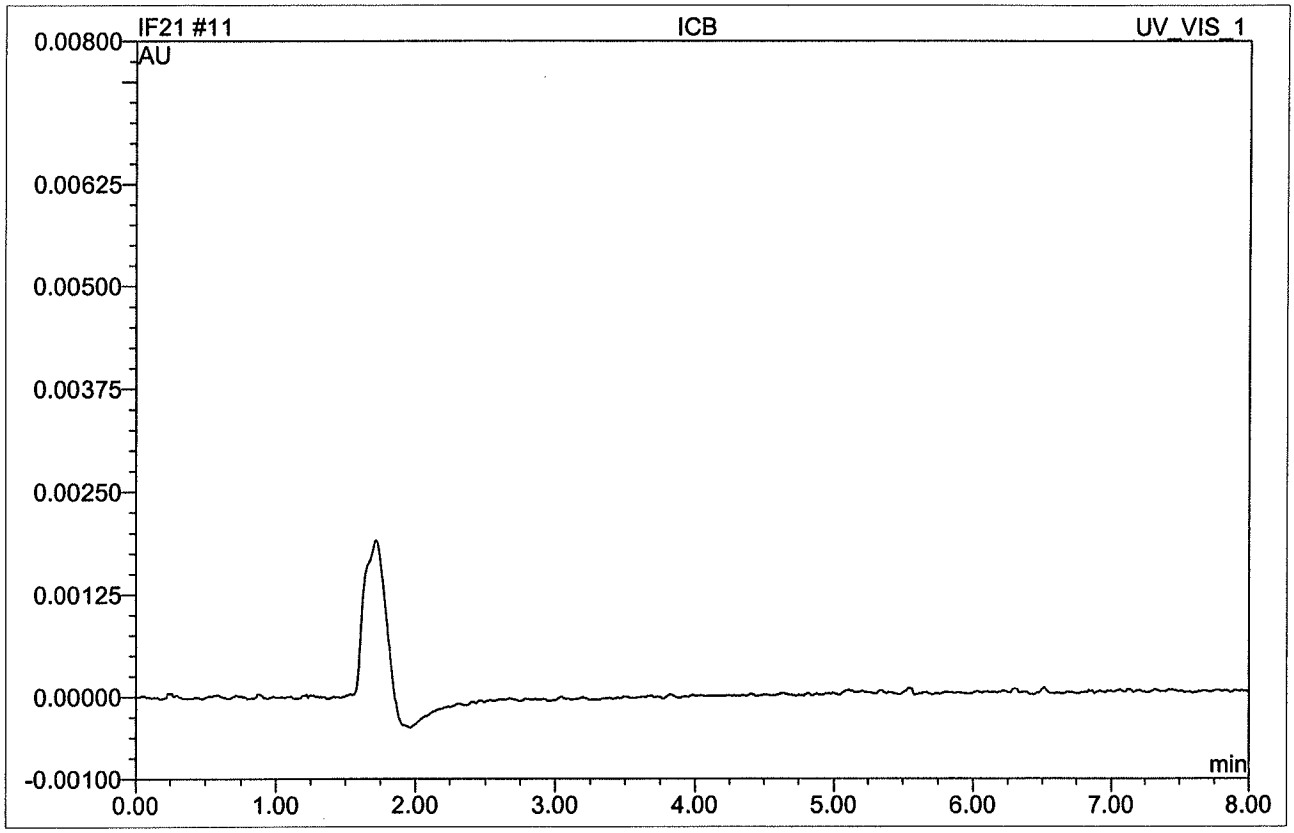
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.17	Cr6	0.0021040	0.0003064	100.00	3.010	BMB*
Total:			0.002	0.000	100.00	3.010	

$$\text{Conc}_{(ppb)} = \frac{\text{Area} - \text{offset}}{\text{slope}}$$

YM 06/22/22

IF21 011 ICB

Sample Name:	**ICB**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 13:11**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



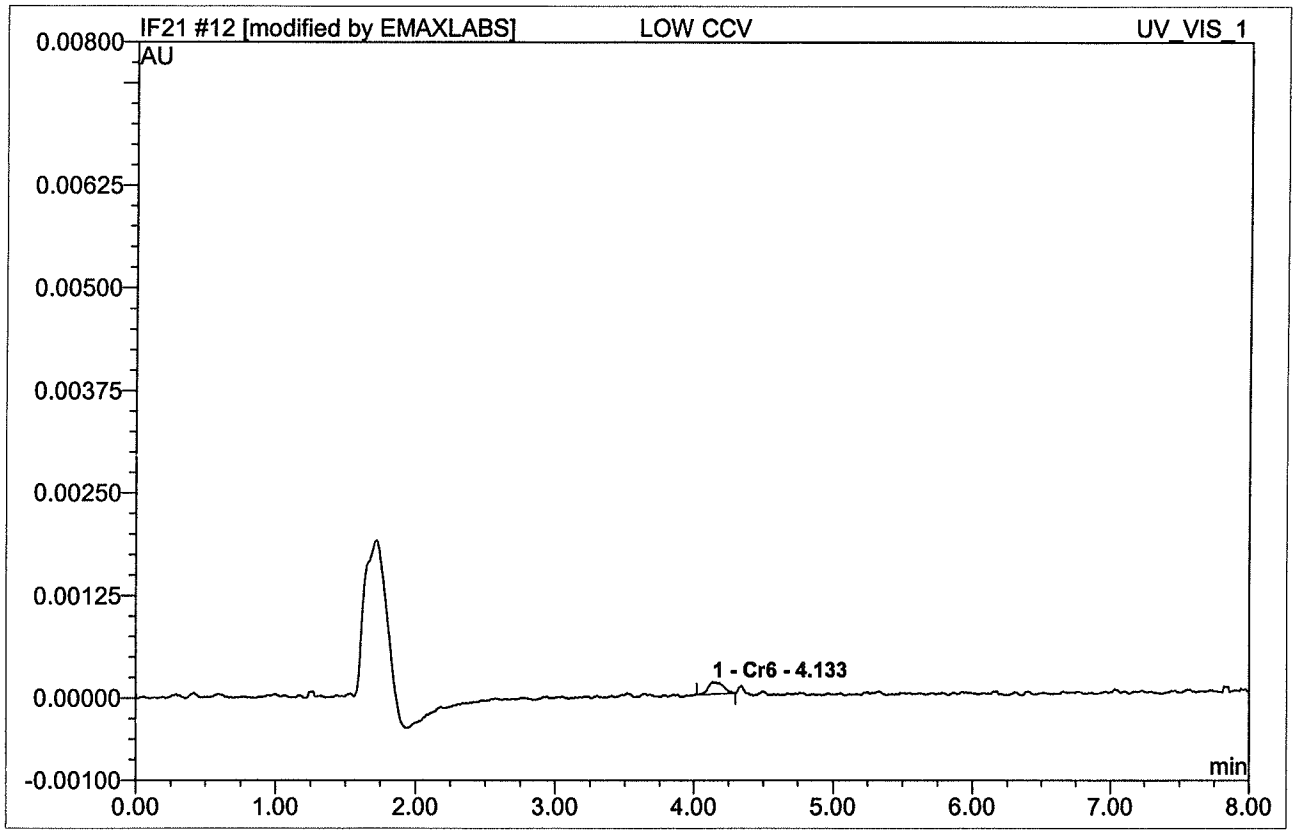
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

YM 06/22/22

IF21 012 LOW CCV

0.2 PPB

Sample Name:	**LOW CCV**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/21/2022 13:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.13	Cr6	0.0001480	0.0000178	100.00	0.182	BMB*
Total:			0.000	0.000	100.00	0.182	

ym 06/22/22

DAILY CALIBRATIONS

Continuing Calibration Summary Form

Client : ARCADIS
Project : PG&E TOPOCK-GMP
SDG : 22F146
Method : E218.6
QuantMethod : IC59F21
InstrumentID: 59
Parameter : HEXAVALENT CHROMIUM

LFID	LSID	DF	Expected	Result	Unit	%Rec	AnalysisDateTime
IF22033	CCV7	1	2	2.037	ug/L	102	06/22/2215:15
IF22045	CCV9	1	2	1.909	ug/L	95	06/22/2217:23
IF22052	CCV11	1	2	1.984	ug/L	99	06/22/2218:35

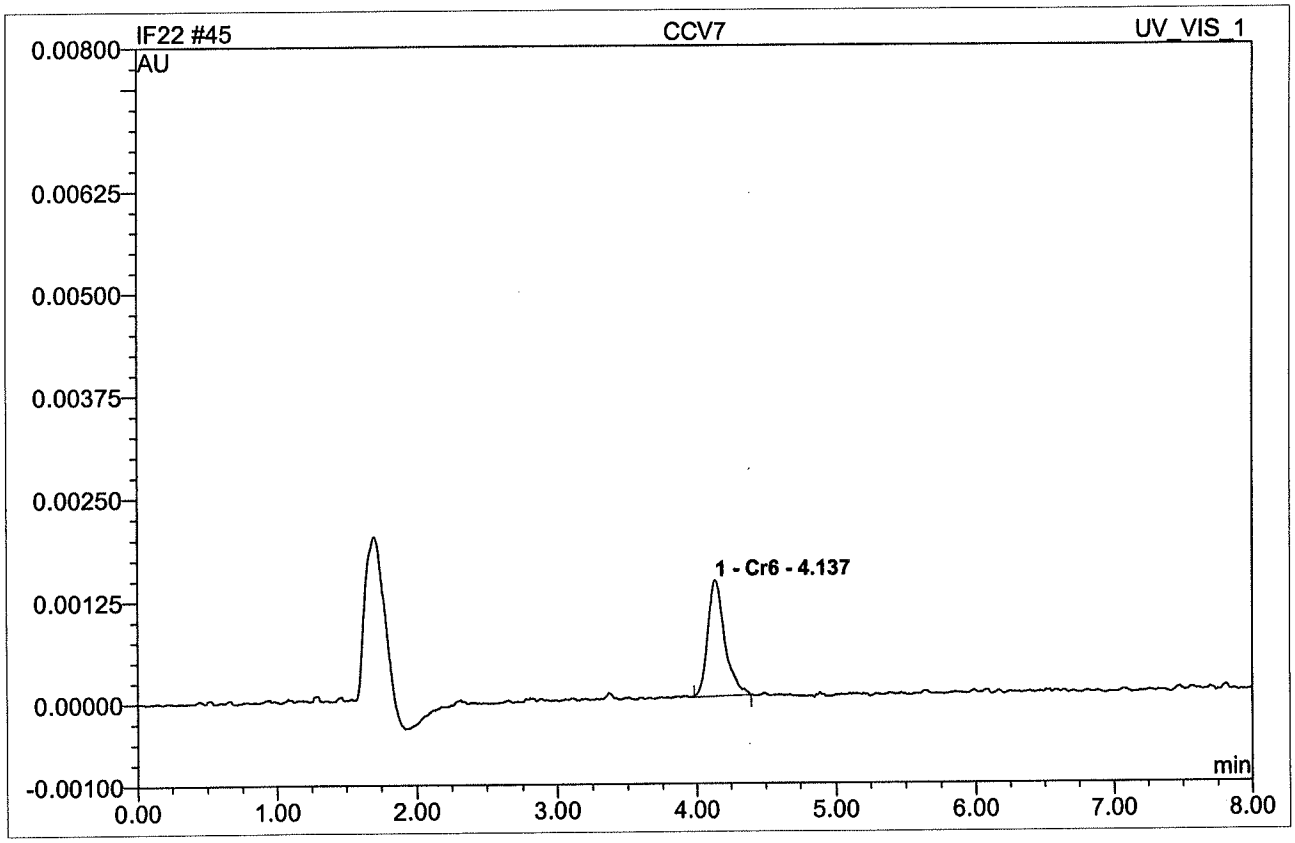
CCV Acceptance Criteria: 95-105%

IC RESULT FORM CalVersion : CR6.F21/IF21(2022)

LFID	LSID	SelCmp	Cr6	DateTime	DF
IF22001	CCV1	C	98%	06/22/2209:30	1
IF22002	CCB1	C	ND	06/22/2209:40	1
IF22003	HCF011WB	C	ND	06/22/2209:51	1
IF22004	HCF011WL	C	1.948	06/22/2210:01	1
IF22005	HCF011WC	C	1.932	06/22/2210:12	1
IF22006	F145-01	C	ND	06/22/2210:22	1
IF22007	F145-02	C	ND	06/22/2210:32	1
IF22008	F145-03	C	0.125	06/22/2210:43	1
IF22009	F145-04	C	ND	06/22/2210:53	1
IF22010	F145-04M	C	ND	06/22/2211:06	1
IF22011	F145-04S	C	ND	06/22/2211:24	1
IF22012	F145-05	C	0.117	06/22/2211:34	1
IF22013	CCV3	C	104%	06/22/2211:44	1
IF22014	CCB3	C	ND	06/22/2211:55	1
IF22015	F145-04I	C	ND	06/22/2212:06	5
IF22016	F145-04M	C	5.144	06/22/2212:17	5
IF22017	F145-04S	C	5.059	06/22/2212:27	5
IF22018	F145-06	C	ND	06/22/2212:38	1
IF22019	F145-07	C	0.123	06/22/2212:48	1
IF22020	F145-08	C	ND	06/22/2212:58	1
IF22021	F145-08M	C	1.021	06/22/2213:10	1
IF22022	F145-08S	C	1.021	06/22/2213:20	1
IF22023	F145-09	C	ND	06/22/2213:31	1
IF22024	F145-10	C	ND	06/22/2213:41	1
IF22025	CCV5	C	97%	06/22/2213:51	1
IF22026	CCB5	C	ND	06/22/2214:02	1
IF22027	F145-11	C	ND	06/22/2214:12	1
IF22028	F145-12	C	0.293	06/22/2214:23	1
IF22029	F145-13	C	0.115	06/22/2214:33	1
IF22030	F155-01	C	10.220	06/22/2214:43	1
IF22031	F196-01	C	0.878	06/22/2214:54	1
IF22032	F155-01I	C	10.139	06/22/2215:04	2
IF22033	CCV7	C	102%	06/22/2215:15	1
IF22034	CCB7	C	ND	06/22/2215:25	1
IF22035	HCF013WB	C	ND	06/22/2215:35	1
IF22036	HCF013WL	C	1.962	06/22/2215:46	1
IF22037	HCF013WC	C	1.995	06/22/2215:56	1
IF22038	F146-01	C	ND	06/22/2216:07	1
IF22039	F146-02	C	ND	06/22/2216:17	1
IF22040	F146-03	C	ND	06/22/2216:27	1
IF22041	F146-04	C	ND	06/22/2216:38	1
IF22042	F146-04M	C	1.087	06/22/2216:51	1
IF22043	F146-04S	C	1.076	06/22/2217:02	1
IF22044	F146-05	C	0.195	06/22/2217:12	1
IF22045	CCV9	C	95%	06/22/2217:23	1
IF22046	CCB9	C	ND	06/22/2217:33	1
IF22047	F146-06	C	7.705	06/22/2217:43	1
IF22048	F146-07	C	ND	06/22/2217:54	1
IF22049	F146-08	C	0.128	06/22/2218:04	1
IF22050	F146-09	C	ND	06/22/2218:15	1
IF22051	F146-10	C	3.928	06/22/2218:25	1
IF22052	CCV11	C	99%	06/22/2218:35	1
IF22053	CCB11	C	ND	06/22/2218:46	1

IF22 033 CCV7

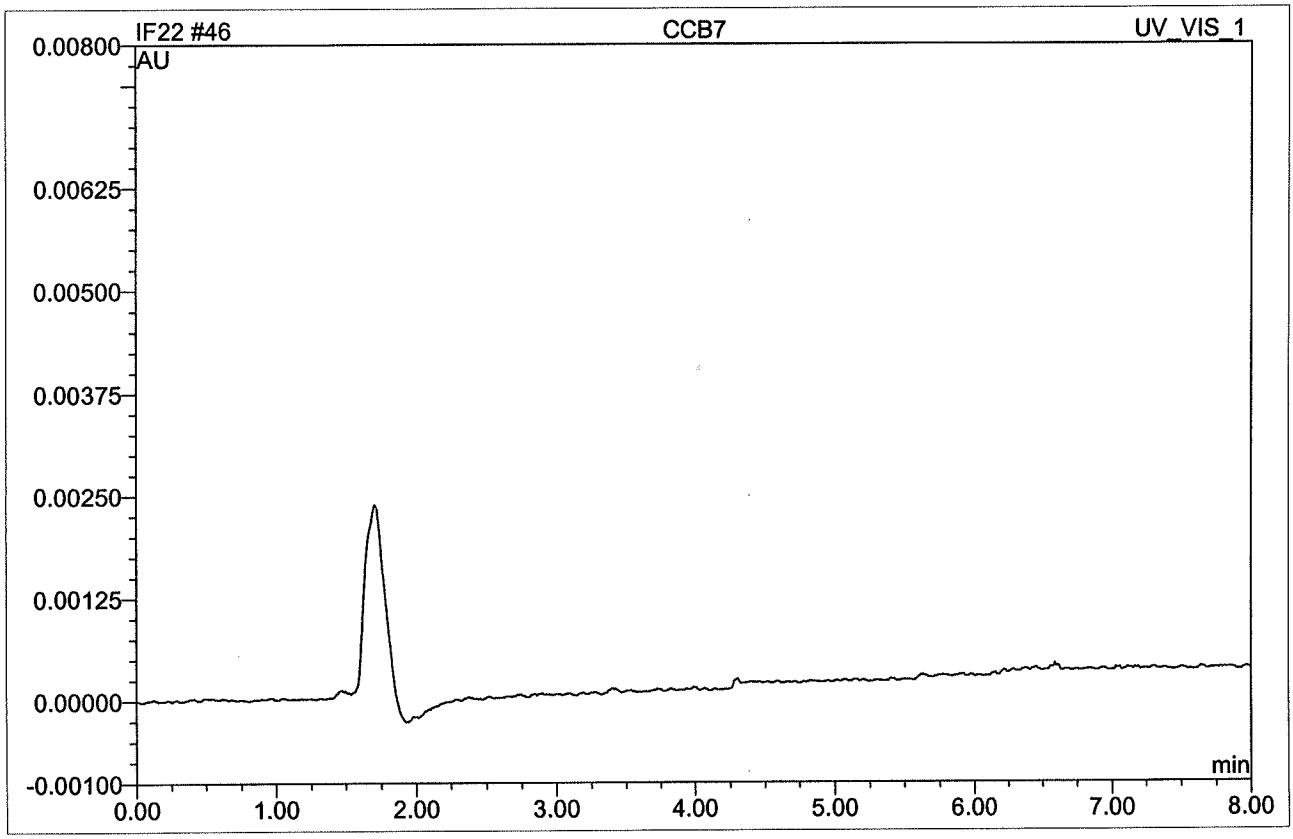
Sample Name:	**CCV7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 15:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.14	Cr6	0.0014220	0.0002070	100.00	2.037	BMB
Total:			0.001	0.000	100.00	2.037	

IF22 034 CCB7

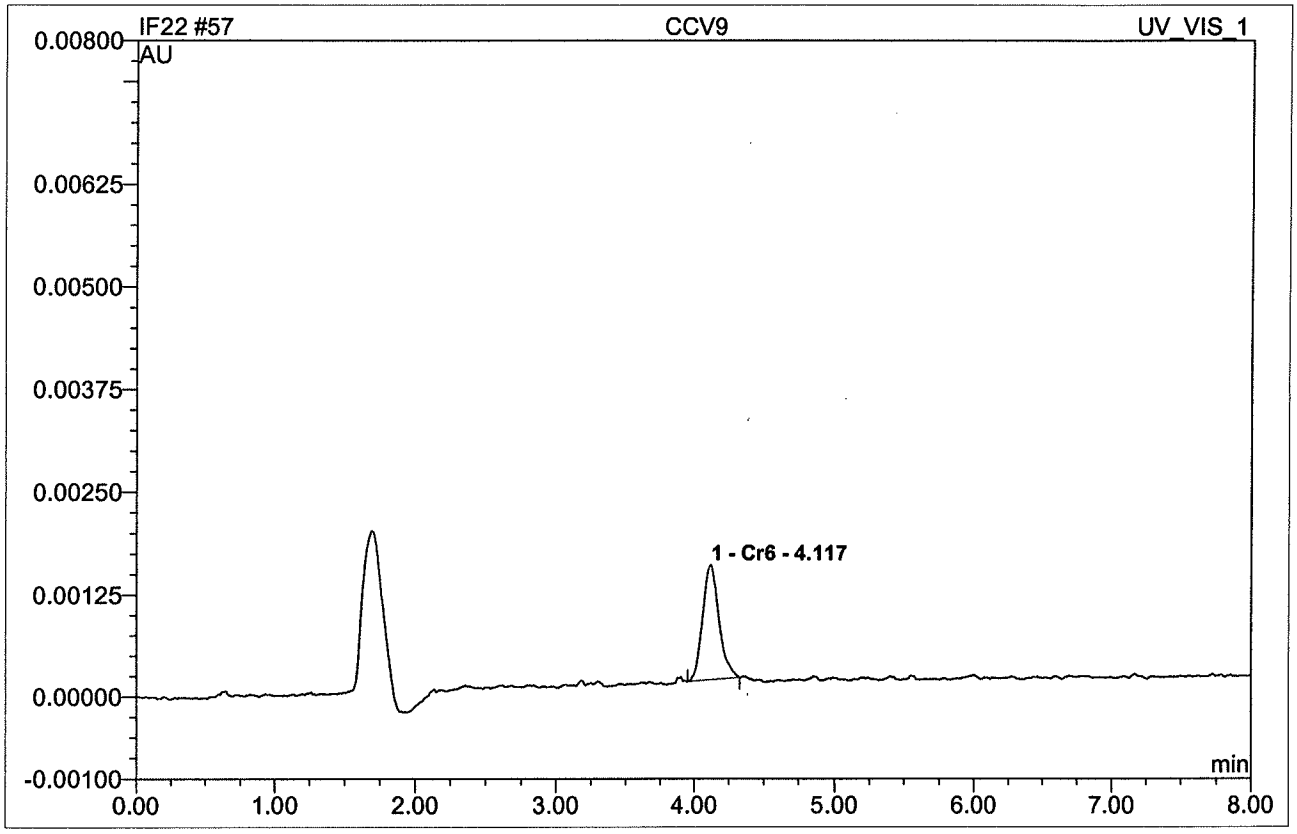
Sample Name:	**CCB7**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 15:25**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 045 CCV9

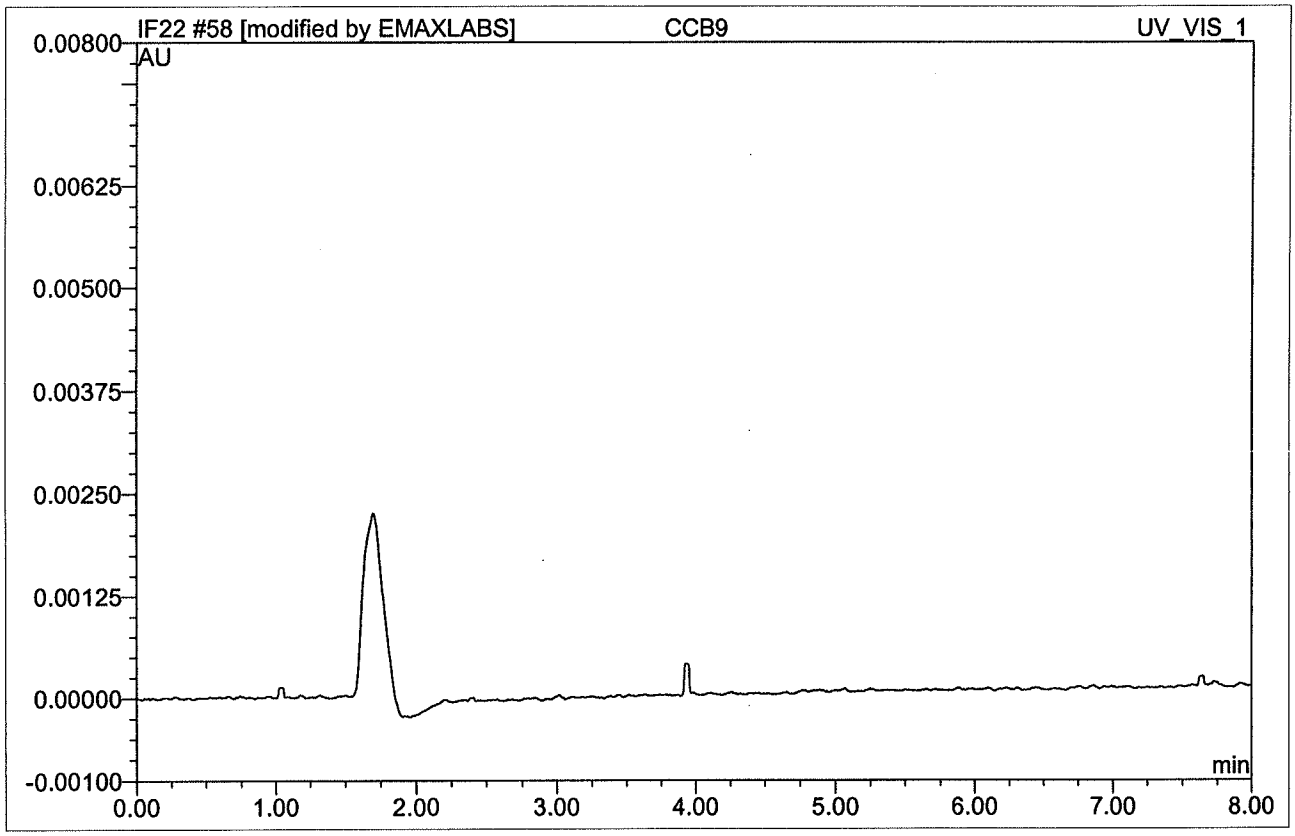
Sample Name:	**CCV9**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 17:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.12	Cr6	0.0014040	0.0001940	100.00	1.909	BMB
Total:			0.001	0.000	100.00	1.909	

IF22 046 CCB9

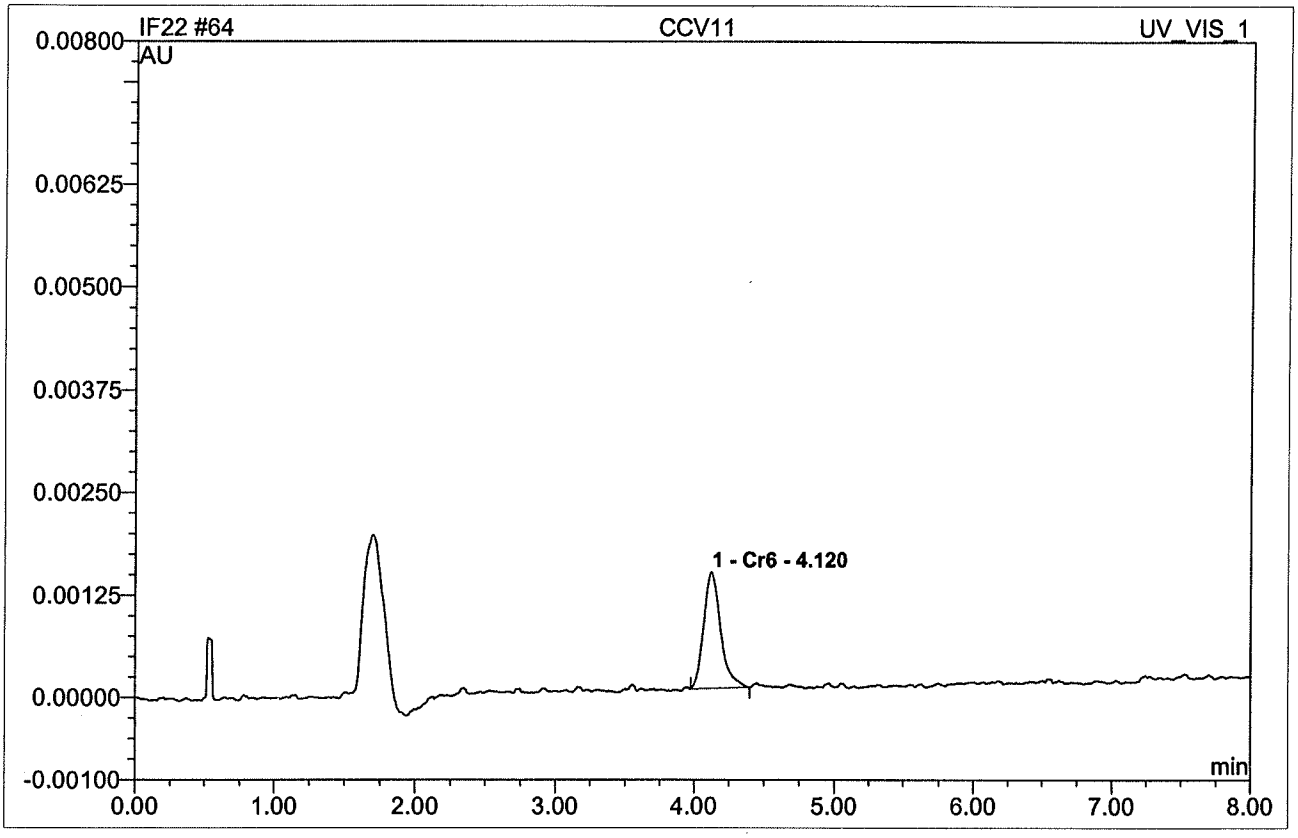
Sample Name:	**CCB9**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 17:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

IF22 052 CCV11

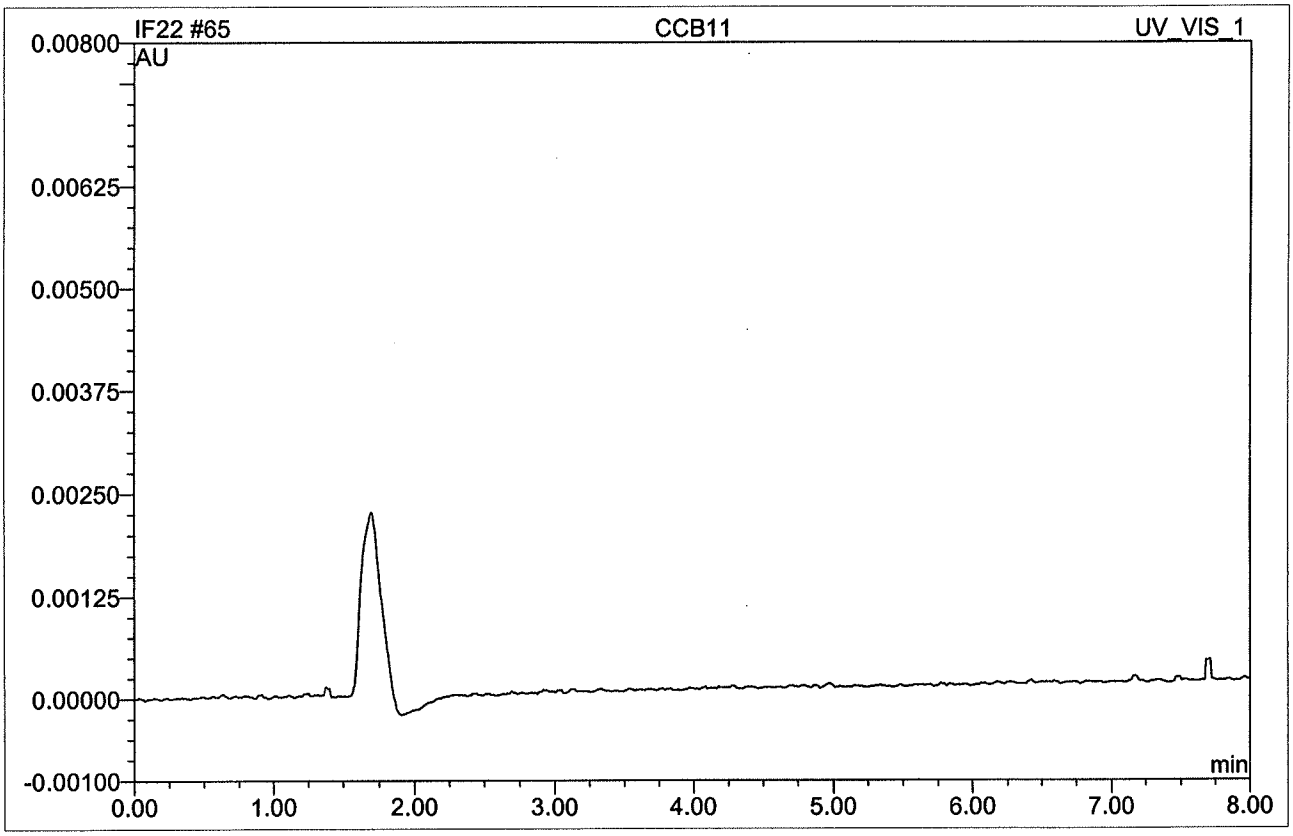
Sample Name:	**CCV11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 18:35**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
1	4.12	Cr6	0.0014200	0.0002017	100.00	1.984	BMB
Total:			0.001	0.000	100.00	1.984	

IF22 053 CCB11

Sample Name:	**CCB11**	*Injection Volume:*	**250.0**
Vial Number:	**0**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Cr6 Program**	*Bandwidth:*	**n.a.**
Quantif. Method:	**IC59F21**	*Dilution Factor:*	**1**
Recording Time:	**6/22/2022 18:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**8.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount	Type
Total:			0.000	0.000	0.00	0.000	

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution:	**Final Volume:** 1,000 mL
1,5 Diphenylcarbohydrazide : 0.5 g	SW6A-01-01-08
MeOH : 100 mL	SW1A-011-05-08
H_2SO_4 : 28 mL	↓ -07-04
Eluent:	**Final Volume:** 2,000 mL
$(NH_4)_2SO_4$: 66 g	SW6A-01-01-10
NH_4OH : 13 mL	↓ -02-01-02
☐ **pH Adjusted Water ID #:** (range 9.3-9.5)	
☑ **Buffer** (10 mL → 100 mL)	SP2-05-13-04
Reagent Water ID #:	RW1-22-001

ICAL Linear Range (ppb): S_0 - 0.00
S_1 - 0.20
S_2 - 0.50
S_3 - 1.00
S_4 - 2.00
S_5 - 5.00
S_6 - 7.50
S_7 - 10.0
ICV - 3.00
Low level CCV (0.20ppb) SW6B-004-19-03

Column: Dionex IonPac AS7 (4x250mm) Serial: 19010324B
Guard Column: Dionex IonPac NG1 (4x35mm) Serial: 19061121B
Wavelength: 530nm
Flow Rate: 1.00 mL/min
Injection: 0.250mL

Book #:	A59-055
Instrument No.:	59
Pipette ID:	SW9A-04-017
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	IF21
Method File:	IC59F21
Analytical Batch:	

SOP #	Rev. #
☑ EMAX-218.6	7
☑ EMAX-7199	7
☐ EMAX-	

STANDARDS ID	
ICAL	SW6B-004-19-01
ICV	↓ -02
CCV	

LCS/MS STANDARDS

	Standard ID	Conc	Spike Amt	Final Vol
LCS				
MS				

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-01-07 — Snap-Seal Container
0.45 µm filter lot #: — 4 oz: 1328163
0.2 µm filter lot #: — 1.5 oz:

Analyzed By: TB
Date: 06/21/22

Sequence: IF21
Operator: EMAXLABS

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 12

FINAL

Created: 6/21/2022 11:24:52 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IF21	001	IB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:27:49 AM	1.0000	BUFFER
2	IF21	002	S-0	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:38:12 AM	1.0000	
3	IF21	003	S-1	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:48:36 AM	1.0000	0.2 PPB
4	IF21	004	S-2	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:59:00 AM	1.0000	0.5 PPB
5	IF21	005	S-3	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:09:25 PM	1.0000	1.0 PPB
6	IF21	006	S-4	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:19:49 PM	1.0000	2.0 PPB
7	IF21	007	S-5	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:30:13 PM	1.0000	5.0 PPB
8	IF21	008	S-6	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:40:37 PM	1.0000	7.5 PPB
9	IF21	009	S-7	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:51:01 PM	1.0000	10 PPB
10	IF21	010	ICV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:01:25 PM	1.0000	3.0 PPB
11	IF21	011	ICB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:11:50 PM	1.0000	
12	IF21	012	LOW CCV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:22:14 PM	1.0000	0.2 PPB

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
HEXAVALENT CHROMIUM IC

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Post Column Solution:	**Final Volume:** 1,000 mL
1,5 Diphenylcarbohydrazide : 0.5 g	SW6A-01-01-08
MeOH : 100 mL	SW1A-011-05-08
H_2SO_4 : 28 mL	↓ -07-04
Eluent:	**Final Volume:** 2,000 mL
$(NH_4)_2SO_4$: 66 g	SW6A-01-01-10
NH_4OH : 13 mL	↓ -02-01-02
☐ **pH Adjusted Water ID #:** (range 9.3-9.5)	
☑ **Buffer** (10 mL → 100 mL)	SP2-05-13-04
Reagent Water ID #:	RW1-22-001

HCF011W: ~~HCF010W~~: F145; F155; F196
TB 6/22/22

HCF013W: F146

Book #:	A59-055
Instrument No.:	59
Pipette ID:	SW9A-04-017
	A42762405
	SW9A-04-052
Balance ID:	10601202
Analytical Sequence:	IF22
Method File:	IC59F21
Analytical Batch:	HCF011W ~~HCF010W~~/13W TB 06/22/22

SOP #	Rev. #
☑ EMAX-218.6	7
☐ EMAX-7199	7
☐ EMAX-	

STANDARDS ID	
ICAL	
ICV	
CCV	SW6B-004-19-04

LCS/MS STANDARDS

	Standard ID	Conc	Spike Amt	Final Vol
LCS	SW6B-004-18-07	100 ppb	0.100mL	5mL
MS	↓	↓	0.050mL	↓

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ CHROMELEON	
☐	

5 mL vial kit Lot #: SW6A-02-01-07 Snap-Seal Container

0.45 µm filter lot #: 296069177 4 oz: 1328163

0.2 µm filter lot #: 1.5 oz: 24821009

Analyzed By: TB

Date: 06/22/22

Sequence: IF22
Operator: EMAXLABS
Printed: 6/22/2022 7:07:44 PM

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 65

FINAL

Created: 6/22/2022 9:28:43 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	IF22		IB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:27:49 AM	1.0000	BUFFER
2	IF22		S-0	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:38:12 AM	1.0000	
3	IF22		S-1	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:48:36 AM	1.0000	0.2 PPB
4	IF22		S-2	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 11:59:00 AM	1.0000	0.5 PPB
5	IF22		S-3	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:09:25 PM	1.0000	1.0 PPB
6	IF22		S-4	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:19:49 PM	1.0000	2.0 PPB
7	IF22		S-5	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:30:13 PM	1.0000	5.0 PPB
8	IF22		S-6	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:40:37 PM	1.0000	7.5 PPB
9	IF22		S-7	Standard	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 12:51:01 PM	1.0000	10 PPB
10	IF22		ICV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:01:25 PM	1.0000	3.0 PPB
11	IF22		ICB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:11:50 PM	1.0000	
12	IF22		LOW CCV	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/21/2022 1:22:14 PM	1.0000	0.2 PPB
13	IF22	001	CCV1	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 9:30:30 AM	1.0000	
14	IF22	002	CCB1	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 9:40:54 AM	1.0000	
15	IF22	003	HCF011WB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 9:51:18 AM	1.0000	
16	IF22	004	HCF011WL	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:01:42 AM	1.0000	
17	IF22	005	HCF011WC	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:12:06 AM	1.0000	
18	IF22	006	F145-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:22:31 AM	1.0000	
19	IF22	007	F145-02	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:32:55 AM	1.0000	
20	IF22	008	F145-03	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:43:19 AM	1.0000	
21	IF22	009	F145-04	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 10:53:43 AM	1.0000	
22	IF22	010	F145-04M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:06:49 AM	1.0000	
23	IF22	011	F145-04S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:24:09 AM	1.0000	
24	IF22	012	F145-05	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:34:33 AM	1.0000	
25	IF22	013	CCV3	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:44:58 AM	1.0000	
26	IF22	014	CCB3	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 11:55:22 AM	1.0000	
27	IF22	015	F145-04I	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:06:51 PM	5.0000	1mLto5mL

Chromeleon © Dionex Corporation, Version 6.70 SP2a Build 1871

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 65

FINAL

Created: 6/22/2022 9:28:43 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
28	IF22	016	F145-04M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:17:14 PM	5.0000	1mLto5mL
29	IF22	017	F145-04S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:27:38 PM	5.0000	1mLto5mL
30	IF22	018	F145-06	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:38:03 PM	1.0000	
31	IF22	019	F145-07	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:48:27 PM	1.0000	
32	IF22	020	F145-08	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 12:58:51 PM	1.0000	
33	IF22	021	F145-08M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:10:17 PM	1.0000	
34	IF22	022	F145-08S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:20:41 PM	1.0000	
35	IF22	023	F145-09	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:31:06 PM	1.0000	
36	IF22	024	F145-10	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:41:30 PM	1.0000	
37	IF22	025	CCV5	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 1:51:55 PM	1.0000	
38	IF22	026	CCB5	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:02:19 PM	1.0000	
39	IF22	027	F145-11	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:12:43 PM	1.0000	
40	IF22	028	F145-12	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:23:08 PM	1.0000	
41	IF22	029	F145-13	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:33:32 PM	1.0000	
42	IF22	030	F155-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:43:56 PM	1.0000	OVER RANGE
43	IF22	031	F196-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 2:54:20 PM	1.0000	
44	IF22	032	F155-01I	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:04:44 PM	2.0000	2.5mLto5mL
45	IF22	033	CCV7	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:15:09 PM	1.0000	
46	IF22	034	CCB7	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:25:33 PM	1.0000	
47	IF22	035	HCF013WB	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:35:57 PM	1.0000	
48	IF22	036	HCF013WL	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:46:21 PM	1.0000	
49	IF22	037	HCF013WC	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 3:56:45 PM	1.0000	
50	IF22	038	F146-01	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:07:09 PM	1.0000	
51	IF22	039	F146-02	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:17:33 PM	1.0000	
52	IF22	040	F146-03	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:27:58 PM	1.0000	
53	IF22	041	F146-04	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:38:22 PM	1.0000	
54	IF22	042	F146-04M	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 4:51:49 PM	1.0000	

Chromeleon © Dionex Corporation, Version 6.70 SP2a Build 1871

Title: Temporary sequence for manual data acquisition
Datasource: DG7B3Q91_local
Location: DX600\2022
Timebase: DX600
#Samples: 65

FINAL

Created: 6/22/2022 9:28:43 AM by EMAXLABS
(Modified, not saved)

No.	Sequence	Sample ID	Name	Type	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
55	IF22	043	F146-04S	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:02:13 PM	1.0000	
56	IF22	044	F146-05	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:12:37 PM	1.0000	
57	IF22	045	CCV9	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:23:01 PM	1.0000	
58	IF22	046	CCB9	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:33:25 PM	1.0000	
59	IF22	047	F146-06	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:43:50 PM	1.0000	
60	IF22	048	F146-07	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 5:54:14 PM	1.0000	
61	IF22	049	F146-08	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:04:38 PM	1.0000	
62	IF22	050	F146-09	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:15:02 PM	1.0000	
63	IF22	051	F146-10	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:25:26 PM	1.0000	
64	IF22	052	CCV11	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:35:50 PM	1.0000	
65	IF22	053	CCB11	Unknown	250.0	Cr6 Program	IC59F21	Finished	6/22/2022 6:46:15 PM	1.0000	

Chromeleon © Dionex Corporation, Version 6.70 SP2a Build 1871

SAMPLE PREPARATION LOG(S)

EMAX LABORATORIES, INC.

pH ADJUSTMENT/SAMPLE PRESERVATION LOG FOR HEXAVALENT CHROMIUM

SOP ☑ EMAX-218.6 Rev. 7 ☐ EMAX-7199 Rev. 7 Book #: PHC-027

Matrix: W Start Date: 06\16\22 Time: 14:00 End Date: 06\16\22 Time: 16:15

Sample Prep ID	Lab Sample ID	Initial pH	Final pH	Notes
01	F145-01	9.32	9.32	No adjustment needed; Cr
02	-02	9.31	9.31	
03	-03	9.44	9.44	
04	-04	9.35	9.35	
05	-05	9.43	9.43	
06	-06	9.32	9.32	
07	-07	9.42	9.42	
08	-08	9.35	9.35	
09	-09	9.32	9.32	
10	-10	9.35	9.35	
11	-11	9.30	9.30	
12	-12	9.42	9.42	
13	-13	9.41	9.41	
14	F146-01	9.27	9.27	No adjustment needed; Cr
15	-02	9.19	9.19	
16	-03	9.23	9.23	
17	-04	9.39	9.39	
18	-05	9.22	9.22	
19	-06	9.34	9.34	
20	-07	9.29	9.29	
21	-08	9.38	9.38	
22	-09	9.37	9.37	
23	-10	9.37	9.37	
24	F155-01	8.65	9.18	0.040mL → 40mL; Cr
25				TB 06/16/22

Standards	ID	pH
Buffer 7	SW1-02-07-30	7.00
Buffer 10	SW1A-03-03-08	10.01
Check pH Buffer (8)		
Check pH Buffer 7.98	SW1A-03-06-03	7.95
pH meter	F7	

Reagent	Standard ID #
NaOH	SWR1-03-04-02
$(NH_4)_2SO_4/NH_4OH$	
HNO_3	

Legend:

Color	Texture	Clarity	Artifacts
Bu = Blue Bl = Black	Cs = Coarse	Cr = Clear	Rk = Rocks
Bn = Brown Gn = Green	Md = Medium	Cy = Cloudy	Sl = Shale
Og = Orange Rd = Red	Fn = Fine	Td = Turbid	Vg = Vegetation
Yw = Yellow			

☑ Samples were received with preservation

Comments:

Prepared By: TB

Standard Added By: TB

Checked By: TB

RETENTION TIME WINDOW

RETENTION TIME WINDOW

METHOD 218.6/7199

Lab Name:	EMAX	**METHOD:**	EMAX-218.6/7199
Instrument ID:	DX500IC59	**IC COLUMN:**	AS7/AG7 / AS7/NG1
		COLUMN SIZE:	4x250mm

Compound	Ical Mean RT	from	to	Retention Time Window
CHROMIUM VI	**4.18**	4.07	4.29	**0.108**

IC59F21

YM 06/27/22

STANDARD LOG(S)

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-19-01	Cr6	SW6B-004-18-06	100 ppb	0.20 mL	SP2-05-13-04	100 mL	0.20 ppb	6/21/22	~~7/21/22~~ 6/22/22 TB 6/21/22	TB	ICAL (Buffer)	A
SW6B-004-19-	↓	↓	↓	0.50	↓	↓	0.50	↓	↓	↓	↓	B
SW6B-004-19-	↓	↓	↓	1.00	↓	↓	1.00	↓	↓	↓	↓	B
SW6B-004-19-	↓	↓	↓	2.00	↓	↓	2.00	↓	↓	↓	↓	B
SW6B-004-19-	↓	↓	↓	5.00	↓	↓	5.00	↓	↓	↓	↓	C
SW6B-004-19-	↓	↓	↓	7.50	↓	↓	7.50	↓	↓	↓	↓	C
SW6B-004-19-	↓	↓	↓	10.0	↓	↓	10.0	↓	↓	↓	↓	C
SW6B-004-19-02	Cr6	SW6B-004-18-07	100ppb	3.00mL	SP2-05-13-04	100mL	3.00 ppb	6/21/22	~~7/21/22~~ 6/22/22 TB 6/21/22	TB	ICV (Buffer)	C
SW6B-004-19-03	Cr6	SW6B-004-18-06	100ppb	0.20mL	SP2-05-13-04	100mL	0.20ppb	6/21/22	~~7/21/22~~ 6/22/22 TB 6/21/22	TB	Low CCV (Buffer)	A
SW6B-004-19-04	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/22/22	6/23/22	TB	CCV (Buffer)	B
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												

Micropipette ID Legend: **A.** SW9A-04-052 **B.** A42762405 **C.** SW9A-04-017 **D.** SI1A-04-4 **E.** SW3-01-33 **F.** 39380025

Balance ID:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-18-01	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	ICAL(Buffer)	A
SW6B-004-18-				0.50			0.50					B
SW6B-004-18-				1.00			1.00					B
SW6B-004-18-				2.00			2.00					B
SW6B-004-18-				5.00			5.00					C
SW6B-004-18-				7.50			7.50					C
SW6B-004-18-				10.0			10.0					C
SW6B-004-18-02	Cr6	SW6B-004-16-02	100ppb	3.00mL	SP2-05-11-03	100mL	3.00ppb	5/25/22	5/26/22	JC	ICV(Buffer)	C
SW6B-004-18-03	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	LOW CCV (Buffer)	A
SW6B-004-18-04	Cr6	SW6B-004-16-01	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	5/25/22	5/26/22	JC	CCV (Buffer)	B
SW6B-004-18-05	Cr6	SW6B-004-16-01	100ppb	2.00ml	SP2-05-11-03	100mL	2.00ppb	5/26/22	5/27/22	TB	CCV (BUFFER)	B
SW6B-004-18-06	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-05-12-04	100ml	100ppb	6/2/22	7/2/22	TB	1°working std	B
SW6B-004-18-07	Cr6	SW6B-004-11-06	10ppm	1.00ml	SP2-05-12-04	100ml	100ppb	6/2/22	7/2/22	TB	2°working std	B
SW6B-004-18-08	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-12-04	100ml	2.00ppb	6/2/22	6/3/22	TB	CCV	B
SW6B-004-18-09	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-13-01	100mL	2.00ppb	6/3/22	6/4/22	JC	CCV	B
SW6B-004-18-10	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-11-03	100mL	2.00ppb	6/6/22	6/7/22	JC	CCV (Buffer)	B
SW6B-004-18-11	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-14-02	100ml	2.00ppb	6/7/22	6/8/22	TB	CCV	B
SW6B-004-18-12	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP_2-05-13-04	100mL	2.00ppb	6/8/22	6/9/22	AS	CCV (Buffer)	B
SW6B-004-18-13	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP2-05-14-02	100ml	2.00ppb	6/9/22	6/10/22	TB	CCV	B
SW6B-004-18-14	Cr6	SW6B-004-18-06	100ppb	2.00ml	SP_2-05-13-04	100ml	2.00ppb	6/14/22	6/15/22	TB	CCV (BUFFER)	B
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												TB 06/21/22

Micropipette ID Legend: **A.** SW9A-04-052 **B.** A42762405 **C.** SW9A-04-017 **D.** SI1A-04-4 **E.** SW3-01-33 **F.** 39380025

Balance ID:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-14-01	Cr6	SW6B-004-13-09	100ppb	2mL	SP2-05-10-03	~~1000~~ 100 mL	2ppb	3/17/22	3/18/22	TB	CCV	B
SW6B-004-14-02	Cr6	SW6B-004-13-09	100ppb	2.0mL	SP2-05-10-03	100.0mL	2ppb	3/22/22	3/23/22	TB	CCV	B
SW6B-004-14-03	Cr6	SW6B-004-13-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	3/22/22	3/23/22	AS	CCV (Buffer)	B
SW6B-004-14-04	Cr6	SW6B-004-13-09	100ppb	0.05 mL	SP2-05-08-03	100 mL	0.05 ppb	3/24/22	3/25/22	AS	ICAL (G2 Buffer)	D
SW6B-004-14-	↓	↓	↓	0.10	↓	↓	0.10	↓	↓	↓	↓	D
SW6B-004-14-				0.20			0.20					D
SW6B-004-14-				0.50			0.50					E
SW6B-004-14-				1.00			1.00					E
SW6B-004-14-				2.00			2.00					E
SW6B-004-14-				5.00			5.00					F
SW6B-004-14-05	Cr6	SW6B-004-12-15	100ppb	1.00 mL	SP2-05-08-03	100mL	1.00ppb	3/24/22	3/25/22	AS	ICV (G2 Buffer)	E
SW6B-004-14-06	Cr6	SW6B-004-13-09	100ppb	1.00mL	SP2-05-08-03	100mL	1.00ppb	3/24/22	3/25/22	AS	CCV (G2 Buffer)	E
SW6B-004-14-07	Cr6	SW6B-004-13-09	100ppb	2.00mL	~~SP2-05-08-03~~ ~~SP2-05-10-03~~ J 3/25/22	100mL	2.00ppb	3/25/22	3/26/22	JC	CCV (Buffer)	B
SW6B-004-14-08	Cr6	SW6A-01-02-01	1000ppm	1.00mL	SP2-05-10-03	100mL	10ppm	3/30/22	9/30/22	JC	1° Intermediate Std.	B
SW6B-004-14-09	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-0510-03	100mL	100ppb	3/30/22	4/29/22	JC	1° Working Std.	B
SW6B-004-14-10	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-10-03	100mL	100ppb	3/30/22	4/29/22	JC	2° Working Std.	B
SW6B-004-14-11	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	3/30/22	3/31/22	JC	CCV (Buffer)	B
SW6B-004-14-12	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	4/1/22	4/2/22	JC	CCV (Buffer)	B
SW6B-004-14-13	Cr6	SW6A-02-01-01	1000ppm	0.100mL	SP2-05-10-03	100mL	1ppm	4/1/22	10/1/22	JC	2° Intermediate Std.	A
SW6B-004-14-14	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-08-03	100mL	0.200ppb	4/1/22	4/2/22	JC	LOQ-01 (Buffer)	A
SW6B-004-14-15	↓	↓	↓	0.100mL	↓	↓	0.100ppb	↓	↓	↓	LOD-01 (Buffer)	A
SW6B-004-14-16	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/1/22	4/2/22	AS	CCV	B
SW6B-004-14-17	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-10-03	100mL	0.200ppb	4/1/22	4/2/22	AS	LOQ (unpreserved)	A
SW6B-004-14-18	↓	↓	↓	~~0.010~~ 0.100 AS 4/1/22	↓	↓	0.100 ppb	↓	↓	↓	LOD (unpreserved)	A
SW6B-004-14-19	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/4/22	4/5/22	AS	CCV	B

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

Balance ID:

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-19-01	Cr6	SW6B-004-18-06	100 ppb	0.20 mL	SP2-05-13-04	100 mL	0.20 ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/21/22	TB	ICAL (BUFFER)	A
SW6B-004-19-				0.50			0.50					B
SW6B-004-19-				1.00			1.00					B
SW6B-004-19-				2.00			2.00					B
SW6B-004-19-				5.00			5.00					C
SW6B-004-19-				7.50			7.50					C
SW6B-004-19-				10.0			10.0					C
SW6B-004-19-02	Cr6	SW6B-004-18-07	100ppb	3.00mL	SP2-05-13-04	100mL	3.00 ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/21/22	TB	ICV (BUFFER)	C
SW6B-004-19-03	Cr6	SW6B-004-18-06	100ppb	0.20mL	SP2-05-13-04	100 mL	0.20ppb	6/21/22	~~6/22/22~~ ~~7/21/22~~ TB 6/21/22	TB	LOW CCV (BUFFER)	A
SW6B-004-19-04	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/22/22	6/23/22	TB	CCV (BUFFER)	B
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												
SW6B-004-19-												

Micropipette ID Legend: **A.** SW9A-04-052 **B.** A42762405 **C.** SW9A-04-017 **D.** SI1A-04-4 **E.** SW3-01-33 **F.** 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-18-01	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	ICAL(Buffer)	A
SW6B-004-18-				0.50			0.50					B
SW6B-004-18-				1.00			1.00					B
SW6B-004-18-				2.00			2.00					B
SW6B-004-18-				5.00			5.00					C
SW6B-004-18-				7.50			7.50					C
SW6B-004-18-				10.0			10.0					C
SW6B-004-18-02	Cr6	SW6B-004-16-02	100ppb	3.00mL	SP2-05-11-03	100mL	3.00ppb	5/25/22	5/26/22	JC	ICV(Buffer)	C
SW6B-004-18-03	Cr6	SW6B-004-16-01	100ppb	0.20mL	SP2-05-11-03	100mL	0.20ppb	5/25/22	5/26/22	JC	LOW CCV (Buffer)	A
SW6B-004-18-04	Cr6	SW6B-004-16-01	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	5/25/22	5/26/22	JC	CCV (Buffer)	B
SW6B-004-18-05	Cr6	SW6B-004-16-01	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	5/26/22	5/27/22	TB	CCV (BUFFER)	B
SW6B-004-18-06	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-05-12-04	100mL	100ppb	6/2/22	7/2/22	TB	1°working std	B
SW6B-004-18-07	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-12-04	100mL	100ppb	6/2/22	7/2/22	TB	2°working std	B
SW6B-004-18-08	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-12-04	100mL	2.00ppb	6/2/22	6/3/22	TB	CCV	B
SW6B-004-18-09	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-01	100mL	2.00ppb	6/3/22	6/4/22	JC	CCV	B
SW6B-004-18-10	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-11-03	100mL	2.00ppb	6/6/22	6/7/22	JC	CCV (Buffer)	B
SW6B-004-18-11	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-14-02	100mL	2.00ppb	6/7/22	6/8/22	TB	CCV	B
SW6B-004-18-12	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/8/22	6/9/22	AS	CCV (Buffer)	B
SW6B-004-18-13	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-14-02	100mL	2.00ppb	6/9/22	6/10/22	TB	CCV	B
SW6B-004-18-14	Cr6	SW6B-004-18-06	100ppb	2.00mL	SP2-05-13-04	100mL	2.00ppb	6/14/22	6/15/22	TB	CCV (BUFFER)	B
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												
SW6B-004-18-												TB 06/21/22

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM

Book #: SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-14-01	Cr6	SW6B-004-13-09	100ppb	2mL	SP2-05-10-03	~~1000~~ 100 mL	2ppb	3/17/22	3/18/22	TB	CCV	B
SW6B-004-14-02	Cr6	SW6B-004-13-09	100ppb	2.0mL	SP2-05-10-03	100.0mL	2ppb	3/22/22	3/23/22	TB	CCV	B
SW6B-004-14-03	Cr6	SW6B-004-13-09	100ppb	2.0mL	SP2-05-08-03	100mL	2.00ppb	3/22/22	3/23/22	AS	CCV (Buffer)	B
SW6B-004-14-04	Cr6	SW6B-004-13-09	100ppb	0.05 mL	SP2-05-08-03	100 mL	0.05 ppb	3/24/22	3/25/22	AS	ICAL (G2 Buffer)	D
SW6B-004-14-	↓	↓	↓	0.10	↓	↓	0.10	↓	↓	↓	↓	D
SW6B-004-14-				0.20			0.20					D
SW6B-004-14-				0.50			0.50					E
SW6B-004-14-				1.00			1.00					E
SW6B-004-14-				2.00			2.00					E
SW6B-004-14-				5.00			5.00					F
SW6B-004-14-05	Cr6	SW6B-004-12-15	100ppb	1.00 mL	SP2-05-08-03	100 mL	1.00ppb	3/24/22	3/25/22	AS	ICV (G2 Buffer)	E
SW6B-004-14-06	Cr6	SW6B-004-13-09	100ppb	1.00mL	SP2-05-08-03	100mL	1.00ppb	3/24/22	3/25/22	AS	CCV (G2 Buffer)	E
SW6B-004-14-07	Cr6	SW6B-004-13-09	100ppb	2.00mL	~~SP2-05-08-03~~ SP2-05-10-03	100mL	2.00ppb	3/25/22	3/26/22	JC	CCV (Buffer)	B
SW6B-004-14-08	Cr6	SW6A-01-02-01	1000ppm	1.00mL	SP2-05-10-03	100mL	10ppm	3/30/22	9/30/22	JC	1° Intermediate Std.	B
SW6B-004-14-09	Cr6	SW6B-004-14-08	10ppm	1.00mL	SP2-05-10-03	100mL	100ppb	3/30/22	4/29/22	JC	1° Working Std.	B
SW6B-004-14-10	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-10-03	100mL	100ppb	3/30/22	4/29/22	JC	2° Working Std.	B
SW6B-004-14-11	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	3/30/22	3/31/22	JC	CCV (Buffer)	B
SW6B-004-14-12	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-08-03	100mL	2.00ppb	4/1/22	4/2/22	JC	CCV (Buffer)	B
SW6B-004-14-13	Cr6	SW6A-02-01-01	1000ppm	0.100mL	SP2-05-10-03	100mL	1ppm	4/1/22	10/1/22	JC	2° Intermediate Std.	A
SW6B-004-14-14	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-08-03	100mL	0.200ppb	4/1/22	4/2/22	JC	LOQ-01 (Buffer)	A
SW6B-004-14-15	↓	↓	↓	0.100mL	↓	↓	0.100ppb	↓	↓	↓	LOD-01 (Buffer)	A
SW6B-004-14-16	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/1/22	4/2/22	AS	CCV	B
SW6B-004-14-17	Cr6	SW6B-004-14-10	100ppb	0.200mL	SP2-05-10-03	100mL	0.200ppb	4/1/22	4/2/22	AS	LOQ (unpreserved)	A
SW6B-004-14-18	↓	↓	↓	~~0.010~~ 0.100 4/1/22	↓	↓	0.100 ppb	↓	↓	↓	LOD (unpreserved)	A
SW6B-004-14-19	Cr6	SW6B-004-14-09	100ppb	2.00mL	SP2-05-10-03	100mL	2.00ppb	4/4/22	4/5/22	AS	CCV	B

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Method HEXAVALENT CHROMIUM **Book #:** SW6B-004

Standard ID	Name	Source	Conc. (mg/L)	Aliquot (ml)	Solvent ID	Final Vol (ml)	Final Conc. (mg/L)	Preparation Date	Expiration Date	Prepared By	Comments	Micropipette ID
SW6B-004-11-01	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/12/22	1/13/22	JC	CCV (Buffer)	B
SW6B-004-11-02	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	1/13/22	1/14/22	JC	CCV	B
SW6B-004-11-03	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/13/22	1/14/22	JC	CCV (Buffer)	B
SW6B-004-11-04	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	1/14/22	1/15/22	AS	CCV	B
SW6B-004-11-05	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/20/22	1/21/22	AS	CCV (Buffer)	B
~~SW6B-004-11-06~~	~~Cr6~~	~~SW6B~~										JC 1/25/22
SW6B-004-11-06	Cr6	SW6A-02-01-01	1000ppm	1.00mL	SP2-05-07-02	100mL	10ppm	1/25/22	7/25/22	JC	2° Intermediate Std	B
SW6B-004-11-07	Cr6	SW6B-004-11-06	10ppm	1.00mL	SP2-05-07-02	100mL	100ppb	1/25/22	2/24/22	JC	2° Working Std	B
SW6B-004-11-08	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	1/26/22	1/27/22	JC	CCV	B
SW6B-004-11-09	Cr6	SW6B-004-10-07	100ppb	2.00mL	SP2-05-06-04	100mL	2.00ppb	1/27/22	1/28/22	JC	CCV (Buffer)	B
SW6B-004-11-10	Cr6	SW6B-004-06-26	10ppm	1.00mL	SP2-05-07-02	100mL	100ppb	2/7/22	3/9/22	AS	1° working std.	B
SW6B-004-11-11	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-07-04	100mL	2.00ppb	2/7/22	2/8/22	AS	CCV (Buffer)	B
SW6B-004-11-12	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-07-02	100mL	2.00ppb	2/8/22	2/9/22	AS	CCV	B
SW6B-004-11-13	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-07-04	100mL	2.00ppb	2/9/22	2/10/22	AS	CCV (Buffer)	B
SW6B-004-11-14	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-08-04	100mL	2.00ppb	2/10/22	2/11/22	JC	CCV	B
SW6B-004-11-15	Cr6	SW6B-004-11-10	100ppb	0.200mL	SP2-05-08-04	100mL	0.20ppb	2/11/22	2/12/22	JC	ICAL	A
SW6B-004-11-				0.50			0.50					B
SW6B-004-11-				1.00			1.00					B
SW6B-004-11-				2.00			2.00					B
SW6B-004-11-				5.00			5.00					C
SW6B-004-11-				7.50			7.50					C
SW6B-004-11-				10.0			10.0					C
SW6B-004-11-16	Cr6	SW6B-004-11-07	100ppb	3.00mL	SP2-05-08-04	100mL	3.00ppb	2/11/22	2/12/22	JC	ICV	C
SW6B-004-11-17	Cr6	SW6B-004-11-10	100ppb	2.00mL	SP2-05-08-04	100mL	2.00ppb	2/14/22	2/15/22	JC	CCV	B
SW6B-004-11-18	Cr6	SW6B-004-11-10	100ppb	1.00mL	SP2-05-08-04	100mL	1.00ppb	2/14/22	2/15/22	AS	CCV (G2 water)	E

Micropipette ID Legend: A. SW9A-04-052 B. A42762405 C. SW9A-04-017 D. SI1A-04-4 E. SW3-01-33 F. 39380025

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Book No: SW6A-02

Standard ID	Name	Source	Lot #	Location	Rcvd. on	Rcvd. By	Exp. Date	Comments
SW6A-02-01-01	Hexvalent Chromium	ERA-Metrohm	350121m	IC	12/8/21	YC	01/15/24	1000ppm
SW6A-02-01-02	Ammonium hydroxide, 20% solution in water	Thermo Scientific	A0396093	IC	12/20/21	AS	10/01/22	catalog: 103532-940 VWR Thermo Catalog: 39007
SW6A-02-01-03	BDH SAND 2.5Kg (x2)	VWR	21K2456575	IC	1/6/22	AS	8/31/25	BDH9274-2.5kg
SW6A-02-01-04	BDH SAND 2.5kg (x2)	VWR	21K2456577	IC	1/6/22	AS	8/31/25	BDH9274-2.5Kg
SW6A-02-01-05	sodium carbonate	VWR/EMD	21A155204	IC	2/16/22	AS	2/16/32	SX 0395-1 500g (16 containers)
SW6A-02-01-06	Ammonium sulfate	EMD	2021052665	IC	3/7/22	AS	3/7/32	AX1385-3 (2x 2.5Kg)
SW6A-02-01-07	PolyVials 5mL	Thermo Scientific	6595609-5	IC	3/30/22	JC	NA	038008 (10 boxes)
SW6A-02-01-08	Magnesium chloride, anhydrous	Thermo Fisher Scientific	X281+077	Balance room	4/14/22	AS	10/28/26	12315-A1 1kg
SW6A-02-01-09								
SW6A-02-01-10								

EMAX LABORATORIES, INC.

STANDARDS LOG FOR HEXAVALENT CHROMIUM

Book No: SW6A-01

Standard ID	Name	Source	Lot #	Location	Rcvd. on	Rcvd. by	Exp. Date	Comments
SW6A-01-02-01	Hexavalent Chromium (1000 ug/mL)	AccuStandard	220095057	FUELS	3/3/21	AS	10/15/22	WC-HEX-10X-1 moved Qlb 205 7/28/21 12:30 moved into Fujita 7/28/21 13:24
SW6A-01-02-02								
SW6A-01-02-03								
SW6A-01-02-04								
SW6A-01-02-05								
SW6A-01-02-06								
SW6A-01-02-07								
SW6A-01-02-08								
SW6A-01-02-09								
SW6A-01-02-10								YC 8/12/21

ERA
A Waters Company

Metrohm USA Inc.
Toll-free: 866-METROHM
www.metrohmusa.com

Certificate of Analysis

PRODUCT:	1000 mg/L Hexavalent Chromium
CATALOG NUMBER:	REAIC1210
LOT NUMBER:	350121m
ISSUE DATE:	January 26, 2021
REVISION DATE:	Original
STARTING MATERIAL:	Potassium Dichromate ($K_2Cr_2O_7$)
CERTIFIED CONCENTRATION[1]:	1000 mg/L
UNCERTAINTY[2]:	0.8%
MATRIX:	18 megohm deionized water
DENSITY:	1.0002 ± 0.0016 g/mL at 21.3°C and 756 mm Hg
TRACEABILITY[3]:	100%
NIST/SRM:	136f Hexavalent Chromium
VERIFICATION METHOD:	Spectrophotometry
STORAGE:	Store at 20-25°C

SW6A-08-01-01
rcvd: 12/8/21
exp: 1/15/24
yc

1. The **Certified Concentration** is the actual made-to concentration confirmed by ERA analytical verification.

2. The stated **Uncertainty** is the total propagated uncertainty at the 95% confidence interval. The uncertainty is based on the preparation of the product and includes uncertainty related to the starting material used and the volumetric and gravimetric measurements made. The method of calculating uncertainty is taken from the ISO Guide to the Expression of Uncertainty in Measurement (current version). The uncertainty applies to the product as supplied and does not take into account any required or optional dilutions and/or preparations the laboratory may perform while using this product.

3. Traceability Recovery = ((% Recovery certified standard)/(% Recovery NIST SRM))*100.

   The traceability data shown were compiled by analyzing the ERA standards or their associated stock solutions against the applicable NIST SRMs.

This standard **expires 01/15/2024**. The certified values are monitored and purchasers will be notified of any significant changes resulting in recertification or withdrawal of this certified reference material during the period of validity of this certificate.

This product is intended to be used as either a calibration standard or a quality control check of the entire analytical process for the analytes/matrix included in the standard.

If you have any questions or need technical assistance, please call ERA technical assistance at 1-800-372-0122 or email to info@eraqc.com

Certifying Officer: Brian Miller – Product Line Manager

ISO/IEC GUIDE 34:2009
ACCREDITED
REFERENCE MATERIAL PRODUCER
CERTIFICATE NO. 1539.03

ISO/IEC 17025:2005
ACCREDITED
CHEMICAL TESTING LABORATORY
CERTIFICATE NO. 1539.02

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Wet Chemistry Reference Standard

Catalog No: WC-HEX-10X-1
Description: Hexavalent Chromium (Cr6+) Standard
Element: Hexavalent chromium (Cr_6+)
SRM: Ind. Std.
Lot: 220095057
Matrix: Water
Hazards: *Refer to SDS for complete safety information*



Signal Word: Danger

Date Certified: Sep 15, 2020
Expiration: Oct 15, 2022
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)

Certified Reference Material

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER AR-1463
ANAB ACCREDITED TESTING LABORATORY AT-1339
ilac-MRA

Component		SRM #	Certified Concentration (µg/mL)
Cr_6+	Hexavalent chromium	Ind. Std.	1000

SW6A-01-02-01 used As
3/3/21

moved to 205
7/28/21 12:30
moved into Fujita
7/28/21 13:24

The gravimetric uncertainty for this product is ±0.24%. The CRM uncertainty is ±0.60%.
The final solution was checked against an independent standard to verify its concentration.
All glassware used in preparation is Class A.
All weights are traceable through NIST, Test No. 684/289871-17
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware. Keep bottle tightly capped.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO 17034, ISO/IEC 17025 and certified to ISO 9001:2015

AccuStandard

April 25, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050255

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 11, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

for

Nancy Sibucao
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050255

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050255
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050255-001A	MW-76-039-0422	Groundwater	4/11/2022 2:57:00 PM	4/11/2022	4/25/2022
N050255-001B	MW-76-039-0422	Groundwater	4/11/2022 2:57:00 PM	4/11/2022	4/25/2022
N050255-001C	MW-76-039-0422	Groundwater	4/11/2022 2:57:00 PM	4/11/2022	4/25/2022
N050255-001D	MW-76-039-0422	Groundwater	4/11/2022 2:57:00 PM	4/11/2022	4/25/2022
N050255-002A	MW-76-156-0422	Groundwater	4/11/2022 2:16:00 PM	4/11/2022	4/25/2022
N050255-002B	MW-76-156-0422	Groundwater	4/11/2022 2:16:00 PM	4/11/2022	4/25/2022
N050255-002C	MW-76-156-0422	Groundwater	4/11/2022 2:16:00 PM	4/11/2022	4/25/2022
N050255-002D	MW-76-156-0422	Groundwater	4/11/2022 2:16:00 PM	4/11/2022	4/25/2022
N050255-003A	MW-76-181-0422	Groundwater	4/11/2022 1:25:00 PM	4/11/2022	4/25/2022
N050255-003B	MW-76-181-0422	Groundwater	4/11/2022 1:25:00 PM	4/11/2022	4/25/2022
N050255-003C	MW-76-181-0422	Groundwater	4/11/2022 1:25:00 PM	4/11/2022	4/25/2022
N050255-003D	MW-76-181-0422	Groundwater	4/11/2022 1:25:00 PM	4/11/2022	4/25/2022
N050255-004A	MW-76-218-0422	Groundwater	4/11/2022 12:36:00 PM	4/11/2022	4/25/2022
N050255-004B	MW-76-218-0422	Groundwater	4/11/2022 12:36:00 PM	4/11/2022	4/25/2022
N050255-004C	MW-76-218-0422	Groundwater	4/11/2022 12:36:00 PM	4/11/2022	4/25/2022
N050255-004D	MW-76-218-0422	Groundwater	4/11/2022 12:36:00 PM	4/11/2022	4/25/2022
N050255-005A	EB-701-Q222	Groundwater	4/11/2022 3:10:00 PM	4/11/2022	4/25/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:57:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220412A**	QC Batch: **R161530**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	33	0.13	1.0		µg/L	5	4/12/2022 10:09 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220412A**	QC Batch: **R161530**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	15	0.13	1.0		µg/L	5	4/12/2022 11:53 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220412A**	QC Batch: **R161530**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2200	5.0	40		µg/L	200	4/12/2022 11:15 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 12:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220412A**	QC Batch: **R161530**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	460	2.5	20		µg/L	100	4/12/2022 11:34 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-701-Q222
Lab Order:	N050255	**Collection Date:**	4/11/2022 3:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220412A** QC Batch: **R161530** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	4/12/2022 12:11 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R161530**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161530**
Client ID: **PBW**	Batch ID: **R161530**	TestNo: **EPA 218.6**		Analysis Date: **4/12/2022**	SeqNo: **4597476**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R161530**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161530**
Client ID: **LCSW**	Batch ID: **R161530**	TestNo: **EPA 218.6**		Analysis Date: **4/12/2022**	SeqNo: **4597477**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.133	0.20	5.000	0	103	90	110				

Sample ID: **N050257-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161530**
Client ID: **ZZZZZZ**	Batch ID: **R161530**	TestNo: **EPA 218.6**		Analysis Date: **4/12/2022**	SeqNo: **4597479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.344	0.20						1.341	0.238	20	

Sample ID: **N050257-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161530**
Client ID: **ZZZZZZ**	Batch ID: **R161530**	TestNo: **EPA 218.6**		Analysis Date: **4/12/2022**	SeqNo: **4597480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.324	0.20	1.000	1.341	98.3	90	110				

Sample ID: **N050255-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161530**
Client ID: **ZZZZZZ**	Batch ID: **R161530**	TestNo: **EPA 218.6**		Analysis Date: **4/12/2022**	SeqNo: **4597482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	58.274	1.0	25.00	33.19	100	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050257-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161530**
Client ID: **ZZZZZZ** Batch ID: **R161530** TestNo: **EPA 218.6** Analysis Date: **4/12/2022** SeqNo: **4597483**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.353	0.20	1.000	1.341	101	90	110	2.324	1.24	20	

Sample ID: **N050255-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161530**
Client ID: **ZZZZZZ** Batch ID: **R161530** TestNo: **EPA 218.6** Analysis Date: **4/12/2022** SeqNo: **4597487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3202.800	40	1000	2192	101	90	110				

Sample ID: **N050255-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161530**
Client ID: **ZZZZZZ** Batch ID: **R161530** TestNo: **EPA 218.6** Analysis Date: **4/12/2022** SeqNo: **4597489**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	970.300	20	500.0	460.2	102	90	110				

Sample ID: **N050255-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161530**
Client ID: **ZZZZZZ** Batch ID: **R161530** TestNo: **EPA 218.6** Analysis Date: **4/12/2022** SeqNo: **4597491**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	19.859	1.0	5.000	14.70	103	90	110				

Sample ID: **N050255-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161530**
Client ID: **ZZZZZZ** Batch ID: **R161530** TestNo: **EPA 218.6** Analysis Date: **4/12/2022** SeqNo: **4597493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050255-001

Client Sample ID: MW-76-039-0422
Collection Date: 4/11/2022 2:57:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Sulfate	210	1.2	10		mg/L	20	4/12/2022 06:06 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.1	0.048	0.25		mg/L	5	4/12/2022 09:54 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Sulfate	860	6.1	50		mg/L	100	4/12/2022 05:20 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	4/12/2022 10:09 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Sulfate	930	6.1	50		mg/L	100	4/12/2022 06:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.0	0.095	0.50		mg/L	10	4/12/2022 10:24 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 12:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Sulfate	910	6.1	50		mg/L	100	4/12/2022 07:22 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220412A** QC Batch: **R161536**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	4/12/2022 10:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R161536_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **PBW**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R161536_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **LCSW**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597955**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.951	0.50	4.000	0	98.8	90	110				

Sample ID: **N050255-002BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **ZZZZZZ**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1251.980	50	400.0	863.2	97.2	80	120				

Sample ID: **N050255-002BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **ZZZZZZ**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1272.300	50	400.0	863.2	102	80	120	1252	1.61	20	

Sample ID: **N050255-003BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **ZZZZZZ**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597967**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	950.070	50						932.5	1.87	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R161536_NO3** SampType: **MBLK** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161536**
Client ID: **PBW** Batch ID: **R161536** TestNo: **EPA 300.0** Analysis Date: **4/12/2022** SeqNo: **4597917**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R161536_NO3** SampType: **LCS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161536**
Client ID: **LCSW** Batch ID: **R161536** TestNo: **EPA 300.0** Analysis Date: **4/12/2022** SeqNo: **4597918**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.204	0.050	1.250	0	96.4	90	110				

Sample ID: **N050256-004BMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161536**
Client ID: **ZZZZZZ** Batch ID: **R161536** TestNo: **EPA 300.0** Analysis Date: **4/12/2022** SeqNo: **4597940**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	10.042	0.25	6.250	3.868	98.8	80	120				

Sample ID: **N050256-004BMSD** SampType: **MSD** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161536**
Client ID: **ZZZZZZ** Batch ID: **R161536** TestNo: **EPA 300.0** Analysis Date: **4/12/2022** SeqNo: **4597941**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	10.018	0.25	6.250	3.868	98.4	80	120	10.04	0.239	20	

Sample ID: **N050258-016AMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161536**
Client ID: **ZZZZZZ** Batch ID: **R161536** TestNo: **EPA 300.0** Analysis Date: **4/12/2022** SeqNo: **4597942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	9.196	0.25	6.250	3.022	98.8	80	120				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050258-016AMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **ZZZZZZ**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	9.247	0.25	6.250	3.022	99.6	80	120	9.196	0.548	20	

Sample ID: **N050256-001BDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **ZZZZZZ**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597944**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	117.750	5.0						117.5	0.221	20	

Sample ID: **N050258-006BMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **161536**
Client ID: **ZZZZZZ**	Batch ID: **R161536**	TestNo: **EPA 300.0**		Analysis Date: **4/12/2022**	SeqNo: **4597945**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	90.490	2.5	62.50	27.24	101	80	120				

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:57:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 12:27 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 12:43 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 12:59 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 12:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 01:14 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R161603**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **PBW**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R161603**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **LCSW**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.904	1.0	5.000	0	98.1	85	115				

Sample ID: **N050274-005DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **ZZZZZZ**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.596	20	100.0	0	86.6	75	125				

Sample ID: **N050274-005DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **ZZZZZZ**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.538	20	100.0	0	86.5	75	125	86.60	0.0670	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050255-001

Client Sample ID: MW-76-039-0422
Collection Date: 4/11/2022 2:57:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	34	13	20		µg/L	1	4/14/2022 02:49 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 02:55 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 03:01 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 12:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 03:06 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-92379**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **LCSW**	Batch ID: **92379**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600080**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	91.186	20	100.0	0	91.2	85	115				

Sample ID: **N050274-005CMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **ZZZZZZ**	Batch ID: **92379**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	300.332	20	100.0	213.5	86.8	75	125				

Sample ID: **N050274-005CMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **ZZZZZZ**	Batch ID: **92379**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600094**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	292.736	20	100.0	213.5	79.2	75	125	300.3	2.56	20	

Sample ID: **MB-92379**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **PBW**	Batch ID: **92379**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600110**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:57:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 04:31 PM
Barium	61	0.083	1.0		µg/L	1	4/15/2022 04:31 PM
Manganese	5.0	0.026	0.50		µg/L	1	4/15/2022 04:31 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 04:37 PM
Barium	55	0.083	1.0		µg/L	1	4/15/2022 04:37 PM
Manganese	110	0.026	0.50		µg/L	1	4/15/2022 04:37 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0422
Lab Order:	N050255	**Collection Date:**	4/11/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050255-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 04:43 PM
Barium	58	0.083	1.0		µg/L	1	4/15/2022 04:43 PM
Manganese	68	0.026	0.50		µg/L	1	4/15/2022 04:43 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050255-004

Client Sample ID: MW-76-218-0422
Collection Date: 4/11/2022 12:36:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 04:49 PM
Barium	63	0.083	1.0		µg/L	1	4/15/2022 04:49 PM
Manganese	150	0.026	0.50		µg/L	1	4/15/2022 04:49 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92386**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **PBW**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.037	0.50									

Sample ID: **LCS-92386**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **LCSW**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.237	0.10	10.00	0	92.4	85	115				
Barium	9.648	1.0	10.00	0	96.5	85	115				
Manganese	98.582	0.50	100.0	0	98.6	85	115				

Sample ID: **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.575	0.10	10.00	3.589	89.9	75	125				

Sample ID: **N050274-005CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.499	0.10	10.00	3.589	89.1	75	125	12.58	0.607	20	

Sample ID: **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	297.366	5.0	10.00	232.8	646	75	125				S

Sample ID: **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605072**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4557.629	62	100.0	5395	-837	75	125				S

Sample ID: **N050274-005CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	307.111	5.0	10.00	232.8	743	75	125	297.4	3.22	20	S

Sample ID: **N050274-005CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605077**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4344.363	62	100.0	5395	-1050	75	125	4558	4.79	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050255
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050274-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.517	0.10	10.00	3.589	89.3	80	120				

Sample ID: **N050274-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	292.300	5.0	10.00	232.8	595	80	120				S

Sample ID: **N050274-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4245.370	62	100.0	5395	-1150	80	120				S

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; david.means@arcadis.com	Address:	Global ID:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivex.com P.O.#	
Submitted By: Reggie Tep		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 4/11/22	Sampled By: Reggie Tep		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 4/11/22		
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Sample Receipt Condition (Y / N)
1. Chilled: Y
2. Headspace:
3. Container Intact: Y
4. Seal Present: Y
5. IR number: 2
6. Method of Cooling: Ice
Sample Temp: ~~4.8°C~~ 4.1 °C

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050255-01	MW-76-039-0422	4/11/2022	14:57		X	X	X			X			E	6	P	BNS	
2	-02	MW-76-156-0422	4/11/2022	14:16		X	X	X			X			E	6	P	BNS	
3	-03	MW-76-181-0422	4/11/2022	13:25		X	X	X			X			E	6	P	BNS	
4	-04	MW-76-218-0422	4/11/2022	12:36		X	X	X			X			E	6	P	BNS	
5	-05	EB-701-Q222	4/11/2022	15:10		X	X	X			X			E	1	P	BNS	
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name): Reggie Tep	Date/Time: 4/11/22 1605
Relinquished by (Signature and Printed Name): ARCADIS	Date/Time: 4/11/22 @1625
Relinquished by (Signature and Printed Name): ARCADIS	Date/Time: 4/11/22 @1828
Relinquished by (Signature and Printed Name): Yoonda Ledesma	Date/Time: 4/11/22 1828
Relinquished by (Signature and Printed Name):	Date/Time:
Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCl	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Plnt
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/11/2022	Workorder:	N050255
Rep sample Temp (Deg C):	4.1	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 4/12/2022

Reviewed By: MBC 4/18/2022

Subject: RE: PG&E Topock - PCM, 30121866.1Q22GW (ASSET Labs No. N050255)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 4/12/2022, 12:34 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>

Hi,
That is correct, Sample 5 should only be analyzed for Cr6 the COC inadvertently marked the other analysis.

Thanks,
Laura

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Tuesday, April 12, 2022 2:38 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com
Subject: PG&E Topock - PCM, 30121866.1Q22GW (ASSET Labs No. N050255)

Hi Laura,

I'd like to confirm if Sample 5 should be analyzed only for Cr 6+, we did not receive the rest of the bottles.

COC is attached for reference.

--
Thanks,

Yoandra Rodriguez
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

ASSET LABORATORIES - Serving Clients with Passion and Professionalism

This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

ASSET Laboratories

WORK ORDER Summary

18-Apr-22

WorkOrder: N050255

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/11/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050255-001A	MW-76-039-0422	4/11/2022 2:57:00 PM	4/25/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050255-001B			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050255-001C			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050255-001D			4/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050255-002A	MW-76-156-0422	4/11/2022 2:16:00 PM	4/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050255-002B			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050255-002C			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050255-002D			4/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050255-003A	MW-76-181-0422	4/11/2022 1:25:00 PM	4/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050255-003B			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050255-003C			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-Apr-22

WorkOrder: N050255

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/11/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050255-003C	MW-76-181-0422	4/11/2022 1:25:00 PM	4/25/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050255-003D			4/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050255-004A	MW-76-218-0422	4/11/2022 12:36:00 PM	4/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050255-004B			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/25/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050255-004C			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/25/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/25/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050255-004D			4/25/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050255-005A	EB-701-Q222	4/11/2022 3:10:00 PM	4/25/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050255-006A	FOLDER	4/25/2022	4/25/2022		Folder	Folder	☐	☐	☐	LAB
			4/25/2022		Folder	Level IV Report	☐	☐	☐	LAB
			4/25/2022		Folder	Folder	☐	☐	☐	LAB

May 03, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050274

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

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

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N050274-003 and -004 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

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

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050274-005CMS and N050274-005CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050274-005DMS and N050274-005DMSD at lower dilutions possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N050274-005 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050274
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050274-001A	MW-21-0422	Groundwater	4/12/2022 9:12:00 AM	4/12/2022	5/3/2022
N050274-001B	MW-21-0422	Groundwater	4/12/2022 9:12:00 AM	4/12/2022	5/3/2022
N050274-001C	MW-21-0422	Groundwater	4/12/2022 9:12:00 AM	4/12/2022	5/3/2022
N050274-001D	MW-21-0422	Groundwater	4/12/2022 9:12:00 AM	4/12/2022	5/3/2022
N050274-002A	MW-21-EB-0422	Groundwater	4/12/2022 8:45:00 AM	4/12/2022	5/3/2022
N050274-003A	MW-71-035-0422	Groundwater	4/12/2022 2:41:00 PM	4/12/2022	5/3/2022
N050274-003B	MW-71-035-0422	Groundwater	4/12/2022 2:41:00 PM	4/12/2022	5/3/2022
N050274-003C	MW-71-035-0422	Groundwater	4/12/2022 2:41:00 PM	4/12/2022	5/3/2022
N050274-003D	MW-71-035-0422	Groundwater	4/12/2022 2:41:00 PM	4/12/2022	5/3/2022
N050274-004A	MW-917-Q222	Groundwater	4/12/2022 2:51:00 PM	4/12/2022	5/3/2022
N050274-004B	MW-917-Q222	Groundwater	4/12/2022 2:51:00 PM	4/12/2022	5/3/2022
N050274-004C	MW-917-Q222	Groundwater	4/12/2022 2:51:00 PM	4/12/2022	5/3/2022
N050274-004D	MW-917-Q222	Groundwater	4/12/2022 2:51:00 PM	4/12/2022	5/3/2022
N050274-005A	MW-31-060-0422	Groundwater	4/12/2022 1:53:00 PM	4/12/2022	5/3/2022
N050274-005B	MW-31-060-0422	Groundwater	4/12/2022 1:53:00 PM	4/12/2022	5/3/2022
N050274-005C	MW-31-060-0422	Groundwater	4/12/2022 1:53:00 PM	4/12/2022	5/3/2022
N050274-005D	MW-31-060-0422	Groundwater	4/12/2022 1:53:00 PM	4/12/2022	5/3/2022
N050274-006A	MW-31-135-0422	Groundwater	4/12/2022 12:59:00 PM	4/12/2022	5/3/2022
N050274-006B	MW-31-135-0422	Groundwater	4/12/2022 12:59:00 PM	4/12/2022	5/3/2022
N050274-006C	MW-31-135-0422	Groundwater	4/12/2022 12:59:00 PM	4/12/2022	5/3/2022
N050274-006D	MW-31-135-0422	Groundwater	4/12/2022 12:59:00 PM	4/12/2022	5/3/2022
N050274-007A	MW-80-057-0422	Groundwater	4/12/2022 11:03:00 AM	4/12/2022	5/3/2022
N050274-007B	MW-80-057-0422	Groundwater	4/12/2022 11:03:00 AM	4/12/2022	5/3/2022
N050274-007C	MW-80-057-0422	Groundwater	4/12/2022 11:03:00 AM	4/12/2022	5/3/2022
N050274-007D	MW-80-057-0422	Groundwater	4/12/2022 11:03:00 AM	4/12/2022	5/3/2022
N050274-008A	MW-80-082-0422	Groundwater	4/12/2022 10:19:00 AM	4/12/2022	5/3/2022
N050274-008B	MW-80-082-0422	Groundwater	4/12/2022 10:19:00 AM	4/12/2022	5/3/2022
N050274-008C	MW-80-082-0422	Groundwater	4/12/2022 10:19:00 AM	4/12/2022	5/3/2022
N050274-008D	MW-80-082-0422	Groundwater	4/12/2022 10:19:00 AM	4/12/2022	5/3/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050274
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050274-009A	MW-935-Q222	Groundwater	4/12/2022 10:29:00 AM	4/12/2022	5/3/2022
N050274-009B	MW-935-Q222	Groundwater	4/12/2022 10:29:00 AM	4/12/2022	5/3/2022
N050274-009C	MW-935-Q222	Groundwater	4/12/2022 10:29:00 AM	4/12/2022	5/3/2022
N050274-009D	MW-935-Q222	Groundwater	4/12/2022 10:29:00 AM	4/12/2022	5/3/2022
N050274-010A	EB-702-Q222	Groundwater	4/12/2022 3:00:00 PM	4/12/2022	5/3/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.34	0.025	0.20		µg/L	1	4/13/2022 09:04 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-EB-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 8:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	4/13/2022 09:15 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:41:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	4/13/2022 07:38 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:51:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	4/13/2022 07:57 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	4/13/2022 01:02 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 12:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	26	0.13	1.0		µg/L	5	4/13/2022 10:49 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 11:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	840	2.5	20		µg/L	100	4/13/2022 10:59 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1700	5.0	40		µg/L	200	4/13/2022 11:08 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-935-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:29:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1700	5.0	40		µg/L	200	4/13/2022 11:18 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-702-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 3:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	4/13/2022 11:27 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R161595	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	PBW	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599522

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R161595	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	LCSW	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599523

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.055	0.20	5.000	0	101	90	110				

Sample ID	N050274-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599526

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.341	0.20	1.000	0.3428	99.8	90	110				

Sample ID	N050274-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599527

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.034	0.20	1.000	0	103	90	110				

Sample ID	N050274-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.447	1.0	25.00	25.79	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N050274-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1357.070	20	500.0	839.0	104	90	110				

Sample ID **N050274-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2734.920	40	1000	1682	105	90	110				

Sample ID **N050274-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2685.840	40	1000	1666	102	90	110				

Sample ID **N050274-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID **N050274-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N050275-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15.789	0.20	5.000	10.61	104	90	110				

Sample ID **N050274-005AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.034	0.20	1.000	0	103	90	110	0.9928	4.10	20	

Sample ID **N050275-003ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.083	0.20						6.191	1.76	20	

Sample ID **N050275-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.423	0.20	5.000	6.191	105	90	110				

Sample ID **N050275-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	668.695	10	250.0	414.6	102	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N050275-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1240.290	20	500.0	707.7	107	90	110				

Sample ID **N050275-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	587.960	10	250.0	325.0	105	90	110				

Sample ID **N050275-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2408.980	40	1000	1386	102	90	110				

Sample ID **N050275-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1466.170	20	500.0	961.6	101	90	110				

Sample ID **N050275-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	668.670	10	250.0	410.7	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N050275-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599573

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	633.445	10	250.0	369.4	106	90	110				

Sample ID	N050274-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.231	1.0	5.000	0	105	90	110				

Sample ID	N050274-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.407	1.0	5.000	0	108	90	110				

Sample ID	N050275-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4907.450	100	2500	2551	94.3	90	110				

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	1500	12	100		mg/L	200	4/14/2022 09:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.0	0.095	0.50		mg/L	10	4/13/2022 10:15 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:41:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	1200	6.1	50		mg/L	100	4/14/2022 09:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	4/13/2022 10:30 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:51:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	1200	6.1	50		mg/L	100	4/14/2022 09:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	4/13/2022 11:16 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	540	3.0	25		mg/L	50	4/14/2022 06:54 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	4/13/2022 11:31 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 12:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	4/14/2022 10:13 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.9	0.095	0.50		mg/L	10	4/13/2022 12:17 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 11:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	500	3.0	25		mg/L	50	4/14/2022 10:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	15	0.095	0.50		mg/L	10	4/13/2022 12:32 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	550	3.0	25		mg/L	50	4/14/2022 10:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	5.9	0.095	0.50		mg/L	10	4/13/2022 12:48 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-935-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:29:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414B**	QC Batch: **R161600**			PrepDate:			Analyst: **RAB**
Sulfate	550	3.0	25		mg/L	50	4/14/2022 10:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	6.2	0.095	0.50		mg/L	10	4/13/2022 01:03 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R161600_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161600
Client ID:	PBW	Batch ID:	R161600	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600296

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.246	0.50									

Sample ID	LCS-R161600_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161600
Client ID:	LCSW	Batch ID:	R161600	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600297

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.945	0.50	4.000	0	98.6	90	110				

Sample ID	N050274-005BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161600
Client ID:	ZZZZZZ	Batch ID:	R161600	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600299

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	749.985	25	200.0	538.5	106	80	120				

Sample ID	N050274-005BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161600
Client ID:	ZZZZZZ	Batch ID:	R161600	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600300

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	751.650	25	200.0	538.5	107	80	120	750.0	0.222	20	

Sample ID	N050264-001EDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161600
Client ID:	ZZZZZZ	Batch ID:	R161600	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600304

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	230.525	25						231.0	0.208	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R161572_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	PBW	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598731

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R161572_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	LCSW	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598732

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.248	0.050	1.250	0	99.8	90	110				

Sample ID	N050274-005BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	ZZZZZZ	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598745

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.953	0.50	12.50	0	95.6	80	120				

Sample ID	N050274-005BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	ZZZZZZ	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598746

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.078	0.50	12.50	0	96.6	80	120	11.95	1.04	20	

Sample ID	N050277-004BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	ZZZZZZ	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	10.074	0.25						10.14	0.638	20	

Qualifiers:

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

Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 03:34 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:41:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 04:40 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:51:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 05:26 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.7	20		mg/L	20	4/13/2022 02:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 12:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 05:42 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 11:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 05:57 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 06:13 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-935-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:29:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 06:29 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R161603**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **PBW**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R161603**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **LCSW**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.904	1.0	5.000	0	98.1	85	115				

Sample ID **N050274-005DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **ZZZZZZ**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.596	20	100.0	0	86.6	75	125				

Sample ID **N050274-005DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **ZZZZZZ**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.538	20	100.0	0	86.5	75	125	86.60	0.0670	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Iron	68	13	20		µg/L	1	4/14/2022 03:13 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:41:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	51	13	20		µg/L	1	4/14/2022 03:19 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-917-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 2:51:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	74	13	20		µg/L	1	4/14/2022 03:32 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	210	13	20		µg/L	1	4/14/2022 03:38 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 12:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 05:30 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 11:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:10 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:16 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050274-009

Client Sample ID: MW-935-Q222
Collection Date: 4/12/2022 10:29:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:22 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	LCS-92379	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	LCSW	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600080

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	91.186	20	100.0	0	91.2	85	115				

Sample ID	N050274-005CMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	ZZZZZZ	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600093

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	300.332	20	100.0	213.5	86.8	75	125				

Sample ID	N050274-005CMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	ZZZZZZ	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600094

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	292.736	20	100.0	213.5	79.2	75	125	300.3	2.56	20	

Sample ID	MB-92379	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	PBW	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600110

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050274-001

Client Sample ID: MW-21-0422
Collection Date: 4/12/2022 9:12:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Arsenic	6.0	0.050	0.10		µg/L	1	4/15/2022 04:55 PM
Barium	31	0.083	1.0		µg/L	1	4/15/2022 04:55 PM
Manganese	140	0.026	0.50		µg/L	1	4/15/2022 04:55 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050274-003

Client Sample ID: MW-71-035-0422
Collection Date: 4/12/2022 2:41:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 05:01 PM
Barium	45	0.083	1.0		µg/L	1	4/15/2022 05:01 PM
Manganese	250	0.13	2.5		µg/L	5	4/15/2022 07:48 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050274-004

Client Sample ID: MW-917-Q222
Collection Date: 4/12/2022 2:51:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 05:07 PM
Barium	45	0.083	1.0		µg/L	1	4/15/2022 05:07 PM
Manganese	300	0.13	2.5		µg/L	5	4/15/2022 08:18 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Arsenic	3.6	0.050	0.10		µg/L	1	4/15/2022 05:13 PM
Barium	230	0.42	5.0		µg/L	5	4/15/2022 05:19 PM
Manganese	5400	3.3	62		µg/L	125	4/15/2022 08:29 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050274-006

Client Sample ID: MW-31-135-0422
Collection Date: 4/12/2022 12:59:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 05:55 PM
Barium	55	0.083	1.0		µg/L	1	4/15/2022 05:55 PM
Manganese	0.76	0.026	0.50		µg/L	1	4/15/2022 05:55 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 11:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Arsenic	0.40	0.050	0.10		µg/L	1	4/15/2022 06:01 PM
Barium	44	0.083	1.0		µg/L	1	4/15/2022 06:01 PM
Manganese	1.3	0.026	0.50		µg/L	1	4/15/2022 06:01 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0422
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220502B**	QC Batch: **92386**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/2/2022 12:34 PM
Barium	39	0.083	1.0		µg/L	1	4/15/2022 06:07 PM
Manganese	1.8	0.026	0.50		µg/L	1	4/15/2022 06:07 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-935-Q222
Lab Order:	N050274	**Collection Date:**	4/12/2022 10:29:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050274-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418B**	QC Batch: **92386**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	4/18/2022 07:31 PM
Barium	39	0.083	1.0		µg/L	1	4/15/2022 06:13 PM
Manganese	1.4	0.026	0.50		µg/L	1	4/15/2022 06:13 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-92386**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **PBW**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.037	0.50									

Sample ID **LCS-92386**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **LCSW**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.237	0.10	10.00	0	92.4	85	115				
Barium	9.648	1.0	10.00	0	96.5	85	115				
Manganese	98.582	0.50	100.0	0	98.6	85	115				

Sample ID **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.575	0.10	10.00	3.589	89.9	75	125				

Sample ID **N050274-005CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.499	0.10	10.00	3.589	89.1	75	125	12.58	0.607	20	

Sample ID **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N050274-005CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605070

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	297.366	5.0	10.00	232.8	646	75	125				S

Sample ID	N050274-005CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605072

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4557.629	62	100.0	5395	-837	75	125				S

Sample ID	N050274-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605075

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	307.111	5.0	10.00	232.8	743	75	125	297.4	3.22	20	S

Sample ID	N050274-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605077

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4344.363	62	100.0	5395	-1050	75	125	4558	4.79	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050274
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N050274-005C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605034

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.517	0.10	10.00	3.589	89.3	80	120				

Sample ID	N050274-005C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605067

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	292.300	5.0	10.00	232.8	595	80	120				S

Sample ID	N050274-005C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605069

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4245.370	62	100.0	5395	-1150	80	120				S

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

N050274

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.progar@arcadis.com	Address:	Sample Receipt Condition: 1. Chilled Y ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Sample Temp: 3.1°C / 2.3°C
Submitted By: Riggie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech			
Signature: Date: 4/12/22	Sampled By: Riggie Tep		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 4/12/22		
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050274-01	MW-21-0422	4/12/2022	9:12		X	X	X			X			E	6	P	BNS	
2	-02	MW-21-EB-0422	4/12/2022	8:45		X								E	1	P	BNS	
3	-03	MW-71-035-0422	4/12/2022	~~14:51~~ 1441		X	X	X			X			E	6	P	BNS	
4	-04	MW-917-Q222	4/12/2022	~~1501~~ 1451		X	X	X			X			E	6	P	BNS	
5	-05	MW-31-060-0422	4/12/2022	13:53		X	X	X			X			E	9	P	BNS	MS/MSD
6	-06	MW-31-135-0422	4/12/2022	12:59		X	X	X			X			E	6	P	BNS	
7	-07	MW-80-057-0422	4/12/2022	11:03		X	X	X			X			E	6	P	BNS	
8	-08	MW-80-082-0422	4/12/2022	10:19		X	X	X			X			E	6	P	BNS	
9	-09	MW-935-Q222	4/12/2022	10:29		X	X	X			X			E	6	P	BNS	
10	-10	EB-702-Q222	4/12/2022	15:00		X								E	1	P	BNS	
11																		
12																		
13																		
14																		

Courier: FedEx
Tracking No.:

Relinquished by (Signature and Printed Name): Riggie Tep Date/Time: 4/12/22 1620
Relinquished by (Signature and Printed Name): Romeo Ricamara Date/Time: 4/12/22 1921
Relinquished by (Signature and Printed Name): Romeo Ricamara Date/Time: 4/12/22 1620
Relinquished by (Signature and Printed Name): Romeo Ricamara Date/Time: 4/12/22 1921
Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)
- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/12/2022	Workorder:	N050274
Rep sample Temp (Deg C):	3.1/2.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 4/13/2022

Reviewed By: MBC 4/19/2022

ASSET Laboratories

WORK ORDER Summary

19-Apr-22

WorkOrder: N050274

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050274-001A	MW-21-0422	4/12/2022 9:12:00 AM	4/26/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-001B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050274-001C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050274-001D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050274-002A	MW-21-EB-0422	4/12/2022 8:45:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-003A	MW-71-035-0422	4/12/2022 2:41:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-003B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050274-003C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050274-003D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050274-004A	MW-917-Q222	4/12/2022 2:51:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-004B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050274-004C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

19-Apr-22

WorkOrder: N050274

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050274-004C	MW-917-Q222	4/12/2022 2:51:00 PM	4/26/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050274-004D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050274-005A	MW-31-060-0422	4/12/2022 1:53:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050274-005B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050274-005C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050274-005D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050274-006A	MW-31-135-0422	4/12/2022 12:59:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-006B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050274-006C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050274-006D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050274-007A	MW-80-057-0422	4/12/2022 11:03:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-007B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

19-Apr-22

WorkOrder: N050274

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050274-007C	MW-80-057-0422	4/12/2022 11:03:00 AM	4/26/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050274-007D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050274-008A	MW-80-082-0422	4/12/2022 10:19:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-008B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050274-008C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050274-008D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050274-009A	MW-935-Q222	4/12/2022 10:29:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050274-009B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050274-009C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050274-009D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050274-010A	EB-702-Q222	4/12/2022 3:00:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

19-Apr-22

WorkOrder: N050274

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050274-011A	FOLDER	4/26/2022	4/26/2022		Folder	Folder	☐	☐	☐	LAB
			4/26/2022		Folder	Level IV Report	☐	☐	☐	LAB
			4/26/2022		Folder	Folder	☐	☐	☐	LAB

April 28, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050275

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

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

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (260 ug/L) and hexavalent chromium (320 ug/L) for sample N050275-005 (IRZ-15-200-0422) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

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

Analytical Comments for EPA 6010B_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N050275-001D-MS and N050275-001D-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (260 ug/L) and hexavalent chromium (320 ug/L) for sample N050275-005 (IRZ-15-200-0422) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 277 and 285 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N050274-005C-MS, N050274-005C-MSD, N050298-003CMS and N050298-003CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050274-005DMS/MSD at lower dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N050274-005 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050298-003DMS/MSD at lower dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N050298-003 and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050275
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050275-001A	IRZ-09-0422	Groundwater	4/12/2022 1:00:00 PM	4/12/2022	4/28/2022
N050275-001B	IRZ-09-0422	Groundwater	4/12/2022 1:00:00 PM	4/12/2022	4/28/2022
N050275-001C	IRZ-09-0422	Groundwater	4/12/2022 1:00:00 PM	4/12/2022	4/28/2022
N050275-001D	IRZ-09-0422	Groundwater	4/12/2022 1:00:00 PM	4/12/2022	4/28/2022
N050275-002A	IRZ-13D-0422	Groundwater	4/12/2022 1:15:00 PM	4/12/2022	4/28/2022
N050275-002B	IRZ-13D-0422	Groundwater	4/12/2022 1:15:00 PM	4/12/2022	4/28/2022
N050275-002C	IRZ-13D-0422	Groundwater	4/12/2022 1:15:00 PM	4/12/2022	4/28/2022
N050275-002D	IRZ-13D-0422	Groundwater	4/12/2022 1:15:00 PM	4/12/2022	4/28/2022
N050275-003A	IRZ-13S-0422	Groundwater	4/12/2022 1:30:00 PM	4/12/2022	4/28/2022
N050275-003B	IRZ-13S-0422	Groundwater	4/12/2022 1:30:00 PM	4/12/2022	4/28/2022
N050275-003C	IRZ-13S-0422	Groundwater	4/12/2022 1:30:00 PM	4/12/2022	4/28/2022
N050275-003D	IRZ-13S-0422	Groundwater	4/12/2022 1:30:00 PM	4/12/2022	4/28/2022
N050275-004A	IRZ-23-0422	Groundwater	4/12/2022 1:45:00 PM	4/12/2022	4/28/2022
N050275-004B	IRZ-23-0422	Groundwater	4/12/2022 1:45:00 PM	4/12/2022	4/28/2022
N050275-004C	IRZ-23-0422	Groundwater	4/12/2022 1:45:00 PM	4/12/2022	4/28/2022
N050275-004D	IRZ-23-0422	Groundwater	4/12/2022 1:45:00 PM	4/12/2022	4/28/2022
N050275-005A	IRZ-15-200-0422	Groundwater	4/12/2022 10:25:00 AM	4/12/2022	4/28/2022
N050275-005B	IRZ-15-200-0422	Groundwater	4/12/2022 10:25:00 AM	4/12/2022	4/28/2022
N050275-005C	IRZ-15-200-0422	Groundwater	4/12/2022 10:25:00 AM	4/12/2022	4/28/2022
N050275-005D	IRZ-15-200-0422	Groundwater	4/12/2022 10:25:00 AM	4/12/2022	4/28/2022
N050275-006A	IRZ-15-55-0422	Groundwater	4/12/2022 10:45:00 AM	4/12/2022	4/28/2022
N050275-006B	IRZ-15-55-0422	Groundwater	4/12/2022 10:45:00 AM	4/12/2022	4/28/2022
N050275-006C	IRZ-15-55-0422	Groundwater	4/12/2022 10:45:00 AM	4/12/2022	4/28/2022
N050275-006D	IRZ-15-55-0422	Groundwater	4/12/2022 10:45:00 AM	4/12/2022	4/28/2022
N050275-007A	IRZ-21-157-0422	Groundwater	4/12/2022 11:00:00 AM	4/12/2022	4/28/2022
N050275-007B	IRZ-21-157-0422	Groundwater	4/12/2022 11:00:00 AM	4/12/2022	4/28/2022
N050275-007C	IRZ-21-157-0422	Groundwater	4/12/2022 11:00:00 AM	4/12/2022	4/28/2022
N050275-007D	IRZ-21-157-0422	Groundwater	4/12/2022 11:00:00 AM	4/12/2022	4/28/2022
N050275-008A	IRZ-21-65-0422	Groundwater	4/12/2022 11:15:00 AM	4/12/2022	4/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050275
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050275-008B	IRZ-21-65-0422	Groundwater	4/12/2022 11:15:00 AM	4/12/2022	4/28/2022
N050275-008C	IRZ-21-65-0422	Groundwater	4/12/2022 11:15:00 AM	4/12/2022	4/28/2022
N050275-008D	IRZ-21-65-0422	Groundwater	4/12/2022 11:15:00 AM	4/12/2022	4/28/2022
N050275-009A	IRZ-25-166-0422	Groundwater	4/12/2022 11:30:00 AM	4/12/2022	4/28/2022
N050275-009B	IRZ-25-166-0422	Groundwater	4/12/2022 11:30:00 AM	4/12/2022	4/28/2022
N050275-009C	IRZ-25-166-0422	Groundwater	4/12/2022 11:30:00 AM	4/12/2022	4/28/2022
N050275-009D	IRZ-25-166-0422	Groundwater	4/12/2022 11:30:00 AM	4/12/2022	4/28/2022
N050275-010A	IRZ-25-67-0422	Groundwater	4/12/2022 11:45:00 AM	4/12/2022	4/28/2022
N050275-010B	IRZ-25-67-0422	Groundwater	4/12/2022 11:45:00 AM	4/12/2022	4/28/2022
N050275-010C	IRZ-25-67-0422	Groundwater	4/12/2022 11:45:00 AM	4/12/2022	4/28/2022
N050275-010D	IRZ-25-67-0422	Groundwater	4/12/2022 11:45:00 AM	4/12/2022	4/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	11	0.025	0.20		µg/L	1	4/13/2022 01:11 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	1.3	10		µg/L	50	4/13/2022 03:14 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	6.2	0.025	0.20		µg/L	1	4/13/2022 01:30 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	710	2.5	20		µg/L	100	4/13/2022 05:06 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-200-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	320	1.3	10		µg/L	50	4/13/2022 05:26 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	260	0.18	5.0		µg/L	5	4/15/2022 09:52 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-55-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	960	2.5	20		µg/L	100	4/13/2022 06:13 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220419B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	930	0.88	25		µg/L	25	4/19/2022 09:45 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-157-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	1.3	10		µg/L	50	4/13/2022 06:32 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	460	0.18	5.0		µg/L	5	4/15/2022 10:04 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-65-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	370	1.3	10		µg/L	50	4/13/2022 06:51 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	350	0.18	5.0		µg/L	5	4/15/2022 10:10 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-166-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1400	5.0	40		µg/L	200	4/13/2022 02:46 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	1300	0.88	25		µg/L	25	4/15/2022 10:16 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-67-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220413A**	QC Batch: **R161595**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2600	13	100		µg/L	500	4/13/2022 02:55 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	2500	0.88	25		µg/L	25	4/15/2022 10:22 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R161595	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	PBW	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599522

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R161595	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	LCSW	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599523

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.055	0.20	5.000	0	101	90	110				

Sample ID	N050274-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599526

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.341	0.20	1.000	0.3428	99.8	90	110				

Sample ID	N050274-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599527

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.034	0.20	1.000	0	103	90	110				

Sample ID	N050274-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.447	1.0	25.00	25.79	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N050274-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1357.070	20	500.0	839.0	104	90	110				

Sample ID **N050274-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2734.920	40	1000	1682	105	90	110				

Sample ID **N050274-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2685.840	40	1000	1666	102	90	110				

Sample ID **N050274-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID **N050274-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161595**
Client ID: **ZZZZZZ**	Batch ID: **R161595**	TestNo: **EPA 218.6**		Analysis Date: **4/13/2022**	SeqNo: **4599552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N050275-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595		
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599554		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	15.789	0.20	5.000	10.61	104	90	110						

Sample ID	N050274-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595		
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599555		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	1.034	0.20	1.000	0	103	90	110	0.9928	4.10	20			

Sample ID	N050275-003ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595		
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599556		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	6.083	0.20						6.191	1.76	20			

Sample ID	N050275-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595		
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599559		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	11.423	0.20	5.000	6.191	105	90	110						

Sample ID	N050275-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595		
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599560		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	668.695	10	250.0	414.6	102	90	110						

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N050275-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1240.290	20	500.0	707.7	107	90	110				

Sample ID **N050275-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	587.960	10	250.0	325.0	105	90	110				

Sample ID **N050275-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599565**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2408.980	40	1000	1386	102	90	110				

Sample ID **N050275-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1466.170	20	500.0	961.6	101	90	110				

Sample ID **N050275-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161595**
Client ID: **ZZZZZZ** Batch ID: **R161595** TestNo: **EPA 218.6** Analysis Date: **4/13/2022** SeqNo: **4599571**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	668.670	10	250.0	410.7	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N050275-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599573

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	633.445	10	250.0	369.4	106	90	110				

Sample ID	N050274-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.231	1.0	5.000	0	105	90	110				

Sample ID	N050274-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.407	1.0	5.000	0	108	90	110				

Sample ID	N050275-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	161595
Client ID:	ZZZZZZ	Batch ID:	R161595	TestNo:	EPA 218.6			Analysis Date:	4/13/2022	SeqNo:	4599580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4907.450	100	2500	2551	94.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-92386	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	PBW	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4604891

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-92386	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	LCSW	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4604892

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.749	1.0	10.00	0	97.5	85	115				

Sample ID	N050274-005CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4604909

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.677	1.0	10.00	0.7946	88.8	75	125				

Sample ID	N050274-005CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4604910

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.567	1.0	10.00	0.7946	87.7	75	125	9.677	1.15	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N050274-005C-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4604906

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.569	1.0	10.00	0.7946	87.7	80	120				

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-200-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220414A** QC Batch: **R161599** PrepDate: Analyst: **RAB**							
Sulfate	500	3.0	25		mg/L	50	4/14/2022 01:41 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220413A** QC Batch: **R161572** PrepDate: Analyst: **RAB**							
Nitrate as N	1.5	0.095	0.50		mg/L	10	4/13/2022 08:42 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-55-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A**	QC Batch: **R161599**			PrepDate:			Analyst: **RAB**
Sulfate	770	6.1	50		mg/L	100	4/14/2022 04:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.095	0.50		mg/L	10	4/13/2022 09:28 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-157-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A**	QC Batch: **R161599**			PrepDate:			Analyst: **RAB**
Sulfate	600	6.1	50		mg/L	100	4/14/2022 04:37 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A**	QC Batch: **R161572**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.50	0.095	0.50		mg/L	10	4/13/2022 08:57 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-65-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220414A** QC Batch: **R161599** PrepDate: Analyst: **RAB**							
Sulfate	540	3.0	25		mg/L	50	4/14/2022 04:52 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220413A** QC Batch: **R161572** PrepDate: Analyst: **RAB**							
Nitrate as N	0.76	0.095	0.50		mg/L	10	4/13/2022 09:12 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-166-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220414A** QC Batch: **R161599** PrepDate: Analyst: **RAB**							
Sulfate	380	3.0	25		mg/L	50	4/14/2022 05:38 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220413A** QC Batch: **R161572** PrepDate: Analyst: **RAB**							
Nitrate as N	7.2	0.095	0.50		mg/L	10	4/13/2022 09:43 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-67-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Sulfate	300	1.2	10		mg/L	20	4/14/2022 05:53 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220413A** QC Batch: **R161572**				PrepDate:			Analyst: **RAB**
Nitrate as N	14	0.095	0.50		mg/L	10	4/13/2022 09:58 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R161599_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161599
Client ID:	PBW	Batch ID:	R161599	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600011

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R161599_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161599
Client ID:	LCSW	Batch ID:	R161599	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600012

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.967	0.50	4.000	0	99.2	90	110				

Sample ID	N050298-003BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161599
Client ID:	ZZZZZZ	Batch ID:	R161599	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600016

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	605.875	25	200.0	402.2	102	80	120				

Sample ID	N050298-003BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161599
Client ID:	ZZZZZZ	Batch ID:	R161599	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600017

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	611.470	25	200.0	402.2	105	80	120	605.9	0.919	20	

Sample ID	N050275-005BDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161599
Client ID:	ZZZZZZ	Batch ID:	R161599	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600021

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	496.780	25						501.6	0.964	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N050275-005BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	161599
Client ID:	ZZZZZZ	Batch ID:	R161599	TestNo:	EPA 300.0			Analysis Date:	4/14/2022	SeqNo:	4600022

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	709.160	25	200.0	501.6	104	80	120				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R161572_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	PBW	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598731

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R161572_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	LCSW	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598732

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.248	0.050	1.250	0	99.8	90	110				

Sample ID	N050274-005BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	ZZZZZZ	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598745

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.953	0.50	12.50	0	95.6	80	120				

Sample ID	N050274-005BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	ZZZZZZ	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598746

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.078	0.50	12.50	0	96.6	80	120	11.95	1.04	20	

Sample ID	N050277-004BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	161572
Client ID:	ZZZZZZ	Batch ID:	R161572	TestNo:	EPA 300.0			Analysis Date:	4/13/2022	SeqNo:	4598757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	10.074	0.25						10.14	0.638	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 06:44 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 07:00 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 07:16 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 07:32 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-200-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 07:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-55-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 08:34 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-157-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 08:49 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-65-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220413A**	QC Batch: **R161603**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/13/2022 09:05 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-166-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/14/2022 12:01 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-67-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/14/2022 12:17 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R161603**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **PBW**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R161603**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **LCSW**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.904	1.0	5.000	0	98.1	85	115				

Sample ID **N050274-005DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **ZZZZZZ**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.596	20	100.0	0	86.6	75	125				

Sample ID **N050274-005DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161603**
Client ID: **ZZZZZZ**	Batch ID: **R161603**	TestNo: **SM 5310C**		Analysis Date: **4/13/2022**	SeqNo: **4599722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.538	20	100.0	0	86.5	75	125	86.60	0.0670	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID	MB-R161604	SampType:	MBLK	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	161604
Client ID:	PBW	Batch ID:	R161604	TestNo:	SM 5310C			Analysis Date:	4/14/2022	SeqNo:	4600233

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID	LCS-R161604	SampType:	LCS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	161604
Client ID:	LCSW	Batch ID:	R161604	TestNo:	SM 5310C			Analysis Date:	4/14/2022	SeqNo:	4600234

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.978	1.0	5.000	0	99.6	85	115				

Sample ID	N050298-003DMS	SampType:	MS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	161604
Client ID:	ZZZZZZ	Batch ID:	R161604	TestNo:	SM 5310C			Analysis Date:	4/14/2022	SeqNo:	4600248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	22.434	5.0	25.00	0.4310	88.0	75	125				

Sample ID	N050298-003DMSD	SampType:	MSD	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	161604
Client ID:	ZZZZZZ	Batch ID:	R161604	TestNo:	SM 5310C			Analysis Date:	4/14/2022	SeqNo:	4600249

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	22.423	5.0	25.00	0.4310	88.0	75	125	22.43	0.0468	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:36 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418E**	QC Batch: **92419**			PrepDate:		**4/14/2022**	Analyst: **DJ**
Iron	340	13	20		µg/L	1	4/18/2022 03:25 PM

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050275-002

Client Sample ID: IRZ-13D-0422
Collection Date: 4/12/2022 1:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:41 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418E**	QC Batch: **92419**			PrepDate:		**4/14/2022**	Analyst: **DJ**
Iron	630	13	20		µg/L	1	4/18/2022 03:50 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:47 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418E**	QC Batch: **92419**			PrepDate:		**4/14/2022**	Analyst: **DJ**
Iron	180	13	20		µg/L	1	4/18/2022 04:14 PM

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050275-004

Client Sample ID: IRZ-23-0422
Collection Date: 4/12/2022 1:45:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:		**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:53 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418E**	QC Batch: **92419**			PrepDate:		**4/14/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	4/18/2022 04:19 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-200-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 04:59 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-55-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 05:05 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-157-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 05:11 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-65-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220414B**	QC Batch: **92379**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 05:17 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-166-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92381**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 08:25 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-67-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220414B**	QC Batch: **92381**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 08:31 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	LCS-92379	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	LCSW	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600080

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	91.186	20	100.0	0	91.2	85	115				

Sample ID	N050274-005CMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	ZZZZZZ	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600093

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	300.332	20	100.0	213.5	86.8	75	125				

Sample ID	N050274-005CMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	ZZZZZZ	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600094

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	292.736	20	100.0	213.5	79.2	75	125	300.3	2.56	20	

Sample ID	MB-92379	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	PBW	Batch ID:	92379	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600110

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	LCS-92381	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	LCSW	Batch ID:	92381	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600116

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.031	20	100.0	0	113	85	115				

Sample ID	N050275-010C-MS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	ZZZZZZ	Batch ID:	92381	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600121

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.533	20	100.0	0	99.5	75	125				

Sample ID	N050275-010C-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	ZZZZZZ	Batch ID:	92381	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600122

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.006	20	100.0	0	99.0	75	125	99.53	0.531	20	

Sample ID	MB-92381	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161614
Client ID:	PBW	Batch ID:	92381	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/14/2022	SeqNo:	4600142

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	N050275-001D-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	4/14/2022	RunNo:	161697		
Client ID:	ZZZZZZ	Batch ID:	92419	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4606762		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Iron	590.406	20	100.0	338.7	252	75	125				S		

Sample ID	N050275-001D-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	4/14/2022	RunNo:	161697		
Client ID:	ZZZZZZ	Batch ID:	92419	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4606763		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Iron	490.622	20	100.0	338.7	152	75	125	590.4	18.5	20	S		

Sample ID	MB-92419	SampType:	MBLK	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	4/14/2022	RunNo:	161697		
Client ID:	PBW	Batch ID:	92419	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4606767		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Iron	ND	20											

Sample ID	LCS-92419	SampType:	LCS	TestCode:	6010_WPGE	Units:	µg/L	Prep Date:	4/14/2022	RunNo:	161697		
Client ID:	LCSW	Batch ID:	92419	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4606768		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Iron	85.400	20	100.0	0	85.4	85	115						

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050274-005C-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **161614**
Client ID: **ZZZZZZ** Batch ID: **92379** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/14/2022** SeqNo: **4600092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	298.818	20	100.0	213.5	85.3	80	120				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050275-010C-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **161614**
Client ID: **ZZZZZZ**	Batch ID: **92381**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	93.975	20	100.0	0	94.0	80	120				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **N050275-001D-PS**	SampType: **PS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date:	RunNo: **161697**
Client ID: **ZZZZZZ**	Batch ID: **92419**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4606761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	552.932	20	100.0	338.7	214	80	120				S

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Manganese	1.8	0.026	0.50		µg/L	1	4/18/2022 01:22 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220418C** QC Batch: **92446**				PrepDate:		**4/16/2022**	Analyst: **DJ**
Manganese	28	0.026	0.50		µg/L	1	4/18/2022 01:28 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Manganese	2.9	0.026	0.50		µg/L	1	4/18/2022 01:34 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 1:45:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	4/18/2022 01:40 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-200-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**	Analyst: **DJ**	
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 06:19 PM
Barium	82	0.083	1.0		µg/L	1	4/15/2022 06:19 PM
Manganese	3.8	0.026	0.50		µg/L	1	4/15/2022 06:19 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-15-55-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 10:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 06:25 PM
Barium	31	0.083	1.0		µg/L	1	4/15/2022 06:25 PM
Manganese	5.9	0.026	0.50		µg/L	1	4/15/2022 06:25 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-157-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 06:31 PM
Barium	77	0.083	1.0		µg/L	1	4/15/2022 06:31 PM
Manganese	160	0.026	0.50		µg/L	1	4/15/2022 06:31 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-21-65-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 06:37 PM
Barium	63	0.083	1.0		µg/L	1	4/15/2022 06:37 PM
Manganese	53	0.026	0.50		µg/L	1	4/15/2022 06:37 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-166-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**				PrepDate:	**4/13/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/15/2022 06:55 PM
Barium	39	0.083	1.0		µg/L	1	4/15/2022 06:55 PM
Manganese	6.2	0.026	0.50		µg/L	1	4/15/2022 06:55 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-25-67-0422
Lab Order:	N050275	**Collection Date:**	4/12/2022 11:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050275-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220415B**	QC Batch: **92386**			PrepDate:	**4/13/2022**	Analyst: **DJ**	
Arsenic	0.85	0.050	0.10		µg/L	1	4/15/2022 07:01 PM
Barium	25	0.083	1.0		µg/L	1	4/15/2022 07:01 PM
Manganese	13	0.026	0.50		µg/L	1	4/15/2022 07:01 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-92386**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **PBW**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.037	0.50									

Sample ID **LCS-92386**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **LCSW**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.237	0.10	10.00	0	92.4	85	115				
Barium	9.648	1.0	10.00	0	96.5	85	115				
Manganese	98.582	0.50	100.0	0	98.6	85	115				

Sample ID **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.575	0.10	10.00	3.589	89.9	75	125				

Sample ID **N050274-005CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.499	0.10	10.00	3.589	89.1	75	125	12.58	0.607	20	

Sample ID **N050274-005CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N050274-005CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605070

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	297.366	5.0	10.00	232.8	646	75	125				S

Sample ID	N050274-005CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605072

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4557.629	62	100.0	5395	-837	75	125				S

Sample ID	N050274-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605075

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	307.111	5.0	10.00	232.8	743	75	125	297.4	3.22	20	S

Sample ID	N050274-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/13/2022	RunNo:	161676
Client ID:	ZZZZZZ	Batch ID:	92386	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/15/2022	SeqNo:	4605077

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4344.363	62	100.0	5395	-1050	75	125	4558	4.79	20	S

Qualifiers:

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

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-92446	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161710
Client ID:	PBW	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4607419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.062	0.50									

Sample ID	LCS-92446	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161710
Client ID:	LCSW	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4607420

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.778	0.10	10.00	0	97.8	85	115				
Manganese	96.994	0.50	100.0	0	97.0	85	115				

Sample ID	N050298-003CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161710
Client ID:	ZZZZZZ	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4607435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.114	0.50	100.0	0	91.1	75	125				

Sample ID	N050298-003CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161710
Client ID:	ZZZZZZ	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4607436

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.008	0.50	100.0	0	89.0	75	125	91.11	2.34	20	

Sample ID	MB-92446	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161740
Client ID:	PBW	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/19/2022	SeqNo:	4610523

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	LCS-92446	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161740
Client ID:	LCSW	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/19/2022	SeqNo:	4610524

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.641	1.0	10.00	0	96.4	85	115				

Sample ID	N050298-003CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161740
Client ID:	ZZZZZZ	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/19/2022	SeqNo:	4610536

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	86.179	1.0	10.00	80.45	57.3	75	125				S

Sample ID	N050298-003CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161740
Client ID:	ZZZZZZ	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/20/2022	SeqNo:	4610538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	87.156	1.0	10.00	80.45	67.1	75	125	86.18	1.13	20	S

Sample ID	N050298-003CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161710
Client ID:	ZZZZZZ	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4619373

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.388	0.10	10.00	0.2722	101	75	125				

Sample ID	N050298-003CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	4/16/2022	RunNo:	161710
Client ID:	ZZZZZZ	Batch ID:	92446	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	4/18/2022	SeqNo:	4619374

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.715	0.10	10.00	0.2722	104	75	125	10.39	3.10	20	

Qualifiers:

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

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050274-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.517	0.10	10.00	3.589	89.3	80	120				

Sample ID: **N050274-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605067**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	292.300	5.0	10.00	232.8	595	80	120				S

Sample ID: **N050274-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161676**
Client ID: **ZZZZZZ**	Batch ID: **92386**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/15/2022**	SeqNo: **4605069**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4245.370	62	100.0	5395	-1150	80	120				S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050275
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	88.755	0.50	100.0	0	88.8	80	120				

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161740**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/19/2022**	SeqNo: **4610534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	86.278	1.0	10.00	80.45	58.3	80	120				S

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4619372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.298	0.10	10.00	0.2722	100	80	120				

Qualifiers:

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

N050275

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Arleta Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ (RWQCB); Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@citigen.com	Email to: mbloes@pivox.com	P.O.#
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Phone: 949-727-1400. ext 200	Fax:
Submitted By: Kevin A.	Phone: 916-786-3302 Fax:		
Title: Other Person			
Signature: Date: 4-12-22	Sampled By: GARY BANIS		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally misleading the sample location, date or time of collection is considered fraud and may		
Project Name: PG&L Topock - PCM	Signature: Date: 4-12-22		
Project Number: 30121886.2022GW			

Sample Receipt Condition: 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number; 6. Method of Cooling: ICE

Sample temp: 3.1°C / 2.3°C / 2.9°C

Courier: FEDEX

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Matrix	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate/Nitrite (SM4500NO3) Nitrogen; H2SO4 125 mL poly	Dissolved metals (SW6020) FF; HNO3 Iron, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050275-01	IRZ-09-0422	Ground	4/12/22	[illegible]		X		X			X	X	E	6	P	BNS	
2	-02	IRZ-13D-0422	Ground	4/12/22	1515		X		X			X	X	E	6	P	BNS	
3	-03	IRZ-13S-0422	Ground	4/12/22	1350		X		X			X	X	E	6	P	BNS	
4	-04	IRZ-23-0422	Ground	4/12/22	1150		X		X			X	X	E	6	P	BNS	
5																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
[signature]	4/12/22 1300	[signature] DOMEQ MCNAMARA	4/12/22 1630
DOMEQ MCNAMARA	4/12/22 1921	DOMEQ MCNAMARA	4/12/22 1921

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=$Zn(AC)_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Teflar; G=Glass; M=Metal; M=Metal; C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs =200% Next Day= 100% 2 Workdays =50% 3 Workdays = 35 % 4 Workdays = 20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample
6. Asset Laboratories is not responsible for sampler collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QAQC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@cdtlaw.com	Address:	Sample Receipt Condition: Y N; 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Sample Temp: 3.1°C / 2.3°C / 2.9°C
Submitted By: Keaton A.	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:	
Title: O+M Technician			
Signature: Date: 4-12-22	Sampled By: Keaton Ashley		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&L Topock - PCM	Signature: Date: 4-12-22		
Project Number: 30121866.2022GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050275-05	IRZ-15-200-0422	4-12-22	1025A		X	X	X	X		X			E	6	P	BNS	
2	-06	IRZ-15-55-0422	4-12-22	1045A		X	X	X	X		X			E	6	P	BNS	
3	-07	IRZ-21-157-0422	4-12-22	1115A		X	X	X	X		X			E	6	P	BNS	
4	-08	IRZ-21-65-0422	4-12-22	1145A		X	X	X	X		X			E	6	P	BNS	
5	-09	IRZ-25-166-0422	4-12-22	1130A		X	X	X	X		X			E	6	P	BNS	
6	-10	IRZ-25-67-0422		MS/MSD		X	X	X	X		X			E	6	P	BNS	
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Courier: ASSET
Tracking No.:

Relinquished by (Signature and Printed Name):	Date/Time: 4/12/22 1830	Received by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Dan ROMEO KUCHARA	Date/Time: 4/12/22 1921	Received by (Signature and Printed Name): Dan ROMEO KUCHARA Date/Time: 4/12/22 1921
Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs - 200% Next Day - 100% 2 Workdays - 50% 3 Workdays - 35 % 4 Workdays - 20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable samples
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontracted analysis, TAT and Surcharges will vary

White=Laboratory Copy

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=$Zn(AC)_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Plnt; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/12/2022	Workorder:	N050275
Rep sample Temp (Deg C):	3.1/2.3/2.9	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Sample 10: Collection date/time taken from labels.

For:

Checklist Completed By: GGJ YRJ 4/14/2022

Reviewed By: MBC 4/24/2022

ASSET Laboratories

WORK ORDER Summary

24-Apr-22

WorkOrder: N050275

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050275-001A	IRZ-09-0422	4/12/2022 1:00:00 PM	4/26/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-001B			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-001C			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-001D			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050275-002A	IRZ-13D-0422	4/12/2022 1:15:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-002B			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-002C			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-002D			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050275-003A	IRZ-13S-0422	4/12/2022 1:30:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-003B			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-003C			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

24-Apr-22

WorkOrder: N050275

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050275-003D	IRZ-13S-0422	4/12/2022 1:30:00 PM	4/26/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050275-004A	IRZ-23-0422	4/12/2022 1:45:00 PM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-004B			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-004C			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-004D			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050275-005A	IRZ-15-200-0422	4/12/2022 10:25:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-005B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050275-005C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-005D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-006A	IRZ-15-55-0422	4/12/2022 10:45:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-006B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Apr-22

WorkOrder: N050275

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050275-006C	IRZ-15-55-0422	4/12/2022 10:45:00 AM	4/26/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-006D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-007A	IRZ-21-157-0422	4/12/2022 11:00:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-007B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050275-007C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-007D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-008A	IRZ-21-65-0422	4/12/2022 11:15:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-008B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050275-008C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-Apr-22

WorkOrder: N050275

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050275-008C	IRZ-21-65-0422	4/12/2022 11:15:00 AM	4/26/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-008D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-009A	IRZ-25-166-0422	4/12/2022 11:30:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-009B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050275-009C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-009D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-010A	IRZ-25-67-0422	4/12/2022 11:45:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050275-010B			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/26/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050275-010C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050275-010D			4/26/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050275-011A	FOLDER	4/26/2022	4/26/2022		Folder	Folder	☐	☐	☐	LAB
			4/26/2022		Folder	Level IV Report	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

24-Apr-22

WorkOrder: N050275

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050275-011A	FOLDER	4/26/2022	4/26/2022		Folder	Folder	☐	☐	☐	LAB

April 26, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050276

RE: PG&E Topock - OMM TCS PWTF, 30106892

Attention: Brian Prowd

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

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

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

Sincerely,



Nancy Sibucao
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab Order: N050276

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab Order: N050276
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050276-001A	Backwash Pre-filter-041122	Water	4/11/2022 10:05:00 AM	4/12/2022	4/26/2022
N050276-001B	Backwash Pre-filter-041122	Water	4/11/2022 10:05:00 AM	4/12/2022	4/26/2022
N050276-001C	Backwash Pre-filter-041122	Water	4/11/2022 10:05:00 AM	4/12/2022	4/26/2022
N050276-002A	Backwash Post-filter-041122	Water	4/11/2022 10:15:00 AM	4/12/2022	4/26/2022
N050276-002B	Backwash Post-filter-041122	Water	4/11/2022 10:15:00 AM	4/12/2022	4/26/2022
N050276-002C	Backwash Post-filter-041122	Water	4/11/2022 10:15:00 AM	4/12/2022	4/26/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab ID: N050276-001

Client Sample ID: Backwash Pre-filter-041122
Collection Date: 4/11/2022 10:05:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220414C** QC Batch: **R161624**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	1.3	10		µg/L	50	4/14/2022 11:35 PM
TOTAL METALS BY ICPMS							
			EPA 3010A	**EPA 6020**			
RunID: **NV00922-ICP8_220414A** QC Batch: **92387**				PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	380	0.18	5.0		µg/L	5	4/15/2022 03:58 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab ID: N050276-002

Client Sample ID: Backwash Post-filter-041122
Collection Date: 4/11/2022 10:15:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220414C**	QC Batch: **R161624**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	420	1.3	10		µg/L	50	4/14/2022 11:54 PM
TOTAL METALS BY ICPMS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220414A**	QC Batch: **92387**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Chromium	420	0.18	5.0		µg/L	5	4/15/2022 04:04 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R161624**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **PBW**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/14/2022**	SeqNo: **4601772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R161624**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **LCSW**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/14/2022**	SeqNo: **4601773**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.068	0.20	5.000	0	101	90	110				

Sample ID: **N050300-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **ZZZZZZ**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/14/2022**	SeqNo: **4601775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.399	0.20	5.000	4.407	99.8	90	110				

Sample ID: **N050300-014AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **ZZZZZZ**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/14/2022**	SeqNo: **4601778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.453	0.20	5.000	4.407	101	90	110	9.399	0.575	20	

Sample ID: **N050301-002ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **ZZZZZZ**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/14/2022**	SeqNo: **4601780**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.757	0.20						4.739	0.388	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050301-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **ZZZZZZ**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/14/2022**	SeqNo: **4601781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.826	0.20	5.000	4.739	102	90	110				

Sample ID: **N050276-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **ZZZZZZ**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/14/2022**	SeqNo: **4601804**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	675.895	10	250.0	413.1	105	90	110				

Sample ID: **N050276-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161624**
Client ID: **ZZZZZZ**	Batch ID: **R161624**	TestNo: **EPA 218.6**		Analysis Date: **4/15/2022**	SeqNo: **4601806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	676.900	10	250.0	423.5	101	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID: **MB-92387**	SampType: **MBLK**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161620**
Client ID: **PBW**	Batch ID: **92387**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92387**	SampType: **LCS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161620**
Client ID: **LCSW**	Batch ID: **92387**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.985	1.0	10.00	0	89.9	85	115				

Sample ID: **N050088-003A-MS**	SampType: **MS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161620**
Client ID: **ZZZZZZ**	Batch ID: **92387**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.924	1.0	10.00	0.05717	88.7	75	125				

Sample ID: **N050088-003A-MSD**	SampType: **MSD**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161620**
Client ID: **ZZZZZZ**	Batch ID: **92387**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.037	1.0	10.00	0.05717	89.8	75	125	8.924	1.26	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab ID: N050276-001

Client Sample ID: Backwash Pre-filter-041122
Collection Date: 4/11/2022 10:05:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92381**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 06:53 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-041122
Lab Order:	N050276	**Collection Date:**	4/11/2022 10:15:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N050276-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220414B**	QC Batch: **92381**			PrepDate:	**4/13/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/14/2022 06:59 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **LCS-92381**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **LCSW**	Batch ID: **92381**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600116**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	113.031	20	100.0	0	113	85	115				

Sample ID: **N050275-010C-MS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **ZZZZZZ**	Batch ID: **92381**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.533	20	100.0	0	99.5	75	125				

Sample ID: **N050275-010C-MSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **ZZZZZZ**	Batch ID: **92381**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.006	20	100.0	0	99.0	75	125	99.53	0.531	20	

Sample ID: **MB-92381**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/13/2022**	RunNo: **161614**
Client ID: **PBW**	Batch ID: **92381**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/14/2022**	SeqNo: **4600142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-041122
Lab Order:	N050276	**Collection Date:**	4/11/2022 10:05:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N050276-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**				PrepDate:	**4/16/2022**	Analyst: **DJ**
Manganese	70	0.026	0.50		µg/L	1	4/18/2022 01:46 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-041122
Lab Order:	N050276	**Collection Date:**	4/11/2022 10:15:00 AM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N050276-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Manganese	71	0.026	0.50		µg/L	1	4/18/2022 01:52 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050276
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92446**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **PBW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.062	0.50									

Sample ID: **LCS-92446**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **LCSW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	96.994	0.50	100.0	0	97.0	85	115				

Sample ID: **N050298-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.114	0.50	100.0	0	91.1	75	125				

Sample ID: **N050298-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.008	0.50	100.0	0	89.0	75	125	91.11	2.34	20	

Qualifiers:

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

ARCUS02
FOLDER
N050276-003A

C: 4/28/2022 12:00 AM
R: 4/12/2022
1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes
Address: 101 Creekside Ridge Ct, Suite 200	Company: Arcadis	Address:
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com P.O.# SWA-ASSET-C9817-051
Submitted By: Kevin A.	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:
Title: O+M Operator		
Signature: Date: 4-11-22	Sampled By: Kevin A.	
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*	
Project Name: PG&E Topock - OMM TCS PWTF	Signature: Date: 4-11-22	
Project Number: 30106892		

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present	✓	
5. IR number	2	
6. Method of Cooling: ICE		
Sample Temp: 3-1 °C		

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Matrix	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH; Filtered (250 mL poly)	Dissolved metals: iron, manganese (SW6020) HNO3; Filtered (500 mL poly)	Total chromium (SW6020) HNO3; NOT Filtered (500 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050276-01	Backwash Pre-filter--041122	Water	4/11/22	10:05 AM		x	x	x	E	3	PV	BNS	
2	-02	Backwash Post-filter-041122	Water	4/11/22	10:15 AM		x	x	x	E	3	PV	BNS	
3										E	3	PV	BNS	
4										E	3	PV	BNS	
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														

Matrix: Ground, Sediment, Potable, Soil, NPDES, Other Solid, Surface, Water (X)

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
	4-12-22 1230	ROMEO RICAMARA	4/12/22 1630
Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
ROMEO RICAMARA	4/12/22 1921	ROMEO RICAMARA	4/12/22 1921
Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/12/2022	Workorder:	N050276
Rep sample Temp (Deg C):	3.1	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 4/13/2022

Reviewed By: MBC 4/19/2022

ASSET Laboratories

WORK ORDER Summary

19-Apr-22

WorkOrder: N050276

Client ID: ARCUS02

Project: PG&E Topock - OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 4/12/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050276-001A	Backwash Pre-filter-041122	4/11/2022 10:05:00 AM	4/26/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050276-001B			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050276-001C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N050276-002A	Backwash Post-filter-041122	4/11/2022 10:15:00 AM	4/26/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050276-002B			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/26/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050276-002C			4/26/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/26/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N050276-003A	FOLDER	4/26/2022	4/26/2022		Folder	Folder	☐	☐	☐	LAB
			4/26/2022		Folder	Level IV Report	☐	☐	☐	LAB
			4/26/2022		Folder	Folder	☐	☐	☐	LAB

April 28, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050298

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 13, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

for

Nancy Sibucao
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050298

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050298-003DMS/MSD at lower dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N050298-003D and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) is outside recovery for Iron in QC samples N050298-003CMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery for Barium in QC samples N050298-003CMS and N050298-003CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050298
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050298-001A	MW-78-070-0422	Groundwater	4/13/2022 1:23:00 PM	4/13/2022	4/28/2022
N050298-001B	MW-78-070-0422	Groundwater	4/13/2022 1:23:00 PM	4/13/2022	4/28/2022
N050298-001C	MW-78-070-0422	Groundwater	4/13/2022 1:23:00 PM	4/13/2022	4/28/2022
N050298-001D	MW-78-070-0422	Groundwater	4/13/2022 1:23:00 PM	4/13/2022	4/28/2022
N050298-002A	MW-78-142-0422	Groundwater	4/13/2022 12:26:00 PM	4/13/2022	4/28/2022
N050298-002B	MW-78-142-0422	Groundwater	4/13/2022 12:26:00 PM	4/13/2022	4/28/2022
N050298-002C	MW-78-142-0422	Groundwater	4/13/2022 12:26:00 PM	4/13/2022	4/28/2022
N050298-002D	MW-78-142-0422	Groundwater	4/13/2022 12:26:00 PM	4/13/2022	4/28/2022
N050298-003A	MW-79-058-0422	Groundwater	4/13/2022 11:26:00 AM	4/13/2022	4/28/2022
N050298-003B	MW-79-058-0422	Groundwater	4/13/2022 11:26:00 AM	4/13/2022	4/28/2022
N050298-003C	MW-79-058-0422	Groundwater	4/13/2022 11:26:00 AM	4/13/2022	4/28/2022
N050298-003D	MW-79-058-0422	Groundwater	4/13/2022 11:26:00 AM	4/13/2022	4/28/2022
N050298-004A	MW-79-102-0422	Groundwater	4/13/2022 10:35:00 AM	4/13/2022	4/28/2022
N050298-004B	MW-79-102-0422	Groundwater	4/13/2022 10:35:00 AM	4/13/2022	4/28/2022
N050298-004C	MW-79-102-0422	Groundwater	4/13/2022 10:35:00 AM	4/13/2022	4/28/2022
N050298-004D	MW-79-102-0422	Groundwater	4/13/2022 10:35:00 AM	4/13/2022	4/28/2022
N050298-005A	MW-26-0422	Groundwater	4/13/2022 9:41:00 AM	4/13/2022	4/28/2022
N050298-005B	MW-26-0422	Groundwater	4/13/2022 9:41:00 AM	4/13/2022	4/28/2022
N050298-005C	MW-26-0422	Groundwater	4/13/2022 9:41:00 AM	4/13/2022	4/28/2022
N050298-005D	MW-26-0422	Groundwater	4/13/2022 9:41:00 AM	4/13/2022	4/28/2022
N050298-006A	MW-51-0422	Groundwater	4/13/2022 8:57:00 AM	4/13/2022	4/28/2022
N050298-006B	MW-51-0422	Groundwater	4/13/2022 8:57:00 AM	4/13/2022	4/28/2022
N050298-006C	MW-51-0422	Groundwater	4/13/2022 8:57:00 AM	4/13/2022	4/28/2022
N050298-006D	MW-51-0422	Groundwater	4/13/2022 8:57:00 AM	4/13/2022	4/28/2022
N050298-007A	EB-703-Q222	Groundwater	4/13/2022 1:35:00 PM	4/13/2022	4/28/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 1:23:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220416A** QC Batch: **R161682** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	1900	5.0	40		µg/L	200	4/16/2022 09:42 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4900	25	200		µg/L	1000	4/16/2022 10:49 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 11:26:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220416A** QC Batch: **R161682** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2800	13	100		µg/L	500	4/16/2022 09:14 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 10:35:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220416A** QC Batch: **R161682** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2400	13	100		µg/L	500	4/16/2022 11:07 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220416A** QC Batch: **R161682** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	740	5.0	40		µg/L	200	4/16/2022 11:40 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 8:57:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1800	13	100		µg/L	500	4/16/2022 12:00 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-703-Q222
Lab Order:	N050298	**Collection Date:**	4/13/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220416A** QC Batch: **R161682** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	4/16/2022 12:19 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R161682**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **PBW**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R161682**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **LCSW**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	0.20	5.000	0	101	90	110				

Sample ID: **N050298-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5326.450	100	2500	2796	101	90	110				

Sample ID: **N050298-003AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5314.650	100	2500	2796	101	90	110	5326	0.222	20	

Sample ID: **N050298-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1909.560	40						1871	2.02	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050298-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2952.320	40	1000	1871	108	90	110				

Sample ID: **N050322-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16964.400	400	10000	6742	102	90	110				

Sample ID: **N050298-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10119.200	200	5000	4946	103	90	110				

Sample ID: **N050298-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605407**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5028.100	100	2500	2440	104	90	110				

Sample ID: **N050298-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1764.360	40	1000	735.4	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050298-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4330.200	100	2500	1802	101	90	110				

Sample ID: **N050298-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605413**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N050297-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605417**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.957	0.20	1.000	0	95.7	90	110				

Sample ID: **N050297-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N050322-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050323-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	227.712	4.0	100.0	128.8	98.9	90	110				

Sample ID: **N050323-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1299.140	20	500.0	777.1	104	90	110				

Sample ID: **N050323-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	844.380	20	500.0	321.6	105	90	110				

Sample ID: **N050323-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2319.220	40	1000	1332	98.7	90	110				

Sample ID: **N050323-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2288.560	40	1000	1285	100	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050323-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8468.200	200	5000	3318	103	90	110				

Sample ID: **N050323-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.965	0.20	1.000	0	96.5	90	110				

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 1:23:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220414A** QC Batch: **R161599** PrepDate: Analyst: **RAB**							
Sulfate	320	3.0	25		mg/L	50	4/14/2022 03:05 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220414A** QC Batch: **R161599** PrepDate: Analyst: **RAB**							
Nitrate as N	4.7	0.048	0.25		mg/L	5	4/14/2022 09:05 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-002

Client Sample ID: MW-78-142-0422
Collection Date: 4/13/2022 12:26:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Sulfate	910	6.1	50		mg/L	100	4/14/2022 03:20 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Nitrate as N	9.8	0.095	0.50		mg/L	10	4/14/2022 09:21 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-003

Client Sample ID: MW-79-058-0422
Collection Date: 4/13/2022 11:26:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Sulfate	400	3.0	25		mg/L	50	4/14/2022 12:55 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Nitrate as N	10	0.19	1.0		mg/L	20	4/14/2022 09:36 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-004

Client Sample ID: MW-79-102-0422
Collection Date: 4/13/2022 10:35:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Sulfate	810	6.1	50		mg/L	100	4/14/2022 03:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Nitrate as N	12	0.095	0.50		mg/L	10	4/14/2022 09:51 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-005

Client Sample ID: MW-26-0422
Collection Date: 4/13/2022 9:41:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Sulfate	480	3.0	25		mg/L	50	4/14/2022 03:51 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.1	0.095	0.50		mg/L	10	4/14/2022 10:06 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 8:57:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Sulfate	630	3.0	25		mg/L	50	4/14/2022 04:06 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220414A** QC Batch: **R161599**				PrepDate:			Analyst: **RAB**
Nitrate as N	4.7	0.095	0.50		mg/L	10	4/14/2022 10:22 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R161599_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **PBW** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4600011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R161599_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **LCSW** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4600012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.967	0.50	4.000	0	99.2	90	110				

Sample ID: **N050298-003BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **ZZZZZZ** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4600016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	605.875	25	200.0	402.2	102	80	120				

Sample ID: **N050298-003BMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **ZZZZZZ** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4600017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	611.470	25	200.0	402.2	105	80	120	605.9	0.919	20	

Sample ID: **N050275-005BDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **ZZZZZZ** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4600021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	496.780	25						501.6	0.964	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N050275-005BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **161599**
Client ID: **ZZZZZZ**	Batch ID: **R161599**	TestNo: **EPA 300.0**		Analysis Date: **4/14/2022**	SeqNo: **4600022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	709.160	25	200.0	501.6	104	80	120				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R161599_NO3** SampType: **MBLK** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **PBW** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4599984**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R161599_NO3** SampType: **LCS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **LCSW** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4599985**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.275	0.050	1.250	0	102	90	110				

Sample ID: **N050298-003BMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **ZZZZZZ** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4599998**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	34.050	1.0	25.00	10.37	94.7	80	120				

Sample ID: **N050298-003BMSD** SampType: **MSD** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **ZZZZZZ** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4599999**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	34.406	1.0	25.00	10.37	96.2	80	120	34.05	1.04	20	

Sample ID: **N050299-003BDUP** SampType: **DUP** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161599**
Client ID: **ZZZZZZ** Batch ID: **R161599** TestNo: **EPA 300.0** Analysis Date: **4/14/2022** SeqNo: **4600000**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	23.424	1.0						23.36	0.282	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 1:23:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/14/2022 03:55 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/14/2022 04:11 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 11:26:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.42	5.0		mg/L	5	4/14/2022 02:21 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 10:35:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/14/2022 04:58 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/14/2022 05:13 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 8:57:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220414A**	QC Batch: **R161604**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/14/2022 05:29 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R161604**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161604**
Client ID: **PBW**	Batch ID: **R161604**	TestNo: **SM 5310C**		Analysis Date: **4/14/2022**	SeqNo: **4600233**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R161604**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161604**
Client ID: **LCSW**	Batch ID: **R161604**	TestNo: **SM 5310C**		Analysis Date: **4/14/2022**	SeqNo: **4600234**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.978	1.0	5.000	0	99.6	85	115				

Sample ID: **N050298-003DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161604**
Client ID: **ZZZZZZ**	Batch ID: **R161604**	TestNo: **SM 5310C**		Analysis Date: **4/14/2022**	SeqNo: **4600248**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	22.434	5.0	25.00	0.4310	88.0	75	125				

Sample ID: **N050298-003DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161604**
Client ID: **ZZZZZZ**	Batch ID: **R161604**	TestNo: **SM 5310C**		Analysis Date: **4/14/2022**	SeqNo: **4600249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	22.423	5.0	25.00	0.4310	88.0	75	125	22.43	0.0468	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-001

Client Sample ID: MW-78-070-0422
Collection Date: 4/13/2022 1:23:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92438**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 05:42 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92438**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	340	13	20		µg/L	1	4/18/2022 05:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 11:26:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220418F**	QC Batch: **92438**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 05:52 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-004

Client Sample ID: MW-79-102-0422
Collection Date: 4/13/2022 10:35:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92438**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	51	13	20		µg/L	1	4/18/2022 06:26 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-005

Client Sample ID: MW-26-0422
Collection Date: 4/13/2022 9:41:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92438**			PrepDate:		**4/15/2022**	Analyst: **DJ**
Iron	33	13	20		µg/L	1	4/18/2022 06:32 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 8:57:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92438**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 06:37 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92438**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/15/2022**	RunNo: **161707**
Client ID: **PBW**	Batch ID: **92438**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **N050298-003CMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/15/2022**	RunNo: **161707**
Client ID: **ZZZZZZ**	Batch ID: **92438**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607047**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	127.269	20	100.0	0	127	75	125				S

Sample ID: **N050298-003CMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/15/2022**	RunNo: **161707**
Client ID: **ZZZZZZ**	Batch ID: **92438**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	122.622	20	100.0	0	123	75	125	127.3	3.72	20	

Sample ID: **LCS-92438**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/15/2022**	RunNo: **161707**
Client ID: **LCSW**	Batch ID: **92438**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607581**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.168	20	100.0	0	94.2	85	115				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050298-003C-PS** SampType: **PS** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: RunNo: **161707**
Client ID: **ZZZZZZ** Batch ID: **92438** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **4/18/2022** SeqNo: **4607046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	122.811	20	100.0	0	123	80	120				S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-001

Client Sample ID: MW-78-070-0422
Collection Date: 4/13/2022 1:23:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:		**4/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 02:04 PM
Barium	76	0.083	1.0		µg/L	1	4/19/2022 10:54 PM
Manganese	180	0.026	0.50		µg/L	1	4/18/2022 02:04 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 12:26:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 02:22 PM
Barium	27	0.083	1.0		µg/L	1	4/19/2022 11:00 PM
Manganese	6.2	0.026	0.50		µg/L	1	4/18/2022 02:22 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-003

Client Sample ID: MW-79-058-0422
Collection Date: 4/13/2022 11:26:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:		**4/16/2022**	Analyst: **DJ**
Arsenic	0.27	0.050	0.10		µg/L	1	4/18/2022 04:21 PM
Barium	80	0.083	1.0		µg/L	1	4/19/2022 11:06 PM
Manganese	ND	0.026	0.50		µg/L	1	4/18/2022 02:28 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050298-004

Client Sample ID: MW-79-102-0422
Collection Date: 4/13/2022 10:35:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:		**4/16/2022**	Analyst: **DJ**
Arsenic	0.90	0.050	0.10		µg/L	1	4/18/2022 04:27 PM
Barium	33	0.083	1.0		µg/L	1	4/20/2022 12:17 AM
Manganese	1.4	0.026	0.50		µg/L	1	4/18/2022 02:57 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 9:41:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 03:03 PM
Barium	84	0.083	1.0		µg/L	1	4/20/2022 12:23 AM
Manganese	720	0.13	2.5		µg/L	5	4/18/2022 06:49 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0422
Lab Order:	N050298	**Collection Date:**	4/13/2022 8:57:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050298-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 03:09 PM
Barium	37	0.083	1.0		µg/L	1	4/20/2022 12:29 AM
Manganese	0.82	0.026	0.50		µg/L	1	4/18/2022 03:09 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92446**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **PBW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.062	0.50									

Sample ID: **LCS-92446**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **LCSW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.778	0.10	10.00	0	97.8	85	115				
Manganese	96.994	0.50	100.0	0	97.0	85	115				

Sample ID: **N050298-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.114	0.50	100.0	0	91.1	75	125				

Sample ID: **N050298-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.008	0.50	100.0	0	89.0	75	125	91.11	2.34	20	

Sample ID: **MB-92446**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161740**
Client ID: **PBW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/19/2022**	SeqNo: **4610523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: LCS-92446	SampType: LCS	TestCode: 6020_DIS_TP	Units: µg/L	Prep Date: 4/16/2022	RunNo: 161740
Client ID: LCSW	Batch ID: 92446	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/19/2022	SeqNo: 4610524

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.641	1.0	10.00	0	96.4	85	115				

Sample ID: N050298-003CMS	SampType: MS	TestCode: 6020_DIS_TP	Units: µg/L	Prep Date: 4/16/2022	RunNo: 161740
Client ID: ZZZZZZ	Batch ID: 92446	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/19/2022	SeqNo: 4610536

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	86.179	1.0	10.00	80.45	57.3	75	125				S

Sample ID: N050298-003CMSD	SampType: MSD	TestCode: 6020_DIS_TP	Units: µg/L	Prep Date: 4/16/2022	RunNo: 161740
Client ID: ZZZZZZ	Batch ID: 92446	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/20/2022	SeqNo: 4610538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	87.156	1.0	10.00	80.45	67.1	75	125	86.18	1.13	20	S

Sample ID: N050298-003CMS	SampType: MS	TestCode: 6020_DIS_TP	Units: µg/L	Prep Date: 4/16/2022	RunNo: 161710
Client ID: ZZZZZZ	Batch ID: 92446	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/18/2022	SeqNo: 4619373

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.388	0.10	10.00	0.2722	101	75	125				

Sample ID: N050298-003CMSD	SampType: MSD	TestCode: 6020_DIS_TP	Units: µg/L	Prep Date: 4/16/2022	RunNo: 161710
Client ID: ZZZZZZ	Batch ID: 92446	TestNo: EPA 6020	EPA 3010A	Analysis Date: 4/18/2022	SeqNo: 4619374

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.715	0.10	10.00	0.2722	104	75	125	10.39	3.10	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050298
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	88.755	0.50	100.0	0	88.8	80	120				

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161740**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/19/2022**	SeqNo: **4610534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	86.278	1.0	10.00	80.45	58.3	80	120				S

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4619372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.298	0.10	10.00	0.2722	100	80	120				

Qualifiers:

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

ARCUS02 C: 4/27/2022 12:00 AM
FOLDER R: 4/13/2022
N050298-008A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Require...
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; dan.moore@arcadis.com	Address:	Geotracker
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec
Submitted By: Jeeter Boyd		Phone: 949-727-1400, ext 200 Fax:	Others ✓
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB
Signature: Date: 4/13/22	Sampled By: Jeeter Boyd		Global ID:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 4/13/22		
Project Number: 30121866.2Q22GW			

RTNE	RWQCB	CalTrans	LEVEL III	LEVEL IV	Regulatory	Specify State:
	✓					

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present	✓	
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 2.4°C		

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate, sulfate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	500mL poly: Total metals (SW6010) No filter, HNO3 Total Iron	1 L poly: Ammonia as Nitrogen (SM4500NH3); H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050298-01	MW-78-070-0422	4/13/2022	13:23		Ground X Sediment	X	X	X			X			E	6	P	BNS	
2	-02	MW-78-142-0422	4/13/2022	12:26		Potable Soil	X	X	X			X			E	6	P	BNS	
3	-03	MW-79-058-0422	4/13/2022	11:26		NPDES Other Solid	X	X	X			X			E	9	P	BNS	MS/MSD
4	-04	MW-79-102-0422	4/13/2022	10:35		Surface	X	X	X			X			E	6	P	BNS	
5	-05	MW-26-0422	4/13/2022	9:41			X	X	X			X			E	6	P	BNS	
6	-06	MW-51-0422	4/13/2022	8:57			X	X	X			X			E	6	P	BNS	
7	-07	EB-703-Q222	4/13/2022	13:35			X								E	1	P	BNS	
8																			
9																			
10																			
11																			
12																			
13																			
14																			

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Jeeter Boyd	4/13/22 1600	Romeo Encarnacion	4/13/22 1600
Romeo Encarnacion	4/13/22 1925	Romeo Encarnacion	4/13/22 1925

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/13/2022	Workorder:	N050298
Rep sample Temp (Deg C):	2.4	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 4/15/2022

Reviewed By: MBC 4/19/2022

ASSET Laboratories

WORK ORDER Summary

14-Apr-22

WorkOrder: N050298

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050298-001A	MW-78-070-0422	4/13/2022 1:23:00 PM	4/27/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050298-001B			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050298-001C			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050298-001D			4/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050298-002A	MW-78-142-0422	4/13/2022 12:26:00 PM	4/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050298-002B			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050298-002C			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050298-002D			4/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050298-003A	MW-79-058-0422	4/13/2022 11:26:00 AM	4/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050298-003B			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050298-003C			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			4/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

14-Apr-22

WorkOrder: N050298

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050298-003C	MW-79-058-0422	4/13/2022 11:26:00 AM	4/27/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050298-003D			4/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050298-004A	MW-79-102-0422	4/13/2022 10:35:00 AM	4/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050298-004B			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050298-004C			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050298-004D			4/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050298-005A	MW-26-0422	4/13/2022 9:41:00 AM	4/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050298-005B			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050298-005C			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050298-005D			4/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050298-006A	MW-51-0422	4/13/2022 8:57:00 AM	4/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050298-006B			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050298-006C			4/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

14-Apr-22

WorkOrder: N050298

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050298-006C	MW-51-0422	4/13/2022 8:57:00 AM	4/27/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050298-006D			4/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050298-007A	EB-703-Q222	4/13/2022 1:35:00 PM	4/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050298-008A	FOLDER	4/27/2022	4/27/2022		Folder	Folder	☐	☐	☐	LAB
			4/27/2022		Folder	Level IV Report	☐	☐	☐	LAB
			4/27/2022		Folder	Folder	☐	☐	☐	LAB

April 29, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050322

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 14, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050322

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside recovery criteria for Chromium in QC samples N050322-001B-MS and N050322-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050322
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050322-001A	MW-68-180-0422	Groundwater	4/14/2022 8:53:00 AM	4/14/2022	4/29/2022
N050322-001B	MW-68-180-0422	Groundwater	4/14/2022 8:53:00 AM	4/14/2022	4/29/2022
N050322-002A	EB-704-Q222	Groundwater	4/14/2022 4:00:00 PM	4/14/2022	4/29/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N050322-001

Client Sample ID: MW-68-180-0422
Collection Date: 4/14/2022 8:53:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	6700	50	400		µg/L	2000	4/16/2022 10:11 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220427E**	QC Batch: **92562**			PrepDate:	**4/23/2022**		Analyst: **DJ**
Chromium	7700	4.4	120		µg/L	125	4/27/2022 07:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-704-Q222
Lab Order:	N050322	**Collection Date:**	4/14/2022 4:00:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050322-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220416A** QC Batch: **R161682** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	4/16/2022 01:35 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R161682**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **PBW**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R161682**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **LCSW**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	0.20	5.000	0	101	90	110				

Sample ID: **N050298-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5326.450	100	2500	2796	101	90	110				

Sample ID: **N050298-003AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5314.650	100	2500	2796	101	90	110	5326	0.222	20	

Sample ID: **N050298-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1909.560	40						1871	2.02	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050298-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2952.320	40	1000	1871	108	90	110				

Sample ID: **N050322-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16964.400	400	10000	6742	102	90	110				

Sample ID: **N050298-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10119.200	200	5000	4946	103	90	110				

Sample ID: **N050298-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605407**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5028.100	100	2500	2440	104	90	110				

Sample ID: **N050298-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1764.360	40	1000	735.4	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050298-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4330.200	100	2500	1802	101	90	110				

Sample ID: **N050298-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605413**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N050297-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605417**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.957	0.20	1.000	0	95.7	90	110				

Sample ID: **N050297-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N050322-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050323-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	227.712	4.0	100.0	128.8	98.9	90	110				

Sample ID: **N050323-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1299.140	20	500.0	777.1	104	90	110				

Sample ID: **N050323-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	844.380	20	500.0	321.6	105	90	110				

Sample ID: **N050323-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2319.220	40	1000	1332	98.7	90	110				

Sample ID: **N050323-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2288.560	40	1000	1285	100	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050323-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8468.200	200	5000	3318	103	90	110				

Sample ID: **N050323-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.965	0.20	1.000	0	96.5	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92562**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161863**
Client ID: **PBW**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/23/2022**	SeqNo: **4616445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92562**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161863**
Client ID: **LCSW**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/23/2022**	SeqNo: **4616446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.368	1.0	10.00	0	93.7	85	115				

Sample ID: **N050322-001B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161965**
Client ID: **ZZZZZZ**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/27/2022**	SeqNo: **4623183**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	6206.170	120	10.00	7734	-15300	75	125				S

Sample ID: **N050322-001B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161965**
Client ID: **ZZZZZZ**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/27/2022**	SeqNo: **4623185**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	6353.724	120	10.00	7734	-13800	75	125	6206	2.35	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N050322-001B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **161965**
Client ID: **ZZZZZZ** Batch ID: **92562** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **4/27/2022** SeqNo: **4623181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	6195.748	120	10.00	7734	-15400	80	120				S

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-0422
Lab Order:	N050322	**Collection Date:**	4/14/2022 8:53:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050322-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220427E**	QC Batch: **92562**			PrepDate:	**4/23/2022**		Analyst: **DJ**
Molybdenum	36	3.0	12		µg/L	25	4/27/2022 07:41 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050322
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92562**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161863**
Client ID: **PBW**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/23/2022**	SeqNo: **4616592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									

Sample ID: **LCS-92562**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161863**
Client ID: **LCSW**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/23/2022**	SeqNo: **4616593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.899	0.50	10.00	0	99.0	85	115				

Sample ID: **N050322-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161965**
Client ID: **ZZZZZZ**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/27/2022**	SeqNo: **4623017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	47.873	12	10.00	35.68	122	75	125				

Sample ID: **N050322-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/23/2022**	RunNo: **161965**
Client ID: **ZZZZZZ**	Batch ID: **92562**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/27/2022**	SeqNo: **4623019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	47.848	12	10.00	35.68	122	75	125	47.87	0.0518	20	

Qualifiers:

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

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

ARCUS02 C: 4/28/2022 12:00 AM
FOLDER R: 4/14/2022
N050322-003A 1 of 1

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ (Specify: RWQCB); Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@arcadis.com	Address:	Sample Receipt Condition: Y N; 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Sample Temp: 5.3°C
Submitted By: Roggie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Courier: ASSET
Title: Field Tech	Sampled By: Roggie Tep	Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid	Tracking No.:
Signature: Date: 4/14/22 *I hereby authorize ASSET Labs to perform the tests indicated below.*	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - RCM	Signature: Date: 4/14/22		
Project Number: 30121866.2Q22GW			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2. SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, ~~Selenium~~ (500mL poly) (E)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050322-01	MW-68-180-0422	4/14/2022	8:53		X			X	X	E	2	P	BNS	
2	-02	EB-704-Q222	4/14/2022	16:00		X					E	1	P	BNS	
3															
4															
5															
7															
8															
9															
10															
11															
12															
13															
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Roggie Tep	4/14/22 1652	ROMEO ALCANTARA	4/14/22 1652
ROMEO ALCANTARA	4/14/22 1951	ROMEO ALCANTARA	4/14/22 1951

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 15% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/14/2022	Workorder:	N050322
Rep sample Temp (Deg C):	5.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 4/18/2022

Reviewed By: MBC 4/24/2022

ASSET Laboratories

WORK ORDER Summary

15-Apr-22

WorkOrder: N050322

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050322-001A	MW-68-180-0422	4/14/2022 8:53:00 AM	4/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050322-001B			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050322-002A	EB-704-Q222	4/14/2022 4:00:00 PM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050322-003A	FOLDER	4/28/2022	4/28/2022		Folder	Folder	☐	☐	☐	LAB
			4/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			4/28/2022		Folder	Folder	☐	☐	☐	LAB

April 29, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050323

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 14, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050323

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 5310C:

Matrix Spike and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050323-004DMS and N050323-004DMSD at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050323-004D and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B:

Sample N050323-007 was reported ND with dilution. Dilution was necessary due to associated internal standard not meeting method criteria possibly due to matrix interference.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Barium in QC samples N050298-003CMS and N050298-003CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050323
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050323-001A	TW-02D-0422	Groundwater	4/14/2022 10:08:00 AM	4/14/2022	4/28/2022
N050323-001B	TW-02D-0422	Groundwater	4/14/2022 10:08:00 AM	4/14/2022	4/28/2022
N050323-001C	TW-02D-0422	Groundwater	4/14/2022 10:08:00 AM	4/14/2022	4/28/2022
N050323-001D	TW-02D-0422	Groundwater	4/14/2022 10:08:00 AM	4/14/2022	4/28/2022
N050323-002A	TW-02S-0422	Groundwater	4/14/2022 9:12:00 AM	4/14/2022	4/28/2022
N050323-002B	TW-02S-0422	Groundwater	4/14/2022 9:12:00 AM	4/14/2022	4/28/2022
N050323-002C	TW-02S-0422	Groundwater	4/14/2022 9:12:00 AM	4/14/2022	4/28/2022
N050323-002D	TW-02S-0422	Groundwater	4/14/2022 9:12:00 AM	4/14/2022	4/28/2022
N050323-003A	TW-03D-0422	Groundwater	4/14/2022 11:09:00 AM	4/14/2022	4/28/2022
N050323-003B	TW-03D-0422	Groundwater	4/14/2022 11:09:00 AM	4/14/2022	4/28/2022
N050323-003C	TW-03D-0422	Groundwater	4/14/2022 11:09:00 AM	4/14/2022	4/28/2022
N050323-003D	TW-03D-0422	Groundwater	4/14/2022 11:09:00 AM	4/14/2022	4/28/2022
N050323-004A	MW-20-070-0422	Groundwater	4/14/2022 1:56:00 PM	4/14/2022	4/28/2022
N050323-004B	MW-20-070-0422	Groundwater	4/14/2022 1:56:00 PM	4/14/2022	4/28/2022
N050323-004C	MW-20-070-0422	Groundwater	4/14/2022 1:56:00 PM	4/14/2022	4/28/2022
N050323-004D	MW-20-070-0422	Groundwater	4/14/2022 1:56:00 PM	4/14/2022	4/28/2022
N050323-005A	MW-20-100-0422	Groundwater	4/14/2022 1:00:00 PM	4/14/2022	4/28/2022
N050323-005B	MW-20-100-0422	Groundwater	4/14/2022 1:00:00 PM	4/14/2022	4/28/2022
N050323-005C	MW-20-100-0422	Groundwater	4/14/2022 1:00:00 PM	4/14/2022	4/28/2022
N050323-005D	MW-20-100-0422	Groundwater	4/14/2022 1:00:00 PM	4/14/2022	4/28/2022
N050323-006A	MW-916-Q222	Groundwater	4/14/2022 1:10:00 PM	4/14/2022	4/28/2022
N050323-006B	MW-916-Q222	Groundwater	4/14/2022 1:10:00 PM	4/14/2022	4/28/2022
N050323-006C	MW-916-Q222	Groundwater	4/14/2022 1:10:00 PM	4/14/2022	4/28/2022
N050323-006D	MW-916-Q222	Groundwater	4/14/2022 1:10:00 PM	4/14/2022	4/28/2022
N050323-007A	MW-20-130-0422	Groundwater	4/14/2022 12:06:00 PM	4/14/2022	4/28/2022
N050323-007B	MW-20-130-0422	Groundwater	4/14/2022 12:06:00 PM	4/14/2022	4/28/2022
N050323-007C	MW-20-130-0422	Groundwater	4/14/2022 12:06:00 PM	4/14/2022	4/28/2022
N050323-007D	MW-20-130-0422	Groundwater	4/14/2022 12:06:00 PM	4/14/2022	4/28/2022
N050323-008A	EB-703-Q222	Groundwater	4/14/2022 2:10:00 PM	4/14/2022	4/28/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-001

Client Sample ID: TW-02D-0422
Collection Date: 4/14/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220418A**	QC Batch: **R161701**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	710	2.5	20		µg/L	100	4/18/2022 01:23 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	130	0.50	4.0		µg/L	20	4/16/2022 02:13 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	780	2.5	20		µg/L	100	4/16/2022 02:51 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:56:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	320	2.5	20		µg/L	100	4/16/2022 03:10 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1300	5.0	40		µg/L	200	4/16/2022 03:29 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-916-Q222
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1300	5.0	40		µg/L	200	4/16/2022 03:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 12:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220416A**	QC Batch: **R161682**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3300	25	200		µg/L	1000	4/16/2022 04:06 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-703-Q222
Lab Order:	N050323	**Collection Date:**	4/14/2022 2:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220416A** QC Batch: **R161682** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	4/16/2022 04:44 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R161682** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **PBW** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605392**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R161682** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **LCSW** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	0.20	5.000	0	101	90	110				

Sample ID: **N050298-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605395**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5326.450	100	2500	2796	101	90	110				

Sample ID: **N050298-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5314.650	100	2500	2796	101	90	110	5326	0.222	20	

Sample ID: **N050298-001ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605398**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1909.560	40						1871	2.02	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050298-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2952.320	40	1000	1871	108	90	110				

Sample ID: **N050322-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16964.400	400	10000	6742	102	90	110				

Sample ID: **N050298-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10119.200	200	5000	4946	103	90	110				

Sample ID: **N050298-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605407**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5028.100	100	2500	2440	104	90	110				

Sample ID: **N050298-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605409**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1764.360	40	1000	735.4	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050298-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4330.200	100	2500	1802	101	90	110				

Sample ID: **N050298-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605413**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N050297-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605417**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.957	0.20	1.000	0	95.7	90	110				

Sample ID: **N050297-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N050322-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **161682**
Client ID: **ZZZZZZ** Batch ID: **R161682** TestNo: **EPA 218.6** Analysis Date: **4/16/2022** SeqNo: **4605421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050323-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	227.712	4.0	100.0	128.8	98.9	90	110				

Sample ID: **N050323-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1299.140	20	500.0	777.1	104	90	110				

Sample ID: **N050323-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605429**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	844.380	20	500.0	321.6	105	90	110				

Sample ID: **N050323-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2319.220	40	1000	1332	98.7	90	110				

Sample ID: **N050323-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2288.560	40	1000	1285	100	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050323-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8468.200	200	5000	3318	103	90	110				

Sample ID: **N050323-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161682**
Client ID: **ZZZZZZ**	Batch ID: **R161682**	TestNo: **EPA 218.6**		Analysis Date: **4/16/2022**	SeqNo: **4605439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.965	0.20	1.000	0	96.5	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R161701**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161701**
Client ID: **PBW**	Batch ID: **R161701**	TestNo: **EPA 218.6**		Analysis Date: **4/18/2022**	SeqNo: **4606816**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R161701**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161701**
Client ID: **LCSW**	Batch ID: **R161701**	TestNo: **EPA 218.6**		Analysis Date: **4/18/2022**	SeqNo: **4606817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.089	0.20	5.000	0	102	90	110				

Sample ID: **N050321-015ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161701**
Client ID: **ZZZZZZ**	Batch ID: **R161701**	TestNo: **EPA 218.6**		Analysis Date: **4/18/2022**	SeqNo: **4606825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.275	0.20						1.246	2.26	20	

Sample ID: **N050330-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161701**
Client ID: **ZZZZZZ**	Batch ID: **R161701**	TestNo: **EPA 218.6**		Analysis Date: **4/18/2022**	SeqNo: **4606832**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.453	0.20	5.000	8.433	100	90	110				

Sample ID: **N050330-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161701**
Client ID: **ZZZZZZ**	Batch ID: **R161701**	TestNo: **EPA 218.6**		Analysis Date: **4/18/2022**	SeqNo: **4606833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.382	0.20	5.000	8.433	99.0	90	110	13.45	0.529	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050323-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **161701**
Client ID: **ZZZZZZ**	Batch ID: **R161701**	TestNo: **EPA 218.6**		Analysis Date: **4/18/2022**	SeqNo: **4606842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1228.610	20	500.0	712.1	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-001

Client Sample ID: TW-02D-0422
Collection Date: 4/14/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220418A** QC Batch: **R161694**				PrepDate:			Analyst: **RAB**
Sulfate	950	6.1	50		mg/L	100	4/18/2022 10:00 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220415A** QC Batch: **R161663**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.8	0.048	0.25		mg/L	5	4/15/2022 10:20 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-002

Client Sample ID: TW-02S-0422
Collection Date: 4/14/2022 9:12:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220418A** QC Batch: **R161694**				PrepDate:			Analyst: **RAB**
Sulfate	190	1.2	10		mg/L	20	4/18/2022 10:30 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220415A** QC Batch: **R161663**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.6	0.048	0.25		mg/L	5	4/15/2022 11:22 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-003

Client Sample ID: TW-03D-0422
Collection Date: 4/14/2022 11:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220418A** QC Batch: **R161694**				PrepDate:			Analyst: **RAB**
Sulfate	880	6.1	50		mg/L	100	4/18/2022 11:16 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220415A** QC Batch: **R161663**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.7	0.095	0.50		mg/L	10	4/15/2022 11:38 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-004

Client Sample ID: MW-20-070-0422
Collection Date: 4/14/2022 1:56:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220418A** QC Batch: **R161694**				PrepDate:			Analyst: **RAB**
Sulfate	250	1.2	10		mg/L	20	4/18/2022 11:32 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220415A** QC Batch: **R161663**				PrepDate:			Analyst: **RAB**
Nitrate as N	14	0.19	1.0		mg/L	20	4/15/2022 11:53 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-005

Client Sample ID: MW-20-100-0422
Collection Date: 4/14/2022 1:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220418A** QC Batch: **R161694**				PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	4/18/2022 11:47 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220415A** QC Batch: **R161663**				PrepDate:			Analyst: **RAB**
Nitrate as N	6.3	0.095	0.50		mg/L	10	4/15/2022 01:10 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-006

Client Sample ID: MW-916-Q222
Collection Date: 4/14/2022 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220418A** QC Batch: **R161694**				PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	4/18/2022 12:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220415A** QC Batch: **R161663**				PrepDate:			Analyst: **RAB**
Nitrate as N	6.5	0.095	0.50		mg/L	10	4/15/2022 01:25 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-007

Client Sample ID: MW-20-130-0422
Collection Date: 4/14/2022 12:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220418A** QC Batch: **R161694**				PrepDate:			Analyst: **RAB**
Sulfate	1100	6.1	50		mg/L	100	4/18/2022 12:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220415A** QC Batch: **R161663**				PrepDate:			Analyst: **RAB**
Nitrate as N	7.0	0.095	0.50		mg/L	10	4/15/2022 01:41 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R161694_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161694**
Client ID: **PBW** Batch ID: **R161694** TestNo: **EPA 300.0** Analysis Date: **4/18/2022** SeqNo: **4606615**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R161694_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161694**
Client ID: **LCSW** Batch ID: **R161694** TestNo: **EPA 300.0** Analysis Date: **4/18/2022** SeqNo: **4606616**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.011	0.50	4.000	0	100	90	110				

Sample ID: **N050323-001BDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161694**
Client ID: **ZZZZZZ** Batch ID: **R161694** TestNo: **EPA 300.0** Analysis Date: **4/18/2022** SeqNo: **4606618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	937.800	50						945.3	0.798	20	

Sample ID: **N050323-002BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161694**
Client ID: **ZZZZZZ** Batch ID: **R161694** TestNo: **EPA 300.0** Analysis Date: **4/18/2022** SeqNo: **4606620**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	270.762	10	80.00	189.6	101	80	120				

Sample ID: **N050323-002BMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **161694**
Client ID: **ZZZZZZ** Batch ID: **R161694** TestNo: **EPA 300.0** Analysis Date: **4/18/2022** SeqNo: **4606621**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	270.714	10	80.00	189.6	101	80	120	270.8	0.0177	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R161663_NO3** SampType: **MBLK** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161663**
Client ID: **PBW** Batch ID: **R161663** TestNo: **EPA 300.0** Analysis Date: **4/15/2022** SeqNo: **4603884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R161663_NO3** SampType: **LCS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161663**
Client ID: **LCSW** Batch ID: **R161663** TestNo: **EPA 300.0** Analysis Date: **4/15/2022** SeqNo: **4603885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.274	0.050	1.250	0	102	90	110				

Sample ID: **N050320-002BDUP** SampType: **DUP** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161663**
Client ID: **ZZZZZZ** Batch ID: **R161663** TestNo: **EPA 300.0** Analysis Date: **4/15/2022** SeqNo: **4603910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	7.695	0.50						7.895	2.57	20	

Sample ID: **N050320-002BMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161663**
Client ID: **ZZZZZZ** Batch ID: **R161663** TestNo: **EPA 300.0** Analysis Date: **4/15/2022** SeqNo: **4603911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	19.912	0.50	12.50	7.895	96.1	80	120				

Sample ID: **N050321-001BMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **161663**
Client ID: **ZZZZZZ** Batch ID: **R161663** TestNo: **EPA 300.0** Analysis Date: **4/15/2022** SeqNo: **4603912**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	97.935	2.5	62.50	34.97	101	80	120				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050321-001BMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **161663**
Client ID: **ZZZZZZ**	Batch ID: **R161663**	TestNo: **EPA 300.0**		Analysis Date: **4/15/2022**	SeqNo: **4603913**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	98.115	2.5	62.50	34.97	101	80	120	97.94	0.184	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-001

Client Sample ID: TW-02D-0422
Collection Date: 4/14/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220415A**	QC Batch: **R161658**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/15/2022 11:08 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220415A**	QC Batch: **R161658**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/15/2022 11:23 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 11:09:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220415A**	QC Batch: **R161658**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/15/2022 11:39 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:56:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220415A**	QC Batch: **R161658**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.42	5.0		mg/L	5	4/15/2022 02:59 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220415A**	QC Batch: **R161658**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/15/2022 12:39 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-916-Q222
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220415A**	QC Batch: **R161658**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/15/2022 12:54 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 12:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220415A**	QC Batch: **R161658**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	4/15/2022 01:10 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R161658**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161658**
Client ID: **PBW**	Batch ID: **R161658**	TestNo: **SM 5310C**		Analysis Date: **4/15/2022**	SeqNo: **4603336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R161658**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161658**
Client ID: **LCSW**	Batch ID: **R161658**	TestNo: **SM 5310C**		Analysis Date: **4/15/2022**	SeqNo: **4603337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.046	1.0	5.000	0	101	85	115				

Sample ID: **N050323-004DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161658**
Client ID: **ZZZZZZ**	Batch ID: **R161658**	TestNo: **SM 5310C**		Analysis Date: **4/15/2022**	SeqNo: **4603352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	23.503	5.0	25.00	0.7410	91.0	75	125				

Sample ID: **N050323-004DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161658**
Client ID: **ZZZZZZ**	Batch ID: **R161658**	TestNo: **SM 5310C**		Analysis Date: **4/15/2022**	SeqNo: **4603353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	23.622	5.0	25.00	0.7410	91.5	75	125	23.50	0.505	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 10:08:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220418F**	QC Batch: **92439**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	24	13	20		µg/L	1	4/18/2022 09:51 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-002

Client Sample ID: TW-02S-0422
Collection Date: 4/14/2022 9:12:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92439**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 09:56 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-003

Client Sample ID: TW-03D-0422
Collection Date: 4/14/2022 11:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92439**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 11:05 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:56:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220418F**	QC Batch: **92439**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 10:06 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220418F**	QC Batch: **92439**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 10:10 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-916-Q222
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220418F**	QC Batch: **92439**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	4/18/2022 10:16 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 12:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220418F**	QC Batch: **92439**			PrepDate:	**4/15/2022**		Analyst: **DJ**
Iron	ND	64	100		µg/L	5	4/18/2022 11:19 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92439**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/15/2022**	RunNo: **161707**
Client ID: **PBW**	Batch ID: **92439**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607070**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92439**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **4/15/2022**	RunNo: **161707**
Client ID: **LCSW**	Batch ID: **92439**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607071**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.498	20	100.0	0	104	85	115				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-001

Client Sample ID: TW-02D-0422
Collection Date: 4/14/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:		**4/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 03:15 PM
Barium	43	0.083	1.0		µg/L	1	4/20/2022 12:35 AM
Manganese	120	0.026	0.50		µg/L	1	4/18/2022 03:15 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-002

Client Sample ID: TW-02S-0422
Collection Date: 4/14/2022 9:12:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:		**4/16/2022**	Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	4/18/2022 03:33 PM
Barium	48	0.083	1.0		µg/L	1	4/20/2022 12:52 AM
Manganese	ND	0.026	0.50		µg/L	1	4/18/2022 03:33 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-003

Client Sample ID: TW-03D-0422
Collection Date: 4/14/2022 11:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:		**4/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 03:39 PM
Barium	45	0.083	1.0		µg/L	1	4/20/2022 12:58 AM
Manganese	140	0.026	0.50		µg/L	1	4/18/2022 03:39 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-004

Client Sample ID: MW-20-070-0422
Collection Date: 4/14/2022 1:56:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:		**4/16/2022**	Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	4/18/2022 03:45 PM
Barium	24	0.083	1.0		µg/L	1	4/20/2022 01:04 AM
Manganese	ND	0.026	0.50		µg/L	1	4/18/2022 03:45 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 1:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**				PrepDate:	**4/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 03:51 PM
Barium	83	0.083	1.0		µg/L	1	4/20/2022 01:10 AM
Manganese	ND	0.026	0.50		µg/L	1	4/18/2022 03:51 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050323-006

Client Sample ID: MW-916-Q222
Collection Date: 4/14/2022 1:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**				PrepDate:	**4/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 03:57 PM
Barium	83	0.083	1.0		µg/L	1	4/20/2022 01:16 AM
Manganese	ND	0.026	0.50		µg/L	1	4/18/2022 03:57 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-0422
Lab Order:	N050323	**Collection Date:**	4/14/2022 12:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050323-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220418C**	QC Batch: **92446**			PrepDate:	**4/16/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	4/18/2022 04:03 PM
Barium	29	0.083	1.0		µg/L	1	4/20/2022 01:22 AM
Manganese	0.72	0.026	0.50		µg/L	1	4/18/2022 04:03 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92446**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **PBW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.062	0.50									

Sample ID: **LCS-92446**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **LCSW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.778	0.10	10.00	0	97.8	85	115				
Manganese	96.994	0.50	100.0	0	97.0	85	115				

Sample ID: **N050298-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.114	0.50	100.0	0	91.1	75	125				

Sample ID: **N050298-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	89.008	0.50	100.0	0	89.0	75	125	91.11	2.34	20	

Sample ID: **MB-92446**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161740**
Client ID: **PBW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/19/2022**	SeqNo: **4610523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-92446**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161740**
Client ID: **LCSW**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/19/2022**	SeqNo: **4610524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.641	1.0	10.00	0	96.4	85	115				

Sample ID: **N050298-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161740**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/19/2022**	SeqNo: **4610536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	86.179	1.0	10.00	80.45	57.3	75	125				S

Sample ID: **N050298-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161740**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/20/2022**	SeqNo: **4610538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	87.156	1.0	10.00	80.45	67.1	75	125	86.18	1.13	20	S

Sample ID: **N050298-003CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4619373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.388	0.10	10.00	0.2722	101	75	125				

Sample ID: **N050298-003CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **4/16/2022**	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4619374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.715	0.10	10.00	0.2722	104	75	125	10.39	3.10	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050323
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4607434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	88.755	0.50	100.0	0	88.8	80	120				

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161740**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/19/2022**	SeqNo: **4610534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	86.278	1.0	10.00	80.45	58.3	80	120				S

Sample ID: **N050298-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **161710**
Client ID: **ZZZZZZ**	Batch ID: **92446**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **4/18/2022**	SeqNo: **4619372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.298	0.10	10.00	0.2722	100	80	120				

Qualifiers:

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

ARCUS02 C: 4/28/2022 12:00 AM
FOLDER R: 4/14/2022
N050323-009A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/14/2022	Workorder:	N050323
Rep sample Temp (Deg C):	5.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 4/18/2022

Reviewed By: MBC 4/19/2022

ASSET Laboratories

WORK ORDER Summary

15-Apr-22

WorkOrder: N050323

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050323-001A	TW-02D-0422	4/14/2022 10:08:00 AM	4/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-001B			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050323-001C			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050323-001D			4/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050323-002A	TW-02S-0422	4/14/2022 9:12:00 AM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-002B			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050323-002C			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050323-002D			4/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050323-003A	TW-03D-0422	4/14/2022 11:09:00 AM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-003B			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050323-003C			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

15-Apr-22

WorkOrder: N050323

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050323-003C	TW-03D-0422	4/14/2022 11:09:00 AM	4/28/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050323-003D			4/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050323-004A	MW-20-070-0422	4/14/2022 1:56:00 PM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-004B			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050323-004C			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050323-004D			4/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050323-005A	MW-20-100-0422	4/14/2022 1:00:00 PM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-005B			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050323-005C			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050323-005D			4/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050323-006A	MW-916-Q222	4/14/2022 1:10:00 PM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-006B			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050323-006C			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

15-Apr-22

WorkOrder: N050323

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 4/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050323-006C	MW-916-Q222	4/14/2022 1:10:00 PM	4/28/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050323-006D			4/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050323-007A	MW-20-130-0422	4/14/2022 12:06:00 PM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-007B			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			4/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050323-007C			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			4/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			4/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050323-007D			4/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050323-008A	EB-703-Q222	4/14/2022 2:10:00 PM	4/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050323-009A	FOLDER	4/28/2022	4/28/2022		Folder	Folder	☐	☐	☐	LAB
			4/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			4/28/2022		Folder	Folder	☐	☐	☐	LAB

May 04, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050403

RE: PG&E Topock - OMM CAB, 30106892

Attention: Dan Bush

Enclosed are the results for sample(s) received on April 20, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

for

Nancy Sibucao
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM CAB, 30106892
Lab Order: N050403

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

ASSET Laboratories

Date: *04-May-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM CAB, 30106892
Lab Order: N050403
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050403-001A	CAB_MIXER_607-041322	Groundwater	4/13/2022 9:00:00 AM	4/20/2022	5/4/2022
N050403-001B	CAB_MIXER_607-041322	Groundwater	4/13/2022 9:00:00 AM	4/20/2022	5/4/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-041322
Lab Order:	N050403	**Collection Date:**	4/13/2022 9:00:00 AM
Project:	PG&E Topock - OMM CAB, 30106892	**Matrix:**	GROUNDWATER
Lab ID:	N050403-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220422A**	QC Batch: **R161864**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	3.6	0.084	1.0		mg/L	1	4/22/2022 02:35 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050403
Project: PG&E Topock - OMM CAB, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R161864**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161864**
Client ID: **PBW**	Batch ID: **R161864**	TestNo: **SM 5310C**		Analysis Date: **4/22/2022**	SeqNo: **4618223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	0.136	1.0									

Sample ID: **LCS-R161864**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161864**
Client ID: **LCSW**	Batch ID: **R161864**	TestNo: **SM 5310C**		Analysis Date: **4/22/2022**	SeqNo: **4618224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.859	1.0	5.000	0	97.2	85	115				

Sample ID: **N050432-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161864**
Client ID: **ZZZZZZ**	Batch ID: **R161864**	TestNo: **SM 5310C**		Analysis Date: **4/22/2022**	SeqNo: **4618228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.136	1.0	5.000	0.2826	97.1	75	125				

Sample ID: **N050432-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **161864**
Client ID: **ZZZZZZ**	Batch ID: **R161864**	TestNo: **SM 5310C**		Analysis Date: **4/22/2022**	SeqNo: **4618231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.055	1.0	5.000	0.2826	95.4	75	125	5.136	1.60	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050403
Project: PG&E Topock - OMM CAB, 30106892
Lab ID: N050403-001

Client Sample ID: CAB_MIXER_607-041322
Collection Date: 4/13/2022 9:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_220422B**	QC Batch: **R22VW057**			PrepDate:			Analyst: **AW**
Ethanol	1400000	98000	100000		µg/L	1000	4/22/2022 09:34 PM
Surr: 1,2-Dichloroethane-d4	107	0	77-138		%REC	1000	4/22/2022 09:34 PM
Surr: 4-Bromofluorobenzene	90.8	0	80-120		%REC	1000	4/22/2022 09:34 PM
Surr: Dibromofluoromethane	114	0	80-132		%REC	1000	4/22/2022 09:34 PM
Surr: Toluene-d8	105	0	80-120		%REC	1000	4/22/2022 09:34 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050403
Project: PG&E Topock - OMM CAB, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID: **R220422-LCS** SampType: **LCS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **161846**
Client ID: **LCSW** Batch ID: **R22VW057** TestNo: **EPA 8260B** Analysis Date: **4/22/2022** SeqNo: **4615629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	353.990	100	400.0	0	88.5	42	159				
Surr: 1,2-Dichloroethane-d4	22.280		25.00		89.1	77	138				
Surr: 4-Bromofluorobenzene	25.820		25.00		103	80	120				
Surr: Dibromofluoromethane	23.740		25.00		95.0	80	132				
Surr: Toluene-d8	26.600		25.00		106	80	120				

Sample ID: **N050368-003A-MS** SampType: **MS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **161846**
Client ID: **ZZZZZZ** Batch ID: **R22VW057** TestNo: **EPA 8260B** Analysis Date: **4/22/2022** SeqNo: **4615630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	3607.100	1000	4000	0	90.2	38	170				
Surr: 1,2-Dichloroethane-d4	223.200		250.0		89.3	77	138				
Surr: 4-Bromofluorobenzene	258.300		250.0		103	80	120				
Surr: Dibromofluoromethane	241.700		250.0		96.7	80	132				
Surr: Toluene-d8	267.700		250.0		107	80	120				

Sample ID: **N050368-003A-MSD** SampType: **MSD** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **161846**
Client ID: **ZZZZZZ** Batch ID: **R22VW057** TestNo: **EPA 8260B** Analysis Date: **4/22/2022** SeqNo: **4615631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	3230.700	1000	4000	0	80.8	38	170	3607	11.0	20	
Surr: 1,2-Dichloroethane-d4	219.900		250.0		88.0	77	138		0		
Surr: 4-Bromofluorobenzene	259.800		250.0		104	80	120		0		
Surr: Dibromofluoromethane	235.600		250.0		94.2	80	132		0		
Surr: Toluene-d8	265.900		250.0		106	80	120		0		

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050403
Project: PG&E Topock - OMM CAB, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID: **R220422-MB2** SampType: **MBLK** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **161846**
Client ID: **PBW** Batch ID: **R22VW057** TestNo: **EPA 8260B** Analysis Date: **4/22/2022** SeqNo: **4615632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	25.640		25.00		103	77	138				
Surr: 4-Bromofluorobenzene	23.030		25.00		92.1	80	120				
Surr: Dibromofluoromethane	26.590		25.00		106	80	132				
Surr: Toluene-d8	26.050		25.00		104	80	120				

Qualifiers:

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

N050403.

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Ct, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Suite 200 Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-051
Submitted By: Keum A.	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200	Fax:
Title: OMM Operator			
Signature: Date: 4-13-22	Sampled By: Keum A.		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - OMM CAB	Signature: Date: 4-13-22		
Project Number: 30106892			

Matrix: Ground x; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Sample Receipt Condition

	Y	N
1. Chilled	X	
2. Headspace		
3. Container Intact	X	
4. Seal Present		
5. IR number 3		
6. Method of Cooling: Ice		
Sample Temp: 4.1 °C		

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH; Filtered 250 mL poly	Silica (EPA6010), HNO3; Filtered 16 oz poly	Hardness SM 2340B), HNO3 16 oz poly	Ammonia as Nitrogen (SM4500-NH3C); H2SO4 16 oz poly	Total Kjeldahl Nitrogen (SM4500-Norg); H2SO4 16 oz poly	Biochemical Oxygen Demand (SM5210Bg); None 32 oz poly	Nitrate, Bromide, Nitrite, Sulfate, Fluoride, Chloride, Phosphate (EPA 300.0) 1 liter poly	Total Dissolved Solids (SM92540) 1 liter poly	Sulfide (SM2320B); ZnAc/NaOH 16 oz poly	Ethanol (8260), HCl 3x40 mL voa	Alkalinity Total (2320B); None 32 oz poly	Bicarbonate (SM 2320B); None 32 oz poly	Biological Activity Test (HACH); None 32 oz poly	Carbonate (SM 2320B); None 32 oz poly	Modified Fouling Index (ASTM); None 32 oz poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Mercury Dissolved (EPA7470A) HNO3; Filtered 500 mL poly	Dissolved metals Title 22 (SW 6020), HNO3; filtered 500 mL poly	Calcium, Magnesium, Potassium, Sodium, Iron (SW6010B); HNO3 500 mL poly	Mercury (SW 7470A); HNO3 500 mL poly	Total metals Title 22 (SW 6020), HNO3 500 mL poly	Total Phosphorus(EPA365.3) H2SO4 8 oz poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	WATER	[redacted]													[redacted]						[redacted]							[redacted]				N/A
2	N050403-01	CAB_MIXER_607-041322	4-13-22	09:00											x						X							E	6	PV	BNS	
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																
13																																
14																																

Relinquished by (Signature and Printed Name):	Date/Time: 4/20/22 @ 1629
Relinquished by (Signature and Printed Name): REL/REC: MSCARTIN	Date/Time:
Relinquished by (Signature and Printed Name):	Date/Time:
Received by (Signature and Printed Name): MSCARTIN	Date/Time: 4/20/22@1629
Received by (Signature and Printed Name):	Date/Time: 4/20/22 @ 1920
Received by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM

Special Instruction:
Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Terms:
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	4/20/2022	Workorder:	N050403
Rep sample Temp (Deg C):	4.1	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 4/21/2022

Reviewed By: MBC 4/23/2022

ASSET Laboratories

WORK ORDER Summary

22-Apr-22

WorkOrder: N050403

Client ID: ARCUS02

Project: PG&E Topock - OMM CAB, 30106892 **QC Level:** Level IV **Date Received:** 4/20/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050403-001A	CAB_MIXER_607-041322	4/13/2022 9:00:00 AM	5/4/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050403-001B			5/4/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	INTRANSIT
N050403-002A	FOLDER	5/4/2022	5/4/2022		Folder	Folder	☐	☐	☐	LAB
			5/4/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/4/2022		Folder	Folder	☐	☐	☐	LAB

May 23, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050569

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 02, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.7 ug/L) and hexavalent chromium (0 ug/L) for sample N050569-004 (MW-82-168-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.0 ug/L) and hexavalent chromium (1.2 ug/L) for sample N050569-005 (MW-82-198-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

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

Analytical Comments for EPA 6010B_Dissolved:

Dilution was necessary for samples N050569-004, -005 and -009 since plasma was extinguished when samples were analyzed at lower dilution.

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N050569-005BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed

acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary for samples N050569-001 and -002 due to matrix. Digestate is colored.

Because the results for total dissolved chromium (2.7 ug/L) and hexavalent chromium (0 ug/L) for sample N050569-004 (MW-82-168-Q222) are discrepant, , sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.6 and 0.82 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.0 ug/L) and hexavalent chromium (1.2 ug/L) for sample N050569-005 (MW-82-198-Q222) are discrepant, , sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.9 and 1.3 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N050569-005CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050569-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050569
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050569-001A	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-001B	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-001C	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-001D	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-002A	MW-911-Q422	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-002B	MW-911-Q422	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-002C	MW-911-Q422	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-002D	MW-911-Q422	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-003A	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-003B	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-003C	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-003D	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-004A	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-004B	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-004C	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-004D	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-005A	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-005B	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-005C	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-005D	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-006A	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-006B	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-006C	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-006D	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-007A	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-007B	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-007C	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-007D	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-008A	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050569
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050569-008B	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022
N050569-008C	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022
N050569-008D	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022
N050569-009A	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-009B	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-009C	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-009D	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-010A	EB-704-Q222	Groundwater	5/2/2022 2:50:00 PM	5/2/2022	5/23/2022
N050569-011A	EB-705-Q222	Groundwater	5/2/2022 3:20:00 PM	5/2/2022	5/23/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-001

Client Sample ID: MW-82-046-Q222
Collection Date: 5/2/2022 12:38:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/3/2022 02:16 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	5/7/2022 10:36 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-002

Client Sample ID: MW-911-Q422
Collection Date: 5/2/2022 12:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/3/2022 02:35 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	5/7/2022 10:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 10:04 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/7/2022 10:59 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-004

Client Sample ID: MW-82-168-Q222
Collection Date: 5/2/2022 1:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/3/2022 03:27 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	2.7	0.035	1.0		µg/L	1	5/7/2022 11:11 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.2	0.13	1.0		µg/L	5	5/3/2022 12:51 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	2.0	0.035	1.0		µg/L	1	5/7/2022 11:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 12:13 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 12:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-007

Client Sample ID: MW-77-102-Q222
Collection Date: 5/2/2022 2:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.59	0.025	0.20		µg/L	1	5/3/2022 12:32 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 01:04 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-008

Client Sample ID: MW-77-158-Q222
Collection Date: 5/2/2022 1:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	7.1	0.13	1.0		µg/L	5	5/3/2022 01:39 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	8.4	0.035	1.0		µg/L	1	5/8/2022 01:16 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-009

Client Sample ID: MW-77-187-Q222
Collection Date: 5/2/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	9.6	0.13	1.0		µg/L	5	5/3/2022 01:57 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	9.3	0.035	1.0		µg/L	1	5/8/2022 01:28 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-704-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A**	QC Batch: **R162094**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 03:55 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-705-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A**	QC Batch: **R162094**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 04:14 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162094**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **PBW**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162094**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **LCSW**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.972	0.20	5.000	0	99.4	90	110				

Sample ID: **N050569-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **ZZZZZZ**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.090	0.20	1.000	0	109	90	110				

Sample ID: **N050569-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **ZZZZZZ**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	90	110				

Sample ID: **N050569-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **ZZZZZZ**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.646	0.20	1.000	0.5933	105	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050569-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.481	1.0	5.000	1.201	106	90	110				

Sample ID: **N050569-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.550	1.0	5.000	1.201	107	90	110	6.481	1.05	20	

Sample ID: **N050569-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.726	1.0	5.000	9.620	102	90	110				

Sample ID: **N050569-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.084	1.0	5.000	0	102	90	110				

Sample ID: **N050569-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.340	1.0	5.000	0	107	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050569-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.427	1.0	5.000	7.132	106	90	110				

Sample ID: **N050569-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.549	1.0	5.000	0.3380	104	90	110				

Sample ID: **N050569-008ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.374	1.0						7.132	3.33	20	

Sample ID: **N050569-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.070	0.20	1.000	0	107	90	110				

Sample ID: **N050569-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.091	0.20	1.000	0	109	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92717**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **PBW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4634710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.059	1.0									

Sample ID: **LCS-92717**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **LCSW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4634711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.149	1.0	10.00	0	91.5	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4634733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.527	1.0	10.00	2.018	85.1	75	125				

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4634735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.626	1.0	10.00	2.018	86.1	75	125	10.53	0.932	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/3/2022 01:44 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-002

Client Sample ID: MW-911-Q422
Collection Date: 5/2/2022 12:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/3/2022 01:59 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.58	0.095	0.50		mg/L	10	5/3/2022 02:14 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	5/3/2022 02:30 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	5/3/2022 11:57 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/3/2022 04:07 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.63	0.095	0.50		mg/L	10	5/3/2022 01:13 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/3/2022 04:23 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.3	0.048	0.25		mg/L	5	5/3/2022 04:38 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162068_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **PBW**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162068_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **LCSW**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.328	0.050	1.250	0	106	90	110				

Sample ID: **N050569-005DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **ZZZZZZ**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.680	0.50	12.50	1.492	97.5	80	120				

Sample ID: **N050569-005DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **ZZZZZZ**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.118	0.50	12.50	1.492	93.0	80	120	13.68	4.19	20	

Sample ID: **N050569-007DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **ZZZZZZ**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.566	0.50						0.6290	10.5	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.8	0.084	1.0		mg/L	1	5/3/2022 02:51 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q422
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.7	0.084	1.0		mg/L	1	5/3/2022 03:07 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/3/2022 03:23 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/3/2022 04:25 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	4.2	50		mg/L	50	5/4/2022 01:42 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/3/2022 04:40 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 10:19 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 10:50 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 11:06 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162073**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **PBW**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162073**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **LCSW**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.947	1.0	5.000	0	98.9	85	115				

Sample ID: **N050570-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **ZZZZZZ**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.480	1.0	5.000	0.5189	79.2	75	125				

Sample ID: **N050570-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **ZZZZZZ**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.638	1.0	5.000	0.5189	82.4	75	125	4.480	3.46	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162108**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **PBW**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638176**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162108**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **LCSW**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.754	1.0	5.000	0	95.1	85	115				

Sample ID: **N050569-005CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **ZZZZZZ**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	197.210	50	250.0	0	78.9	75	125				

Sample ID: **N050569-005CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **ZZZZZZ**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	200.145	50	250.0	0	80.1	75	125	197.2	1.48	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-001

Client Sample ID: MW-82-046-Q222
Collection Date: 5/2/2022 12:38:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	6400	13	20		µg/L	1	5/7/2022 10:30 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-002

Client Sample ID: MW-911-Q422
Collection Date: 5/2/2022 12:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	6200	13	20		µg/L	1	5/7/2022 10:35 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 10:41 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-004

Client Sample ID: MW-82-168-Q222
Collection Date: 5/2/2022 1:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/7/2022 11:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-005

Client Sample ID: MW-82-198-Q222
Collection Date: 5/2/2022 2:39:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/7/2022 11:08 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	540	13	20		µg/L	1	5/7/2022 11:45 AM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-May-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 11:51 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	24	13	20		µg/L	1	5/7/2022 11:56 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-009

Client Sample ID: MW-77-187-Q222
Collection Date: 5/2/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/7/2022 01:26 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92712**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **PBW**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92712**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **LCSW**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.223	20	100.0	0	98.2	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	127.253	100	100.0	0	127	75	125				S

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.744	100	100.0	0	101	75	125	127.3	23.3	20	R

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050569-005B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **162186**
Client ID: **ZZZZZZ** Batch ID: **92712** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **5/7/2022** SeqNo: **4633637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	154.781	100	100.0	0	155	80	120				S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-001

Client Sample ID: MW-82-046-Q222
Collection Date: 5/2/2022 12:38:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	27	0.25	0.50		µg/L	5	5/14/2022 01:09 PM
Barium	66	0.42	5.0		µg/L	5	5/8/2022 02:12 PM
Manganese	320	0.13	2.5		µg/L	5	5/8/2022 02:12 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-002

Client Sample ID: MW-911-Q422
Collection Date: 5/2/2022 12:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	25	0.25	0.50		µg/L	5	5/14/2022 01:15 PM
Barium	56	0.42	5.0		µg/L	5	5/8/2022 02:24 PM
Manganese	270	0.13	2.5		µg/L	5	5/8/2022 02:24 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-003

Client Sample ID: MW-82-112-Q222
Collection Date: 5/2/2022 1:16:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 01:21 PM
Barium	36	0.083	1.0		µg/L	1	5/8/2022 02:36 PM
Manganese	54	0.026	0.50		µg/L	1	5/8/2022 02:36 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-004

Client Sample ID: MW-82-168-Q222
Collection Date: 5/2/2022 1:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 01:33 PM
Barium	47	0.083	1.0		µg/L	1	5/8/2022 02:48 PM
Manganese	140	0.026	0.50		µg/L	1	5/8/2022 02:48 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-005

Client Sample ID: MW-82-198-Q222
Collection Date: 5/2/2022 2:39:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.25	0.50		µg/L	1	5/14/2022 11:58 AM
Barium	47	0.083	1.0		µg/L	1	5/8/2022 03:17 PM
Manganese	98	0.13	2.5		µg/L	5	5/8/2022 03:00 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-006

Client Sample ID: MW-77-046-Q222
Collection Date: 5/2/2022 3:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	0.89	0.050	0.10		µg/L	1	5/14/2022 01:45 PM
Barium	50	0.083	1.0		µg/L	1	5/8/2022 04:05 PM
Manganese	310	0.13	2.5		µg/L	5	5/8/2022 04:11 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-007

Client Sample ID: MW-77-102-Q222
Collection Date: 5/2/2022 2:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 02:08 PM
Barium	44	0.083	1.0		µg/L	1	5/8/2022 04:28 PM
Manganese	47	0.026	0.50		µg/L	1	5/8/2022 04:28 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-008

Client Sample ID: MW-77-158-Q222
Collection Date: 5/2/2022 1:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 02:20 PM
Barium	47	0.083	1.0		µg/L	1	5/8/2022 04:40 PM
Manganese	18	0.026	0.50		µg/L	1	5/8/2022 04:40 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-009

Client Sample ID: MW-77-187-Q222
Collection Date: 5/2/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 02:32 PM
Barium	41	0.083	1.0		µg/L	1	5/8/2022 04:52 PM
Manganese	39	0.026	0.50		µg/L	1	5/8/2022 04:52 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92717**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **PBW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636475**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92717**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **LCSW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	10.159	1.0	10.00	0	102	85	115				
Manganese	95.232	0.50	100.0	0	95.2	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	57.958	1.0	10.00	47.35	106	75	125				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	189.030	2.5	100.0	97.81	91.2	75	125				

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	58.474	1.0	10.00	47.35	111	75	125	57.96	0.887	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	198.160	2.5	100.0	97.81	100	75	125	189.0	4.72	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92874**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **PBW**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID: **LCS-92874**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **LCSW**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.484	0.10	10.00	0	105	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.015	0.50	50.00	0	94.0	75	125				

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	46.835	0.50	50.00	0	93.7	75	125	47.02	0.385	20	

Qualifiers:

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

Calculations are based on raw values

N050569

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/2/2022	Workorder:	N050569
Rep sample Temp (Deg C):	5.4	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 5/3/2022

Reviewed By: MBC 5/6/2022

ASSET Laboratories

WORK ORDER Summary

03-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-001A	MW-82-046-Q222	5/2/2022 12:38:00 PM	5/16/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-001B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-001C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-001D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-002A	MW-911-Q422	5/2/2022 12:48:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-002B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-002C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-002D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-003A	MW-82-112-Q222	5/2/2022 1:16:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-003B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

03-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-003C	MW-82-112-Q222	5/2/2022 1:16:00 PM	5/16/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-003D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-004A	MW-82-168-Q222	5/2/2022 1:55:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-004B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-004C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-004D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-005A	MW-82-198-Q222	5/2/2022 2:39:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050569-005B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050569-005C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050569-005D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050569-006A	MW-77-046-Q222	5/2/2022 3:06:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-006B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

03-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-006B	MW-77-046-Q222	5/2/2022 3:06:00 PM	5/16/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-006C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-006D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-007A	MW-77-102-Q222	5/2/2022 2:25:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-007B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-007C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-007D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-008A	MW-77-158-Q222	5/2/2022 1:52:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-008B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-008C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-008D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-009A	MW-77-187-Q222	5/2/2022 12:55:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-009B			5/16/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

03-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-009B	MW-77-187-Q222	5/2/2022 12:55:00 PM	5/16/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/16/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/16/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-009C			5/16/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-009D			5/16/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-010A	EB-704-Q222	5/2/2022 2:50:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-011A	EB-705-Q222	5/2/2022 3:20:00 PM	5/16/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-012A	FOLDER	5/16/2022	5/16/2022		Folder	Folder	☐	☐	☐	LAB
			5/16/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/16/2022		Folder	Folder	☐	☐	☐	LAB

May 24, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050569

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 02, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

The report was amended as ID of some samples was updated. Please see attached correspondence.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.7 ug/L) and hexavalent chromium (0 ug/L) for sample N050569-004 (MW-82-168-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.0 ug/L) and hexavalent chromium (1.2 ug/L) for sample N050569-005 (MW-82-198-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

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

Analytical Comments for EPA 6010B_Dissolved:

Dilution was necessary for samples N050569-004, -005 and -009 since plasma was extinguished when samples were analyzed at lower dilution.

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N050569-005BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary for samples N050569-001 and -002 due to matrix. Digestate is colored.

Because the results for total dissolved chromium (2.7 ug/L) and hexavalent chromium (0 ug/L) for sample N050569-004 (MW-82-168-Q222) are discrepant, , sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.6 and 0.82 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (2.0 ug/L) and hexavalent chromium (1.2 ug/L) for sample N050569-005 (MW-82-198-Q222) are discrepant, , sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.9 and 1.3 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N050569-005CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050569-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050569
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050569-001A	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-001B	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-001C	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-001D	MW-82-046-Q222	Groundwater	5/2/2022 12:38:00 PM	5/2/2022	5/23/2022
N050569-002A	MW-911-Q222	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-002B	MW-911-Q222	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-002C	MW-911-Q222	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-002D	MW-911-Q222	Groundwater	5/2/2022 12:48:00 PM	5/2/2022	5/23/2022
N050569-003A	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-003B	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-003C	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-003D	MW-82-112-Q222	Groundwater	5/2/2022 1:16:00 PM	5/2/2022	5/23/2022
N050569-004A	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-004B	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-004C	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-004D	MW-82-168-Q222	Groundwater	5/2/2022 1:55:00 PM	5/2/2022	5/23/2022
N050569-005A	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-005B	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-005C	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-005D	MW-82-198-Q222	Groundwater	5/2/2022 2:39:00 PM	5/2/2022	5/23/2022
N050569-006A	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-006B	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-006C	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-006D	MW-77-046-Q222	Groundwater	5/2/2022 3:06:00 PM	5/2/2022	5/23/2022
N050569-007A	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-007B	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-007C	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-007D	MW-77-102-Q222	Groundwater	5/2/2022 2:25:00 PM	5/2/2022	5/23/2022
N050569-008A	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050569
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050569-008B	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022
N050569-008C	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022
N050569-008D	MW-77-158-Q222	Groundwater	5/2/2022 1:52:00 PM	5/2/2022	5/23/2022
N050569-009A	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-009B	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-009C	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-009D	MW-77-187-Q222	Groundwater	5/2/2022 12:55:00 PM	5/2/2022	5/23/2022
N050569-010A	EB-704-Q222_N050569	Groundwater	5/2/2022 2:50:00 PM	5/2/2022	5/23/2022
N050569-011A	EB-705-Q222	Groundwater	5/2/2022 3:20:00 PM	5/2/2022	5/23/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-001

Client Sample ID: MW-82-046-Q222
Collection Date: 5/2/2022 12:38:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/3/2022 02:16 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	5/7/2022 10:36 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-002

Client Sample ID: MW-911-Q222
Collection Date: 5/2/2022 12:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/3/2022 02:35 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	5/7/2022 10:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 10:04 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/7/2022 10:59 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-004

Client Sample ID: MW-82-168-Q222
Collection Date: 5/2/2022 1:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/3/2022 03:27 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate: **5/4/2022**			Analyst: **DJ**
Chromium	2.7	0.035	1.0		µg/L	1	5/7/2022 11:11 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.2	0.13	1.0		µg/L	5	5/3/2022 12:51 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	2.0	0.035	1.0		µg/L	1	5/7/2022 11:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 12:13 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 12:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-007

Client Sample ID: MW-77-102-Q222
Collection Date: 5/2/2022 2:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A**	QC Batch: **R162094**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.59	0.025	0.20		µg/L	1	5/3/2022 12:32 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220507C**	QC Batch: **92717**			PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 01:04 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	7.1	0.13	1.0		µg/L	5	5/3/2022 01:39 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	8.4	0.035	1.0		µg/L	1	5/8/2022 01:16 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A** QC Batch: **R162094**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	9.6	0.13	1.0		µg/L	5	5/3/2022 01:57 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220507C** QC Batch: **92717**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	9.3	0.035	1.0		µg/L	1	5/8/2022 01:28 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-704-Q222_N050569
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A**	QC Batch: **R162094**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 03:55 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-705-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220503A**	QC Batch: **R162094**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/3/2022 04:14 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162094**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **PBW**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628479**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162094**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **LCSW**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.972	0.20	5.000	0	99.4	90	110				

Sample ID: **N050569-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **ZZZZZZ**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.090	0.20	1.000	0	109	90	110				

Sample ID: **N050569-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **ZZZZZZ**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	90	110				

Sample ID: **N050569-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162094**
Client ID: **ZZZZZZ**	Batch ID: **R162094**	TestNo: **EPA 218.6**		Analysis Date: **5/3/2022**	SeqNo: **4628488**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.646	0.20	1.000	0.5933	105	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050569-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628490**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.481	1.0	5.000	1.201	106	90	110				

Sample ID: **N050569-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.550	1.0	5.000	1.201	107	90	110	6.481	1.05	20	

Sample ID: **N050569-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.726	1.0	5.000	9.620	102	90	110				

Sample ID: **N050569-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.084	1.0	5.000	0	102	90	110				

Sample ID: **N050569-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.340	1.0	5.000	0	107	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050569-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628501**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.427	1.0	5.000	7.132	106	90	110				

Sample ID: **N050569-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.549	1.0	5.000	0.3380	104	90	110				

Sample ID: **N050569-008ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.374	1.0						7.132	3.33	20	

Sample ID: **N050569-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.070	0.20	1.000	0	107	90	110				

Sample ID: **N050569-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162094**
Client ID: **ZZZZZZ** Batch ID: **R162094** TestNo: **EPA 218.6** Analysis Date: **5/3/2022** SeqNo: **4628510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.091	0.20	1.000	0	109	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92717**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **PBW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4634710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.059	1.0									

Sample ID: **LCS-92717**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **LCSW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4634711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.149	1.0	10.00	0	91.5	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4634733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.527	1.0	10.00	2.018	85.1	75	125				

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162197**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4634735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.626	1.0	10.00	2.018	86.1	75	125	10.53	0.932	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/3/2022 01:44 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/3/2022 01:59 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.58	0.095	0.50		mg/L	10	5/3/2022 02:14 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	5/3/2022 02:30 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	5/3/2022 11:57 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/3/2022 04:07 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.63	0.095	0.50		mg/L	10	5/3/2022 01:13 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/3/2022 04:23 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220503A**	QC Batch: **R162068**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.3	0.048	0.25		mg/L	5	5/3/2022 04:38 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162068_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **PBW**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162068_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **LCSW**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.328	0.050	1.250	0	106	90	110				

Sample ID: **N050569-005DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **ZZZZZZ**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627550**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.680	0.50	12.50	1.492	97.5	80	120				

Sample ID: **N050569-005DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **ZZZZZZ**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627551**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.118	0.50	12.50	1.492	93.0	80	120	13.68	4.19	20	

Sample ID: **N050569-007DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162068**
Client ID: **ZZZZZZ**	Batch ID: **R162068**	TestNo: **EPA 300.0**		Analysis Date: **5/3/2022**	SeqNo: **4627555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.566	0.50						0.6290	10.5	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.8	0.084	1.0		mg/L	1	5/3/2022 02:51 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-911-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.7	0.084	1.0		mg/L	1	5/3/2022 03:07 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/3/2022 03:23 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/3/2022 04:25 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	4.2	50		mg/L	50	5/4/2022 01:42 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 3:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220503A**	QC Batch: **R162073**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/3/2022 04:40 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 2:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 10:19 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 10:50 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-Q222
Lab Order:	N050569	**Collection Date:**	5/2/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050569-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 11:06 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162073**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **PBW**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162073**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **LCSW**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.947	1.0	5.000	0	98.9	85	115				

Sample ID: **N050570-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **ZZZZZZ**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.480	1.0	5.000	0.5189	79.2	75	125				

Sample ID: **N050570-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162073**
Client ID: **ZZZZZZ**	Batch ID: **R162073**	TestNo: **SM 5310C**		Analysis Date: **5/3/2022**	SeqNo: **4627599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.638	1.0	5.000	0.5189	82.4	75	125	4.480	3.46	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162108**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **PBW**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638176**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162108**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **LCSW**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.754	1.0	5.000	0	95.1	85	115				

Sample ID: **N050569-005CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **ZZZZZZ**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	197.210	50	250.0	0	78.9	75	125				

Sample ID: **N050569-005CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **ZZZZZZ**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	200.145	50	250.0	0	80.1	75	125	197.2	1.48	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-001

Client Sample ID: MW-82-046-Q222
Collection Date: 5/2/2022 12:38:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	6400	13	20		µg/L	1	5/7/2022 10:30 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-002

Client Sample ID: MW-911-Q222
Collection Date: 5/2/2022 12:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	6200	13	20		µg/L	1	5/7/2022 10:35 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-003

Client Sample ID: MW-82-112-Q222
Collection Date: 5/2/2022 1:16:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 10:41 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-004

Client Sample ID: MW-82-168-Q222
Collection Date: 5/2/2022 1:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/7/2022 11:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-005

Client Sample ID: MW-82-198-Q222
Collection Date: 5/2/2022 2:39:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/7/2022 11:08 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-006

Client Sample ID: MW-77-046-Q222
Collection Date: 5/2/2022 3:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	540	13	20		µg/L	1	5/7/2022 11:45 AM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-007

Client Sample ID: MW-77-102-Q222
Collection Date: 5/2/2022 2:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 11:51 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-008

Client Sample ID: MW-77-158-Q222
Collection Date: 5/2/2022 1:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	24	13	20		µg/L	1	5/7/2022 11:56 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-009

Client Sample ID: MW-77-187-Q222
Collection Date: 5/2/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92712**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/7/2022 01:26 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92712**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **PBW**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633628**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92712**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **LCSW**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633629**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	98.223	20	100.0	0	98.2	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	127.253	100	100.0	0	127	75	125				S

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92712**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.744	100	100.0	0	101	75	125	127.3	23.3	20	R

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050569-005B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **162186**
Client ID: **ZZZZZZ** Batch ID: **92712** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **5/7/2022** SeqNo: **4633637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	154.781	100	100.0	0	155	80	120				S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-001

Client Sample ID: MW-82-046-Q222
Collection Date: 5/2/2022 12:38:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	27	0.25	0.50		µg/L	5	5/14/2022 01:09 PM
Barium	66	0.42	5.0		µg/L	5	5/8/2022 02:12 PM
Manganese	320	0.13	2.5		µg/L	5	5/8/2022 02:12 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-002

Client Sample ID: MW-911-Q222
Collection Date: 5/2/2022 12:48:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	25	0.25	0.50		µg/L	5	5/14/2022 01:15 PM
Barium	56	0.42	5.0		µg/L	5	5/8/2022 02:24 PM
Manganese	270	0.13	2.5		µg/L	5	5/8/2022 02:24 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-003

Client Sample ID: MW-82-112-Q222
Collection Date: 5/2/2022 1:16:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 01:21 PM
Barium	36	0.083	1.0		µg/L	1	5/8/2022 02:36 PM
Manganese	54	0.026	0.50		µg/L	1	5/8/2022 02:36 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-004

Client Sample ID: MW-82-168-Q222
Collection Date: 5/2/2022 1:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 01:33 PM
Barium	47	0.083	1.0		µg/L	1	5/8/2022 02:48 PM
Manganese	140	0.026	0.50		µg/L	1	5/8/2022 02:48 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-005

Client Sample ID: MW-82-198-Q222
Collection Date: 5/2/2022 2:39:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.25	0.50		µg/L	1	5/14/2022 11:58 AM
Barium	47	0.083	1.0		µg/L	1	5/8/2022 03:17 PM
Manganese	98	0.13	2.5		µg/L	5	5/8/2022 03:00 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-006

Client Sample ID: MW-77-046-Q222
Collection Date: 5/2/2022 3:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	0.89	0.050	0.10		µg/L	1	5/14/2022 01:45 PM
Barium	50	0.083	1.0		µg/L	1	5/8/2022 04:05 PM
Manganese	310	0.13	2.5		µg/L	5	5/8/2022 04:11 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-007

Client Sample ID: MW-77-102-Q222
Collection Date: 5/2/2022 2:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 02:08 PM
Barium	44	0.083	1.0		µg/L	1	5/8/2022 04:28 PM
Manganese	47	0.026	0.50		µg/L	1	5/8/2022 04:28 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-008

Client Sample ID: MW-77-158-Q222
Collection Date: 5/2/2022 1:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 02:20 PM
Barium	47	0.083	1.0		µg/L	1	5/8/2022 04:40 PM
Manganese	18	0.026	0.50		µg/L	1	5/8/2022 04:40 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050569-009

Client Sample ID: MW-77-187-Q222
Collection Date: 5/2/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92874**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 02:32 PM
Barium	41	0.083	1.0		µg/L	1	5/8/2022 04:52 PM
Manganese	39	0.026	0.50		µg/L	1	5/8/2022 04:52 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92717**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **PBW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636475**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92717**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **LCSW**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	10.159	1.0	10.00	0	102	85	115				
Manganese	95.232	0.50	100.0	0	95.2	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	57.958	1.0	10.00	47.35	106	75	125				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636497**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	189.030	2.5	100.0	97.81	91.2	75	125				

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636498**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	58.474	1.0	10.00	47.35	111	75	125	57.96	0.887	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92717**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	198.160	2.5	100.0	97.81	100	75	125	189.0	4.72	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050569
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92874**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **PBW**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Sample ID: **LCS-92874**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **LCSW**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.484	0.10	10.00	0	105	85	115				

Sample ID: **N050569-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.015	0.50	50.00	0	94.0	75	125				

Sample ID: **N050569-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92874**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	46.835	0.50	50.00	0	93.7	75	125	47.02	0.385	20	

Qualifiers:

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

Calculations are based on raw values

N050569

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/2/2022	Workorder:	N050569
Rep sample Temp (Deg C):	5.4	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 5/3/2022

Reviewed By: MBC 5/6/2022

Subject: Topock - Sample ID Update
From: Tina Rice <Tina.Rice@locana.co>
Date: 5/24/2022, 8:20 AM
To: Nancy Sibucao <nancy@assetlaboratories.com>, Yoandra Rodriguez <yoandra@assetlaboratories.com>

Please update the sample IDs as follows. I updated the EDD and loaded to Enterprise.

WorkOrder	Wrong	Correct
N050569	EB-704-Q222	EB-704-Q222_N050569
N050569	MW-911-Q422	MW-911-Q222

Thanks!

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-001A	MW-82-046-Q222	5/2/2022 12:38:00 PM	5/12/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-001B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-001C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-001D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-002A	MW-911-Q222	5/2/2022 12:48:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-002B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-002C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-002D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-003A	MW-82-112-Q222	5/2/2022 1:16:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-003B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"
CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638
NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-003C	MW-82-112-Q222	5/2/2022 1:16:00 PM	5/12/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-003D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-004A	MW-82-168-Q222	5/2/2022 1:55:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-004B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-004C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-004D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-005A	MW-82-198-Q222	5/2/2022 2:39:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050569-005B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050569-005C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050569-005D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050569-006A	MW-77-046-Q222	5/2/2022 3:06:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-006B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"
CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638
NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-006B	MW-77-046-Q222	5/2/2022 3:06:00 PM	5/12/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-006C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-006D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-007A	MW-77-102-Q222	5/2/2022 2:25:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-007B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-007C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-007D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-008A	MW-77-158-Q222	5/2/2022 1:52:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-008B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-008C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-008D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-009A	MW-77-187-Q222	5/2/2022 12:55:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-009B			5/12/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"

CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638

NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

WORK ORDER Summary

24-May-22

WorkOrder: N050569

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/2/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050569-009B	MW-77-187-Q222	5/2/2022 12:55:00 PM	5/12/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/12/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/12/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050569-009C			5/12/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050569-009D			5/12/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050569-010A	EB-704-Q222_N050569	5/2/2022 2:50:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-011A	EB-705-Q222	5/2/2022 3:20:00 PM	5/12/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050569-012A	FOLDER	5/16/2022	5/12/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/12/2022		Folder	Folder	☐	☐	☐	LAB
			5/16/2022		Folder	Folder	☐	☐	☐	LAB

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"

CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638

NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

May 20, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050583

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 03, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

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

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N050583-007 due to matrix. Sample is colored.

Because the results for total dissolved chromium (2.6 ug/L) and hexavalent chromium (0 ug/L) for sample N050583-009 (MW-30-050-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

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

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.6 ug/L) and hexavalent chromium (0 ug/L) for sample N050583-009 (MW-30-050-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 3.0 and 0.2 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N050584-005BMS and N050584-005BMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N050569-005CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050569-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N050584-005CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050584-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050583
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050583-001A	MW-39-040-Q222	Groundwater	5/3/2022 11:00:00 AM	5/3/2022	5/20/2022
N050583-001B	MW-39-040-Q222	Groundwater	5/3/2022 11:00:00 AM	5/3/2022	5/20/2022
N050583-001C	MW-39-040-Q222	Groundwater	5/3/2022 11:00:00 AM	5/3/2022	5/20/2022
N050583-001D	MW-39-040-Q222	Groundwater	5/3/2022 11:00:00 AM	5/3/2022	5/20/2022
N050583-002A	MW-39-050-Q222	Groundwater	5/3/2022 12:31:00 PM	5/3/2022	5/20/2022
N050583-002B	MW-39-050-Q222	Groundwater	5/3/2022 12:31:00 PM	5/3/2022	5/20/2022
N050583-002C	MW-39-050-Q222	Groundwater	5/3/2022 12:31:00 PM	5/3/2022	5/20/2022
N050583-002D	MW-39-050-Q222	Groundwater	5/3/2022 12:31:00 PM	5/3/2022	5/20/2022
N050583-003A	MW-39-060-Q222	Groundwater	5/3/2022 1:47:00 PM	5/3/2022	5/20/2022
N050583-003B	MW-39-060-Q222	Groundwater	5/3/2022 1:47:00 PM	5/3/2022	5/20/2022
N050583-003C	MW-39-060-Q222	Groundwater	5/3/2022 1:47:00 PM	5/3/2022	5/20/2022
N050583-003D	MW-39-060-Q222	Groundwater	5/3/2022 1:47:00 PM	5/3/2022	5/20/2022
N050583-004A	MW-39-070-Q222	Groundwater	5/3/2022 11:48:00 AM	5/3/2022	5/20/2022
N050583-004B	MW-39-070-Q222	Groundwater	5/3/2022 11:48:00 AM	5/3/2022	5/20/2022
N050583-004C	MW-39-070-Q222	Groundwater	5/3/2022 11:48:00 AM	5/3/2022	5/20/2022
N050583-004D	MW-39-070-Q222	Groundwater	5/3/2022 11:48:00 AM	5/3/2022	5/20/2022
N050583-005A	MW-39-080-Q222	Groundwater	5/3/2022 1:13:00 PM	5/3/2022	5/20/2022
N050583-005B	MW-39-080-Q222	Groundwater	5/3/2022 1:13:00 PM	5/3/2022	5/20/2022
N050583-005C	MW-39-080-Q222	Groundwater	5/3/2022 1:13:00 PM	5/3/2022	5/20/2022
N050583-005D	MW-39-080-Q222	Groundwater	5/3/2022 1:13:00 PM	5/3/2022	5/20/2022
N050583-006A	MW-39-100-Q222	Groundwater	5/3/2022 2:22:00 PM	5/3/2022	5/20/2022
N050583-006B	MW-39-100-Q222	Groundwater	5/3/2022 2:22:00 PM	5/3/2022	5/20/2022
N050583-006C	MW-39-100-Q222	Groundwater	5/3/2022 2:22:00 PM	5/3/2022	5/20/2022
N050583-006D	MW-39-100-Q222	Groundwater	5/3/2022 2:22:00 PM	5/3/2022	5/20/2022
N050583-007A	MW-30-030-Q222	Groundwater	5/3/2022 9:11:00 AM	5/3/2022	5/20/2022
N050583-007B	MW-30-030-Q222	Groundwater	5/3/2022 9:11:00 AM	5/3/2022	5/20/2022
N050583-007C	MW-30-030-Q222	Groundwater	5/3/2022 9:11:00 AM	5/3/2022	5/20/2022
N050583-007D	MW-30-030-Q222	Groundwater	5/3/2022 9:11:00 AM	5/3/2022	5/20/2022
N050583-008A	MW-30-030-EB-Q222	Groundwater	5/3/2022 8:30:00 AM	5/3/2022	5/20/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050583
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050583-009A	MW-30-050-Q222	Groundwater	5/3/2022 9:51:00 AM	5/3/2022	5/20/2022
N050583-009B	MW-30-050-Q222	Groundwater	5/3/2022 9:51:00 AM	5/3/2022	5/20/2022
N050583-009C	MW-30-050-Q222	Groundwater	5/3/2022 9:51:00 AM	5/3/2022	5/20/2022
N050583-009D	MW-30-050-Q222	Groundwater	5/3/2022 9:51:00 AM	5/3/2022	5/20/2022
N050583-010A	EB-707-Q222	Groundwater	5/3/2022 2:30:00 PM	5/3/2022	5/20/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050583-001

Client Sample ID: MW-39-040-Q222
Collection Date: 5/3/2022 11:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A** QC Batch: **R162130**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 09:41 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 05:39 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 12:31:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 10:01 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220508D**	QC Batch: **92718**			PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 05:51 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A** QC Batch: **R162130**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	88	0.25	2.0		µg/L	10	5/4/2022 11:36 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	77	0.035	1.0		µg/L	1	5/8/2022 06:03 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:48:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A** QC Batch: **R162130**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 10:58 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 06:15 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.33	0.025	0.20		µg/L	1	5/4/2022 11:17 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220508D**	QC Batch: **92718**			PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 06:39 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 2:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 12:14 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220508D**	QC Batch: **92718**			PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 06:50 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A** QC Batch: **R162130**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/4/2022 12:52 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 07:02 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-EB-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 8:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 01:29 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A** QC Batch: **R162130**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 01:10 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	2.6	0.035	1.0		µg/L	1	5/8/2022 07:14 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-707-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 2:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 01:48 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162130** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **PBW** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162130** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **LCSW** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	0.20	5.000	0	101	90	110				

Sample ID: **N050583-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID: **N050583-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Sample ID: **N050583-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050583-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.396	0.20	1.000	0.3319	106	90	110				

Sample ID: **N050583-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	138.329	2.0	50.00	87.70	101	90	110				

Sample ID: **N050583-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	138.172	2.0	50.00	87.70	101	90	110	138.3	0.114	20	

Sample ID: **N050583-005ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.359	0.20						0.3319	7.71	20	

Sample ID: **N050583-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.128	1.0	5.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050583-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	102	90	110				

Sample ID: **N050583-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.968	0.20	1.000	0	96.8	90	110				

Sample ID: **N050583-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Sample ID: **N050583-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Sample ID: **N050584-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630530**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.958	0.20	1.000	0	95.8	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050584-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID: **N050584-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.978	0.20	1.000	0	97.8	90	110				

Sample ID: **N050584-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110				

Sample ID: **N050584-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N050584-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	1.0	5.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92718**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **PBW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92718**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **LCSW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.181	1.0	10.00	0	91.8	85	115				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.359	1.0	10.00	0.1551	82.0	75	125				

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.496	1.0	10.00	0.1551	83.4	75	125	8.359	1.63	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504A**	QC Batch: **R162103**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/4/2022 09:26 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 12:31:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504A**	QC Batch: **R162103**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/4/2022 09:41 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504A**	QC Batch: **R162103**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.44	0.048	0.25		mg/L	5	5/4/2022 11:07 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:48:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504A**	QC Batch: **R162103**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/4/2022 10:11 AM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504A**	QC Batch: **R162103**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.30	0.048	0.25		mg/L	5	5/4/2022 11:22 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 2:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504A**	QC Batch: **R162103**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/4/2022 11:38 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/4/2022 09:18 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/4/2022 09:34 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162103_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162103**
Client ID: **PBW**	Batch ID: **R162103**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630380**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162103_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162103**
Client ID: **LCSW**	Batch ID: **R162103**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630381**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.273	0.050	1.250	0	102	90	110				

Sample ID: **N050583-006DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162103**
Client ID: **ZZZZZZ**	Batch ID: **R162103**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630388**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.494	0.10	2.500	0.04860	97.8	80	120				

Sample ID: **N050583-006DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162103**
Client ID: **ZZZZZZ**	Batch ID: **R162103**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630389**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.462	0.10	2.500	0.04860	96.6	80	120	2.494	1.26	20	

Sample ID: **N050581-005BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162103**
Client ID: **ZZZZZZ**	Batch ID: **R162103**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630393**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.682	0.25						2.716	1.28	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050581-005BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **162103**
Client ID: **ZZZZZZ** Batch ID: **R162103** TestNo: **EPA 300.0** Analysis Date: **5/4/2022** SeqNo: **4630394**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	8.796	0.25	6.250	2.716	97.3	80	120				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R162104_NO3** SampType: **LCS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **162104**
Client ID: **LCSW** Batch ID: **R162104** TestNo: **EPA 300.0** Analysis Date: **5/4/2022** SeqNo: **4630142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.225	0.050	1.250	0	98.0	90	110				

Sample ID: **MB-R162104_NO3** SampType: **MBLK** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **162104**
Client ID: **PBW** Batch ID: **R162104** TestNo: **EPA 300.0** Analysis Date: **5/4/2022** SeqNo: **4630143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N050584-005DMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **162104**
Client ID: **ZZZZZZ** Batch ID: **R162104** TestNo: **EPA 300.0** Analysis Date: **5/4/2022** SeqNo: **4630146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.722	0.25	6.250	0.09900	90.0	80	120				

Sample ID: **N050584-005DMSD** SampType: **MSD** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **162104**
Client ID: **ZZZZZZ** Batch ID: **R162104** TestNo: **EPA 300.0** Analysis Date: **5/4/2022** SeqNo: **4630147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.721	0.25	6.250	0.09900	89.9	80	120	5.722	0.0175	20	

Sample ID: **N050584-007DDUP** SampType: **DUP** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **162104**
Client ID: **ZZZZZZ** Batch ID: **R162104** TestNo: **EPA 300.0** Analysis Date: **5/4/2022** SeqNo: **4630148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.25						0	0	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050584-007DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162104**
Client ID: **ZZZZZZ**	Batch ID: **R162104**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.521	0.25	6.250	0	88.3	80	120				

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.3	0.084	1.0		mg/L	1	5/4/2022 05:05 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 12:31:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 05:20 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 05:36 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:48:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 05:51 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220504A**	QC Batch: **R162108**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/4/2022 06:07 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 2:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 09:53 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	5.6	0.084	1.0		mg/L	1	5/5/2022 10:09 AM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 10:40 AM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162108**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **PBW**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638176**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162108**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **LCSW**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638177**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.754	1.0	5.000	0	95.1	85	115				

Sample ID: **N050569-005CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **ZZZZZZ**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638193**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	197.210	50	250.0	0	78.9	75	125				

Sample ID: **N050569-005CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162108**
Client ID: **ZZZZZZ**	Batch ID: **R162108**	TestNo: **SM 5310C**		Analysis Date: **5/4/2022**	SeqNo: **4638194**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	200.145	50	250.0	0	80.1	75	125	197.2	1.48	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162138**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **PBW**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162138**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **LCSW**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.871	1.0	5.000	0	97.4	85	115				

Sample ID: **N050584-005CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **ZZZZZZ**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	233.182	50	250.0	0	93.3	75	125				

Sample ID: **N050584-005CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **ZZZZZZ**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638237**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	230.182	50	250.0	0.2232	92.0	75	125	233.2	1.29	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	270	13	20		µg/L	1	5/7/2022 03:01 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 12:31:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 03:04 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 03:08 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:48:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 03:14 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 03:19 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 2:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	23	13	20		µg/L	1	5/7/2022 03:25 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	170	64	100		µg/L	5	5/7/2022 03:28 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220507A**	QC Batch: **92713**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	20	13	20		µg/L	1	5/7/2022 03:32 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92713**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **PBW**	Batch ID: **92713**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92713**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **LCSW**	Batch ID: **92713**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.473	20	100.0	0	94.5	85	115				

Sample ID: **N050570-001DMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92713**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633667**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.775	20	100.0	21.25	81.5	75	125				

Sample ID: **N050570-001DMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92713**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.799	20	100.0	21.25	87.6	75	125	102.8	5.69	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	16	0.050	0.10		µg/L	1	5/14/2022 04:30 PM
Barium	72	0.083	1.0		µg/L	1	5/8/2022 05:39 PM
Manganese	110	0.026	0.50		µg/L	1	5/8/2022 05:39 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 12:31:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	1.8	0.050	0.10		µg/L	1	5/14/2022 04:42 PM
Barium	37	0.083	1.0		µg/L	1	5/8/2022 05:51 PM
Manganese	170	0.026	0.50		µg/L	1	5/8/2022 05:51 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**				PrepDate:	**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 04:53 PM
Barium	31	0.083	1.0		µg/L	1	5/8/2022 06:03 PM
Manganese	7.8	0.026	0.50		µg/L	1	5/8/2022 06:03 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 11:48:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	5/14/2022 05:05 PM
Barium	31	0.083	1.0		µg/L	1	5/8/2022 06:15 PM
Manganese	7.6	0.026	0.50		µg/L	1	5/8/2022 06:15 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 1:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**				PrepDate:	**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 05:29 PM
Barium	16	0.083	1.0		µg/L	1	5/8/2022 06:39 PM
Manganese	2.9	0.026	0.50		µg/L	1	5/8/2022 06:39 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 2:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/14/2022 05:41 PM
Barium	22	0.083	1.0		µg/L	1	5/8/2022 06:50 PM
Manganese	120	0.026	0.50		µg/L	1	5/8/2022 06:50 PM

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-030-Q222
Lab Order:	N050583	**Collection Date:**	5/3/2022 9:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050583-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220517B**	QC Batch: **92875**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	0.20	0.050	0.10		µg/L	1	5/17/2022 05:36 PM
Barium	76	0.083	1.0		µg/L	1	5/8/2022 07:02 PM
Manganese	49	0.026	0.50		µg/L	1	5/8/2022 07:02 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050583-009

Client Sample ID: MW-30-050-Q222
Collection Date: 5/3/2022 9:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	2.2	0.050	0.10		µg/L	1	5/14/2022 06:04 PM
Barium	19	0.083	1.0		µg/L	1	5/8/2022 07:14 PM
Manganese	380	0.13	2.5		µg/L	5	5/8/2022 07:20 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92718**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **PBW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92718**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **LCSW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.915	1.0	10.00	0	99.1	85	115				
Manganese	92.990	0.50	100.0	0	93.0	85	115				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	65.806	1.0	10.00	54.22	116	75	125				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	819.563	2.5	100.0	783.3	36.3	75	125				S

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636545**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	65.839	1.0	10.00	54.22	116	75	125	65.81	0.0499	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	855.769	2.5	100.0	783.3	72.5	75	125	819.6	4.32	20	S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-92875**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **LCSW**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.336	0.10	10.00	0	103	85	115				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.138	0.50	50.00	0	98.3	75	125				

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.558	0.50	50.00	0	95.1	75	125	49.14	3.27	20	

Sample ID: **MB-92875**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **PBW**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050584-005B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	60.117	1.0	10.00	54.22	59.0	80	120				S

Sample ID: **N050584-005B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	828.998	2.5	100.0	783.3	45.7	80	120				S

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050583
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050584-005B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.369	0.10	10.00	0	104	80	120				

Qualifiers:

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

N050583

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11080 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 P:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition	Y N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNC	1. Chilled	X
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.moore@critigan.com	Address:	Geotracker	RWQCB ✓	2. Headspace	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	3. Container Intact	X
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present	
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	5. IR number 3	
Signature: Date: 5/3/22	Sampled By: Riggie Tep		Global ID:	Regulatory	6. Method of Cooling: ICE	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	Sample Temp: 1.7c, 1.4°C	
Project Name: PG&E Topock PCM	Signature: Date: 5/3/22	Matrix: Ground X Sediment; Potable Soil; NPDES Other Solid; Surface			Courier: ASSET	
Project Number: 30121866.2Q22GW					Tracking No.:	

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH- 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C) H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3) H2SO4 1 L poly	Nitrate (EPA 300.0) 1 L poly					Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050583-01	MW-39-040-Q222	5/3/2022	11:00		X		X	X		X			X					E	6	P	BNS	
2	-02	MW-39-050-Q222	5/3/2022	12:31		X		X	X		X			X					E	6	P	BNS	
3	-03	MW-39-060-Q222	5/3/2022	13:47		X		X	X		X			X					E	6	P	BNS	
4	-04	MW-39-070-Q222	5/3/2022	11:48		X		X	X		X			X					E	6	P	BNS	
5	-05	MW-39-080-Q222	5/3/2022	13:13		X		X	X		X			X					E	6	P	BNS	
6	-06	MW-39-100-Q222	5/3/2022	14:22		X		X	X		X			X					E	6	P	BNS	
7	-07	MW-30-030-Q222	5/3/2022	9:11		X		X	X		X			X					E	6	P	BNS	
8	-08	MW-30-030-EB-Q222	5/3/2022	8:30		X													E	6	P	BNS	
9	-09	MW-30-050-Q222	5/3/2022	9:51		X		X	X		X			X					E	6	P	BNS	
10																			C	1	P	BNS	
11	-10	EB-707-Q222	5/3/2022	14:30		X													E	1	P	BNS	
12																							
13																							
14																							

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Riggie Tep	5/3/22 1604		5/3/22 @ 1604
REL/RECI			5/3/22 @ 1833

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. Turnaround will be calculated in hours and will begin as soon as the laboratory receives the sample. Any sample received after 3:00 PM will be considered received the next business day.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
   Less than 24 Hrs = 100% Next Day = 75% 2 Workdays = 50% 3 Workdays = 25%
3. Custom TLAD formats will be set up and stored on file for all project work.
4. Add 10% surcharge on Level III Data Packages. 100% on Level IV Data Packages. A surcharge applies on rush projects.
5. Trip Blanks and Equipment Blanks are billable sample.
6. All reports are submitted in electronic format. Hard copy reports will be mailed only if specifically requested.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Hard copy of reports is billed.
9. For Saturday Deliveries, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	$(NH4)2SO4/NH4OH$		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White–Laboratory Copy

Yellow–Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/3/2022	Workorder:	N050583
Rep sample Temp (Deg C):	1.7/1.4	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 5/4/2022

Reviewed By: MBC 5/16/2022

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050583

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050583-001A	MW-39-040-Q222	5/3/2022 11:00:00 AM	5/17/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-001B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050583-001C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-001D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-002A	MW-39-050-Q222	5/3/2022 12:31:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-002B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050583-002C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-002D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-003A	MW-39-060-Q222	5/3/2022 1:47:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-003B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050583

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050583-003C	MW-39-060-Q222	5/3/2022 1:47:00 PM	5/17/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-003D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-004A	MW-39-070-Q222	5/3/2022 11:48:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-004B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050583-004C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-004D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-005A	MW-39-080-Q222	5/3/2022 1:13:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-005B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050583-005C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-005D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-006A	MW-39-100-Q222	5/3/2022 2:22:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-006B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050583

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050583-006B	MW-39-100-Q222	5/3/2022 2:22:00 PM	5/17/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050583-006C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-006D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-007A	MW-30-030-Q222	5/3/2022 9:11:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-007B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050583-007C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-007D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-008A	MW-30-030-EB-Q222	5/3/2022 8:30:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-009A	MW-30-050-Q222	5/3/2022 9:51:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050583-009B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050583-009C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050583-009D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050583-010A	EB-707-Q222	5/3/2022 2:30:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050583

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050583-011A	FOLDER	5/17/2022	5/17/2022		Folder	Folder	☐	☐	☐	LAB
			5/17/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/17/2022		Folder	Folder	☐	☐	☐	LAB

May 19, 2022

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

TEL: (916) 786-3302
FAX:

Workorder No.: N050584

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 03, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

for

Nancy Sibucao
Laboratory Director

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

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050584

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

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

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050584-005CMS and NN050584-005CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050584-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N050584-005BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC sample N050584-005BMS and N050584-005BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050584
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050584-001A	MW-43-025-Q222	Groundwater	5/3/2022 9:19:00 AM	5/3/2022	5/19/2022
N050584-001B	MW-43-025-Q222	Groundwater	5/3/2022 9:19:00 AM	5/3/2022	5/19/2022
N050584-001C	MW-43-025-Q222	Groundwater	5/3/2022 9:19:00 AM	5/3/2022	5/19/2022
N050584-001D	MW-43-025-Q222	Groundwater	5/3/2022 9:19:00 AM	5/3/2022	5/19/2022
N050584-002A	MW-43-025-EB-Q222	Groundwater	5/3/2022 8:55:00 AM	5/3/2022	5/19/2022
N050584-003A	MW-43-075-Q222	Groundwater	5/3/2022 9:58:00 AM	5/3/2022	5/19/2022
N050584-003B	MW-43-075-Q222	Groundwater	5/3/2022 9:58:00 AM	5/3/2022	5/19/2022
N050584-003C	MW-43-075-Q222	Groundwater	5/3/2022 9:58:00 AM	5/3/2022	5/19/2022
N050584-003D	MW-43-075-Q222	Groundwater	5/3/2022 9:58:00 AM	5/3/2022	5/19/2022
N050584-004A	MW-43-075-EB-Q222	Groundwater	5/3/2022 9:33:00 AM	5/3/2022	5/19/2022
N050584-005A	MW-43-090-Q222	Groundwater	5/3/2022 10:34:00 AM	5/3/2022	5/19/2022
N050584-005B	MW-43-090-Q222	Groundwater	5/3/2022 10:34:00 AM	5/3/2022	5/19/2022
N050584-005C	MW-43-090-Q222	Groundwater	5/3/2022 10:34:00 AM	5/3/2022	5/19/2022
N050584-005D	MW-43-090-Q222	Groundwater	5/3/2022 10:34:00 AM	5/3/2022	5/19/2022
N050584-006A	MW-43-090-EB-Q222	Groundwater	5/3/2022 10:10:00 AM	5/3/2022	5/19/2022
N050584-007A	MW-52D-Q222	Groundwater	5/3/2022 2:27:00 PM	5/3/2022	5/19/2022
N050584-007B	MW-52D-Q222	Groundwater	5/3/2022 2:27:00 PM	5/3/2022	5/19/2022
N050584-007C	MW-52D-Q222	Groundwater	5/3/2022 2:27:00 PM	5/3/2022	5/19/2022
N050584-007D	MW-52D-Q222	Groundwater	5/3/2022 2:27:00 PM	5/3/2022	5/19/2022
N050584-008A	MW-52M-Q222	Groundwater	5/3/2022 1:52:00 PM	5/3/2022	5/19/2022
N050584-008B	MW-52M-Q222	Groundwater	5/3/2022 1:52:00 PM	5/3/2022	5/19/2022
N050584-008C	MW-52M-Q222	Groundwater	5/3/2022 1:52:00 PM	5/3/2022	5/19/2022
N050584-008D	MW-52M-Q222	Groundwater	5/3/2022 1:52:00 PM	5/3/2022	5/19/2022
N050584-009A	MW-52S-Q222	Groundwater	5/3/2022 1:15:00 PM	5/3/2022	5/19/2022
N050584-009B	MW-52S-Q222	Groundwater	5/3/2022 1:15:00 PM	5/3/2022	5/19/2022
N050584-009C	MW-52S-Q222	Groundwater	5/3/2022 1:15:00 PM	5/3/2022	5/19/2022
N050584-009D	MW-52S-Q222	Groundwater	5/3/2022 1:15:00 PM	5/3/2022	5/19/2022
N050584-010A	MW-53D-Q222	Groundwater	5/3/2022 12:37:00 PM	5/3/2022	5/19/2022
N050584-010B	MW-53D-Q222	Groundwater	5/3/2022 12:37:00 PM	5/3/2022	5/19/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050584
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050584-010C	MW-53D-Q222	Groundwater	5/3/2022 12:37:00 PM	5/3/2022	5/19/2022
N050584-010D	MW-53D-Q222	Groundwater	5/3/2022 12:37:00 PM	5/3/2022	5/19/2022
N050584-011A	MW-53M-Q222	Groundwater	5/3/2022 12:02:00 PM	5/3/2022	5/19/2022
N050584-011B	MW-53M-Q222	Groundwater	5/3/2022 12:02:00 PM	5/3/2022	5/19/2022
N050584-011C	MW-53M-Q222	Groundwater	5/3/2022 12:02:00 PM	5/3/2022	5/19/2022
N050584-011D	MW-53M-Q222	Groundwater	5/3/2022 12:02:00 PM	5/3/2022	5/19/2022
N050584-012A	MW-53S-Q222	Groundwater	5/3/2022 11:21:00 AM	5/3/2022	5/19/2022
N050584-012B	MW-53S-Q222	Groundwater	5/3/2022 11:21:00 AM	5/3/2022	5/19/2022
N050584-012C	MW-53S-Q222	Groundwater	5/3/2022 11:21:00 AM	5/3/2022	5/19/2022
N050584-012D	MW-53S-Q222	Groundwater	5/3/2022 11:21:00 AM	5/3/2022	5/19/2022
N050584-013A	EB-706-Q222	Groundwater	5/3/2022 2:35:00 PM	5/3/2022	5/19/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-001

Client Sample ID: MW-43-025-Q222
Collection Date: 5/3/2022 9:19:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A** QC Batch: **R162130**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 03:13 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 07:26 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-EB-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 8:55:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 03:32 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-003

Client Sample ID: MW-43-075-Q222
Collection Date: 5/3/2022 9:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A** QC Batch: **R162130**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/4/2022 05:07 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 09:34 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-EB-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 9:33:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 03:51 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-005

Client Sample ID: MW-43-090-Q222
Collection Date: 5/3/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/5/2022 11:02 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:		**5/4/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 07:49 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-EB-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 10:10:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 04:10 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-007

Client Sample ID: MW-52D-Q222
Collection Date: 5/3/2022 2:27:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/5/2022 11:30 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 09:46 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-008

Client Sample ID: MW-52M-Q222
Collection Date: 5/3/2022 1:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/5/2022 12:08 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A				**EPA 6020**
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:		**5/4/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 09:58 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-009

Client Sample ID: MW-52S-Q222
Collection Date: 5/3/2022 1:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/5/2022 12:27 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A				**EPA 6020**
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:		**5/4/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 10:10 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-010

Client Sample ID: MW-53D-Q222
Collection Date: 5/3/2022 12:37:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/5/2022 12:46 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A				**EPA 6020**
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:		**5/4/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 10:22 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-011

Client Sample ID: MW-53M-Q222
Collection Date: 5/3/2022 12:02:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/5/2022 01:05 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A			**EPA 6020**	
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:		**5/4/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 10:45 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-012

Client Sample ID: MW-53S-Q222
Collection Date: 5/3/2022 11:21:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 10:43 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220508D** QC Batch: **92718**				PrepDate:	**5/4/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/8/2022 10:57 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-706-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 2:35:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220504A**	QC Batch: **R162130**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/4/2022 04:48 PM

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162130**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **PBW**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630499**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162130**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **LCSW**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.028	0.20	5.000	0	101	90	110				

Sample ID: **N050583-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630502**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID: **N050583-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630504**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Sample ID: **N050583-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630508**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.983	0.20	1.000	0	98.3	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050583-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630510**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.396	0.20	1.000	0.3319	106	90	110				

Sample ID: **N050583-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630512**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	138.329	2.0	50.00	87.70	101	90	110				

Sample ID: **N050583-003AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	138.172	2.0	50.00	87.70	101	90	110	138.3	0.114	20	

Sample ID: **N050583-005ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.359	0.20						0.3319	7.71	20	

Sample ID: **N050583-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162130**
Client ID: **ZZZZZZ**	Batch ID: **R162130**	TestNo: **EPA 218.6**		Analysis Date: **5/4/2022**	SeqNo: **4630519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.128	1.0	5.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050583-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	102	90	110				

Sample ID: **N050583-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.968	0.20	1.000	0	96.8	90	110				

Sample ID: **N050583-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Sample ID: **N050583-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.000	0.20	1.000	0	100	90	110				

Sample ID: **N050584-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630530**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.958	0.20	1.000	0	95.8	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050584-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID: **N050584-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630534**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.978	0.20	1.000	0	97.8	90	110				

Sample ID: **N050584-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110				

Sample ID: **N050584-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N050584-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162130**
Client ID: **ZZZZZZ** Batch ID: **R162130** TestNo: **EPA 218.6** Analysis Date: **5/4/2022** SeqNo: **4630542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.160	1.0	5.000	0	103	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162163**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **PBW**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162163**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **LCSW**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.034	0.20	5.000	0	101	90	110				

Sample ID: **N050584-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID: **N050584-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.336	1.0	5.000	0	107	90	110				

Sample ID: **N050584-005AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.200	1.0	5.000	0	104	90	110	5.336	2.57	20	

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050584-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.228	1.0	5.000	0	105	90	110				

Sample ID: **N050584-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.285	1.0	5.000	0	106	90	110				

Sample ID: **N050584-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.205	1.0	5.000	0	104	90	110				

Sample ID: **N050584-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.293	1.0	5.000	0	106	90	110				

Sample ID: **N050584-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.302	1.0	5.000	0	106	90	110				

Qualifiers:

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

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050584-012ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N050607-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.038	0.20	1.000	0	104	90	110				

Sample ID: **N050607-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.055	0.20	1.000	0	106	90	110				

Sample ID: **N050607-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0	103	90	110				

Sample ID: **N050607-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Qualifiers:

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

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050607-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID: **N050607-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.266	1.0	5.000	0	105	90	110				

Sample ID: **N050607-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID: **N050607-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID: **N050607-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.977	0.20	1.000	0.06420	91.2	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050607-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID: **N050607-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N050607-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.986	0.20	1.000	0	98.6	90	110				

Qualifiers:

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

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92718**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **PBW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92718**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **LCSW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.181	1.0	10.00	0	91.8	85	115				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.359	1.0	10.00	0.1551	82.0	75	125				

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.496	1.0	10.00	0.1551	83.4	75	125	8.359	1.63	20	

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 10:20 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 9:58:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 10:35 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 07:47 PM

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 08:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 10:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 11:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 12:37:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 11:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 12:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 11:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220504B**	QC Batch: **R162104**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/4/2022 11:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R162104_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162104**
Client ID: **LCSW**	Batch ID: **R162104**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630142**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.225	0.050	1.250	0	98.0	90	110				

Sample ID: **MB-R162104_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162104**
Client ID: **PBW**	Batch ID: **R162104**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630143**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N050584-005DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162104**
Client ID: **ZZZZZZ**	Batch ID: **R162104**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630146**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.722	0.25	6.250	0.09900	90.0	80	120				

Sample ID: **N050584-005DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162104**
Client ID: **ZZZZZZ**	Batch ID: **R162104**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.721	0.25	6.250	0.09900	89.9	80	120	5.722	0.0175	20	

Sample ID: **N050584-007DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162104**
Client ID: **ZZZZZZ**	Batch ID: **R162104**	TestNo: **EPA 300.0**		Analysis Date: **5/4/2022**	SeqNo: **4630148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.25						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050584-007DMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162104**
Client ID: **ZZZZZZ** Batch ID: **R162104** TestNo: **EPA 300.0** Analysis Date: **5/4/2022** SeqNo: **4630149**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.521	0.25	6.250	0	88.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-025-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 9:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.2	0.084	1.0		mg/L	1	5/5/2022 11:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 9:58:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 03:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	4.2	50		mg/L	50	5/5/2022 12:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 01:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 01:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.4	0.084	1.0		mg/L	1	5/5/2022 03:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 12:37:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 02:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 12:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 02:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.7	0.084	1.0		mg/L	1	5/5/2022 02:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162138**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **PBW**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162138**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **LCSW**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.871	1.0	5.000	0	97.4	85	115				

Sample ID: **N050584-005CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **ZZZZZZ**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	233.182	50	250.0	0	93.3	75	125				

Sample ID: **N050584-005CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **ZZZZZZ**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638237**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	230.182	50	250.0	0.2232	92.0	75	125	233.2	1.29	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-001

Client Sample ID: MW-43-025-Q222
Collection Date: 5/3/2022 9:19:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220507A**	QC Batch: **92714**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	3500	13	20		µg/L	1	5/7/2022 04:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-075-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 9:58:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220507A**	QC Batch: **92714**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Iron	3200	13	20		µg/L	1	5/7/2022 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220507A**	QC Batch: **92714**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	1200	13	20		µg/L	1	5/7/2022 04:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92714**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	740	64	100		µg/L	5	5/10/2022 02:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52M-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 1:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220507A**	QC Batch: **92714**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Iron	620	13	20		µg/L	1	5/7/2022 05:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220507A**	QC Batch: **92714**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	26000	64	100		µg/L	5	5/7/2022 05:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 12:37:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92714**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Iron	380	64	100		µg/L	5	5/10/2022 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53M-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 12:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92714**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	270	13	20		µg/L	1	5/10/2022 02:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220507A**	QC Batch: **92714**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	5000	13	20		µg/L	1	5/7/2022 05:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92714**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **PBW**	Batch ID: **92714**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92714**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **LCSW**	Batch ID: **92714**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	85.126	20	100.0	0	85.1	85	115				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92714**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1240.370	20	100.0	1238	1.93	75	125				S

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92714**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1344.469	20	100.0	1238	106	75	125	1240	8.05	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050584-005B-PS** SampType: **PS** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: RunNo: **162186**
Client ID: **ZZZZZZ** Batch ID: **92714** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **5/7/2022** SeqNo: **4633701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1293.457	20	100.0	1238	55.0	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-001

Client Sample ID: MW-43-025-Q222
Collection Date: 5/3/2022 9:19:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	20	0.050	0.10		µg/L	1	5/14/2022 06:16 PM
Barium	91	0.083	1.0		µg/L	1	5/8/2022 07:26 PM
Manganese	440	0.13	2.5		µg/L	5	5/8/2022 07:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-003

Client Sample ID: MW-43-075-Q222
Collection Date: 5/3/2022 9:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	5.7	0.050	0.10		µg/L	1	5/14/2022 06:39 PM
Barium	48	0.083	1.0		µg/L	1	5/8/2022 09:34 PM
Manganese	420	0.13	2.5		µg/L	5	5/8/2022 09:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-43-090-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	ND	0.25	0.50		µg/L	1	5/14/2022 03:19 PM
Barium	54	0.083	1.0		µg/L	1	5/8/2022 07:49 PM
Manganese	780	0.13	2.5		µg/L	5	5/8/2022 07:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 06:51 PM
Barium	33	0.083	1.0		µg/L	1	5/8/2022 09:46 PM
Manganese	220	0.13	2.5		µg/L	5	5/8/2022 09:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-008

Client Sample ID: MW-52M-Q222
Collection Date: 5/3/2022 1:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 07:03 PM
Barium	58	0.083	1.0		µg/L	1	5/8/2022 09:58 PM
Manganese	230	0.13	2.5		µg/L	5	5/8/2022 10:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-52S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 07:15 PM
Barium	400	0.42	5.0		µg/L	5	5/8/2022 10:16 PM
Manganese	1400	0.66	12		µg/L	25	5/10/2022 07:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53D-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 12:37:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 07:27 PM
Barium	36	0.083	1.0		µg/L	1	5/8/2022 10:22 PM
Manganese	1400	0.66	12		µg/L	25	5/10/2022 07:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050584-011

Client Sample ID: MW-53M-Q222
Collection Date: 5/3/2022 12:02:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:		**5/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 07:50 PM
Barium	55	0.083	1.0		µg/L	1	5/8/2022 10:45 PM
Manganese	400	0.13	2.5		µg/L	5	5/8/2022 10:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-53S-Q222
Lab Order:	N050584	**Collection Date:**	5/3/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050584-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220514B**	QC Batch: **92875**			PrepDate:	**5/14/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/14/2022 08:02 PM
Barium	190	0.42	5.0		µg/L	5	5/8/2022 11:03 PM
Manganese	1100	0.66	12		µg/L	25	5/10/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92718**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **PBW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92718**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **LCSW**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.915	1.0	10.00	0	99.1	85	115				
Manganese	92.990	0.50	100.0	0	93.0	85	115				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	65.806	1.0	10.00	54.22	116	75	125				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	819.563	2.5	100.0	783.3	36.3	75	125				S

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636545**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	65.839	1.0	10.00	54.22	116	75	125	65.81	0.0499	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/4/2022**	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	855.769	2.5	100.0	783.3	72.5	75	125	819.6	4.32	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-92875**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **LCSW**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.336	0.10	10.00	0	103	85	115				

Sample ID: **N050584-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	49.138	0.50	50.00	0	98.3	75	125				

Sample ID: **N050584-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646324**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	47.558	0.50	50.00	0	95.1	75	125	49.14	3.27	20	

Sample ID: **MB-92875**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/14/2022**	RunNo: **162401**
Client ID: **PBW**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050584-005B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	60.117	1.0	10.00	54.22	59.0	80	120				S

Sample ID: **N050584-005B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162235**
Client ID: **ZZZZZZ**	Batch ID: **92718**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/8/2022**	SeqNo: **4636542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	828.998	2.5	100.0	783.3	45.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050584
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050584-005B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162401**
Client ID: **ZZZZZZ**	Batch ID: **92875**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/14/2022**	SeqNo: **4646322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.369	0.10	10.00	0	104	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N050584

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition	Y N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNL	1. Chilled	X
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.mocsenbrunen.com	Address:	Geotracker	RWQCB ✓	2. Headspace	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	3. Container Intact	X
Submitted By: Riggie Tap		Phone: 949 727-1400, ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present	
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	5. IR number 3	
Signature: Date: 5/3/22	Sampled By: Riggie Tap		Global ID:	Regulatory	6. Method of Cooling: ICE	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	Sample Temp: 1.7°C 1.4°C	
Project Name: PG&E Topock PCM	Signature: Date: 5/3/22				Courier: ASSET	
Project Number: 30121866.2Q22GW					Tracking No.:	

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2 SO4, NH4 OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C) H2SO4 (3x40 mL VOA)	Total metals (SW6010) Na filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3) H2SO4 (1 L poly)	Nitrate (EPA 300.0) (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050584-01	MW-43-025-Q222	5/3/2022	9:19		X		X	X		X			X	E	6	P	BNS	
2	-02	MW-43-025-EB-Q222	5/3/2022	8:55		X									E	6	P	BNS	
3	-03	MW-43-075-Q222	5/3/2022	9:58		X		X	X		X			X	E	6	P	BNS	
4	-04	MW-43-075-EB-Q222	5/3/2022	9:33		X									E	6	P	BNS	
5	-05	MW-43-090-Q222	5/3/2022	10:34		X		X	X		X			X	E	9	P	BNS	MS/MSD
6	-06	MW-43-090-EB-Q222	5/3/2022	10:10		X									E	6	P	BNS	
7	-07	MW-52D-Q222	5/3/2022	14:27		X		X	X		X			X	E	6	P	BNS	
8	-08	MW-52M-Q222	5/3/2022	13:52		X		X	X		X			X	E	6	P	BNS	
9	-09	MW-52S-Q222	5/3/2022	13:15		X		X	X		X			X	E	6	P	BNS	
10	-10	MW-53D-Q222	5/3/2022	12:37		X		X	X		X			X	E	1	P	BNS	
11	-11	MW-53M-Q222	5/3/2022	12:02		X		X	X		X			X	E	1	P	BNS	
12	-12	MW-53S-Q222	5/3/2022	11:21		X		X	X		X			X					
13	-13	EB-706-Q222	5/3/2022	14:35		X													
14																			

Relinquished by (Signature and Printed Name): Riggie Tap Date/Time: 5/3/22 1604
Received by (Signature and Printed Name): MOCARTIN Date/Time: 5/3/22 1604
Relinquished by (Signature and Printed Name): REL/REC: MOCARTIN Date/Time: 5/3/22@1833
Received by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = <24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

1. Items
2. Regular TAT is 5-7 business days; surcharges will apply for rush analysis
3. Client: EDD format will be established. Prior to initial preparation.
4. Any surcharges for Saturday, Sunday, Holiday, Level IV, Data Validation or surcharges applied on extended
5. Trip blank and Equipment Blanks are billable sample.
6. Client is responsible for proper sample preservation and holding time.
7. Terms are net 30 days.
8. All samples submitted to client without Hazard from ASSET Laboratories are disposed of after 30 days.
9. For samples received after TAT specified, surcharges will apply.

Preservatives: H=HCl; N=HNO_3; S=H_2SO_4; C=4°C; Z=$Zn(AC)_2$; O=NaOH; T=Na S_2O_3; Others/Specify: U (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Teflon; G=Glass; S=Metal; M=Metal; C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/3/2022	Workorder:	N050584
Rep sample Temp (Deg C):	1.7/1.4	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 5/4/2022

Reviewed By: MBC 5/16/2022

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050584

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050584-001A	MW-43-025-Q222	5/3/2022 9:19:00 AM	5/17/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-001B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-001C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050584-001D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-002A	MW-43-025-EB-Q222	5/3/2022 8:55:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-003A	MW-43-075-Q222	5/3/2022 9:58:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-003B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-003C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050584-003D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-004A	MW-43-075-EB-Q222	5/3/2022 9:33:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-005A	MW-43-090-Q222	5/3/2022 10:34:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050584-005B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050584

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050584-005B	MW-43-090-Q222	5/3/2022 10:34:00 AM	5/17/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050584-005C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050584-005D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050584-006A	MW-43-090-EB-Q222	5/3/2022 10:10:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-007A	MW-52D-Q222	5/3/2022 2:27:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-007B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-007C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050584-007D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-008A	MW-52M-Q222	5/3/2022 1:52:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-008B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-008C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050584-008D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-009A	MW-52S-Q222	5/3/2022 1:15:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050584

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050584-009B	MW-52S-Q222	5/3/2022 1:15:00 PM	5/17/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-009C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050584-009D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-010A	MW-53D-Q222	5/3/2022 12:37:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-010B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-010C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050584-010D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-011A	MW-53M-Q222	5/3/2022 12:02:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-011B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-011C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

16-May-22

WorkOrder: N050584

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/3/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050584-011D	MW-53M-Q222	5/3/2022 12:02:00 PM	5/17/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-012A	MW-53S-Q222	5/3/2022 11:21:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-012B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050584-012C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050584-012D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050584-013A	EB-706-Q222	5/3/2022 2:35:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050584-014A	FOLDER	5/17/2022	5/17/2022		Folder	Folder	☐	☐	☐	LAB
			5/17/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/17/2022		Folder	Folder	☐	☐	☐	LAB

May 24, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050606

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 04, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050606

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N050606-003, -004 and -005 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050584-005CMS and NN050584-005CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050584-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050606
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050606-001A	MW-86-030-Q222	Groundwater	5/4/2022 11:12:00 AM	5/4/2022	5/24/2022
N050606-001B	MW-86-030-Q222	Groundwater	5/4/2022 11:12:00 AM	5/4/2022	5/24/2022
N050606-001C	MW-86-030-Q222	Groundwater	5/4/2022 11:12:00 AM	5/4/2022	5/24/2022
N050606-001D	MW-86-030-Q222	Groundwater	5/4/2022 11:12:00 AM	5/4/2022	5/24/2022
N050606-002A	MW-86-066-Q222	Groundwater	5/4/2022 10:34:00 AM	5/4/2022	5/24/2022
N050606-002B	MW-86-066-Q222	Groundwater	5/4/2022 10:34:00 AM	5/4/2022	5/24/2022
N050606-002C	MW-86-066-Q222	Groundwater	5/4/2022 10:34:00 AM	5/4/2022	5/24/2022
N050606-002D	MW-86-066-Q222	Groundwater	5/4/2022 10:34:00 AM	5/4/2022	5/24/2022
N050606-003A	MW-86-120-Q222	Groundwater	5/4/2022 10:03:00 AM	5/4/2022	5/24/2022
N050606-003B	MW-86-120-Q222	Groundwater	5/4/2022 10:03:00 AM	5/4/2022	5/24/2022
N050606-003C	MW-86-120-Q222	Groundwater	5/4/2022 10:03:00 AM	5/4/2022	5/24/2022
N050606-003D	MW-86-120-Q222	Groundwater	5/4/2022 10:03:00 AM	5/4/2022	5/24/2022
N050606-004A	MW-86-140-Q222	Groundwater	5/4/2022 9:23:00 AM	5/4/2022	5/24/2022
N050606-004B	MW-86-140-Q222	Groundwater	5/4/2022 9:23:00 AM	5/4/2022	5/24/2022
N050606-004C	MW-86-140-Q222	Groundwater	5/4/2022 9:23:00 AM	5/4/2022	5/24/2022
N050606-004D	MW-86-140-Q222	Groundwater	5/4/2022 9:23:00 AM	5/4/2022	5/24/2022
N050606-005A	MW-933-Q422	Groundwater	5/4/2022 9:33:00 AM	5/4/2022	5/24/2022
N050606-005B	MW-933-Q422	Groundwater	5/4/2022 9:33:00 AM	5/4/2022	5/24/2022
N050606-005C	MW-933-Q422	Groundwater	5/4/2022 9:33:00 AM	5/4/2022	5/24/2022
N050606-005D	MW-933-Q422	Groundwater	5/4/2022 9:33:00 AM	5/4/2022	5/24/2022
N050606-006A	MW-28-025-Q222	Groundwater	5/4/2022 12:20:00 PM	5/4/2022	5/24/2022
N050606-006B	MW-28-025-Q222	Groundwater	5/4/2022 12:20:00 PM	5/4/2022	5/24/2022
N050606-006C	MW-28-025-Q222	Groundwater	5/4/2022 12:20:00 PM	5/4/2022	5/24/2022
N050606-006D	MW-28-025-Q222	Groundwater	5/4/2022 12:20:00 PM	5/4/2022	5/24/2022
N050606-007A	MW-28-025-EB-Q222	Groundwater	5/4/2022 11:56:00 AM	5/4/2022	5/24/2022
N050606-008A	MW-28-090-Q222	Groundwater	5/4/2022 11:52:00 AM	5/4/2022	5/24/2022
N050606-008B	MW-28-090-Q222	Groundwater	5/4/2022 11:52:00 AM	5/4/2022	5/24/2022
N050606-008C	MW-28-090-Q222	Groundwater	5/4/2022 11:52:00 AM	5/4/2022	5/24/2022
N050606-008D	MW-28-090-Q222	Groundwater	5/4/2022 11:52:00 AM	5/4/2022	5/24/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050606
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050606-009A	MW-28-090-EB-Q222	Groundwater	5/4/2022 11:25:00 AM	5/4/2022	5/24/2022
N050606-010A	MW-45-095a-Q222	Groundwater	5/4/2022 1:02:00 PM	5/4/2022	5/24/2022
N050606-010B	MW-45-095a-Q222	Groundwater	5/4/2022 1:02:00 PM	5/4/2022	5/24/2022
N050606-010C	MW-45-095a-Q222	Groundwater	5/4/2022 1:02:00 PM	5/4/2022	5/24/2022
N050606-010D	MW-45-095a-Q222	Groundwater	5/4/2022 1:02:00 PM	5/4/2022	5/24/2022
N050606-011A	EB-708-Q222	Groundwater	5/4/2022 1:10:00 PM	5/4/2022	5/24/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-001

Client Sample ID: MW-86-030-Q222
Collection Date: 5/4/2022 11:12:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 08:16 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 12:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-002

Client Sample ID: MW-86-066-Q222
Collection Date: 5/4/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 08:25 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 01:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.3	0.13	1.0		µg/L	5	5/6/2022 11:06 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220521B** QC Batch: **92984**				PrepDate:	**5/20/2022**		Analyst: **DJ**
Chromium	1.5	0.035	1.0		µg/L	1	5/21/2022 10:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-004

Client Sample ID: MW-86-140-Q222
Collection Date: 5/4/2022 9:23:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/6/2022 11:44 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-005

Client Sample ID: MW-933-Q422
Collection Date: 5/4/2022 9:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/6/2022 12:03 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 02:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 08:34 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-EB-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 11:56:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 12:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-008

Client Sample ID: MW-28-090-Q222
Collection Date: 5/4/2022 11:52:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 08:44 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 02:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-EB-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 11:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 02:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 10:47 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 02:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-708-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 1:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 12:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162177**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **PBW**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162177**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **LCSW**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.108	0.20	5.000	0	102	90	110				

Sample ID: **N050606-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	90	110				

Sample ID: **N050606-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.090	0.20	1.000	0	109	90	110				

Sample ID: **N050606-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050606-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID: **N050606-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.069	0.20	1.000	0	107	90	110				

Sample ID: **N050606-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.522	1.0	5.000	1.336	104	90	110				

Sample ID: **N050606-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.248	1.0	5.000	0	105	90	110				

Sample ID: **N050606-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.201	1.0	5.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050606-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.976	0.20	1.000	0	97.6	90	110				

Sample ID: **N050626-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.039	0.20	1.000	0	104	90	110				

Sample ID: **N050606-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	101	90	110				

Sample ID: **N050606-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID: **N050626-011AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110	1.039	0.834	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050606-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N050626-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID: **N050626-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633327**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID: **N050626-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	101	90	110				

Sample ID: **N050626-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.2	90	110				

Sample ID: **N050626-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.961	0.20	1.000	0	96.1	90	110				

Sample ID: **N050626-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N050626-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633341**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92764**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **PBW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92764**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **LCSW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.793	1.0	10.00	0	97.9	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643553**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.449	1.0	10.00	2.118	93.3	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.877	1.0	10.00	2.118	87.6	75	125	11.45	5.13	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92984**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **PBW**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.084	1.0									

Sample ID: **LCS-92984**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **LCSW**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.640	1.0	10.00	0	96.4	85	115				

Sample ID: **N050606-003B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **ZZZZZZ**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.905	1.0	10.00	1.468	84.4	75	125				

Sample ID: **N050606-003B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **ZZZZZZ**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.828	1.0	10.00	1.468	83.6	75	125	9.905	0.788	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 11:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/5/2022 09:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-066-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/5/2022 10:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.91	0.095	0.50		mg/L	10	5/5/2022 10:47 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-140-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 9:23:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/5/2022 11:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-933-Q422
Lab Order:	N050606	**Collection Date:**	5/4/2022 9:33:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/5/2022 11:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/5/2022 11:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 11:52:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/5/2022 12:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/5/2022 12:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162128_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **PBW**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631007**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162128_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **LCSW**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.235	0.050	1.250	0	98.8	90	110				

Sample ID: **N050606-001DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **ZZZZZZ**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.236	0.25	6.250	0.09600	98.2	80	120				

Sample ID: **N050606-001DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **ZZZZZZ**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.167	0.25	6.250	0.09600	97.1	80	120	6.236	1.11	20	

Sample ID: **N050607-007DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **ZZZZZZ**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.25						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050607-007DMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162128**
Client ID: **ZZZZZZ** Batch ID: **R162128** TestNo: **EPA 300.0** Analysis Date: **5/5/2022** SeqNo: **4631023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.010	0.25	6.250	0	96.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 11:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	3.7	0.084	1.0		mg/L	1	5/5/2022 05:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-066-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 03:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-120-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 10:03:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-140-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 9:23:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 04:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-005

Client Sample ID: MW-933-Q422
Collection Date: 5/4/2022 9:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 04:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-090-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 11:52:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 05:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220505A**	QC Batch: **R162138**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/5/2022 05:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162138**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **PBW**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162138**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **LCSW**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638224**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.871	1.0	5.000	0	97.4	85	115				

Sample ID: **N050584-005CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **ZZZZZZ**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	233.182	50	250.0	0	93.3	75	125				

Sample ID: **N050584-005CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162138**
Client ID: **ZZZZZZ**	Batch ID: **R162138**	TestNo: **SM 5310C**		Analysis Date: **5/5/2022**	SeqNo: **4638237**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	230.182	50	250.0	0.2232	92.0	75	125	233.2	1.29	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-86-030-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 11:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92760**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	570	13	20		µg/L	1	5/7/2022 07:38 PM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-002

Client Sample ID: MW-86-066-Q222
Collection Date: 5/4/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92760**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	86	13	20		µg/L	1	5/7/2022 07:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-003

Client Sample ID: MW-86-120-Q222
Collection Date: 5/4/2022 10:03:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92760**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 07:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-004

Client Sample ID: MW-86-140-Q222
Collection Date: 5/4/2022 9:23:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220507A**	QC Batch: **92760**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	1000	13	20		µg/L	1	5/7/2022 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-933-Q422
Lab Order:	N050606	**Collection Date:**	5/4/2022 9:33:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92760**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	1100	13	20		µg/L	1	5/7/2022 07:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-28-025-Q222
Lab Order:	N050606	**Collection Date:**	5/4/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050606-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92760**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/7/2022 08:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-008

Client Sample ID: MW-28-090-Q222
Collection Date: 5/4/2022 11:52:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220507A**	QC Batch: **92760**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	990	13	20		µg/L	1	5/7/2022 08:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-010

Client Sample ID: MW-45-095a-Q222
Collection Date: 5/4/2022 1:02:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/10/2022 02:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92760**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **PBW**	Batch ID: **92760**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633709**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92760**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **LCSW**	Batch ID: **92760**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.347	20	100.0	0	94.3	85	115				

Sample ID: **N050605-001D-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92760**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	76.638	20	100.0	0	76.6	75	125				

Sample ID: **N050605-001D-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162186**
Client ID: **ZZZZZZ**	Batch ID: **92760**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/7/2022**	SeqNo: **4633717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	82.520	20	100.0	0	82.5	75	125	76.64	7.39	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92761**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **PBW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92761**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **LCSW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.323	20	100.0	0	109	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.529	20	100.0	26.73	81.8	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.386	20	100.0	26.73	84.7	75	125	108.5	2.60	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-001

Client Sample ID: MW-86-030-Q222
Collection Date: 5/4/2022 11:12:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	8.6	0.050	0.10		µg/L	1	5/12/2022 12:52 PM
Barium	83	0.083	1.0		µg/L	1	5/12/2022 12:52 PM
Manganese	320	0.13	2.5		µg/L	5	5/12/2022 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-002

Client Sample ID: MW-86-066-Q222
Collection Date: 5/4/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 01:04 PM
Barium	87	0.083	1.0		µg/L	1	5/12/2022 01:04 PM
Manganese	720	0.13	2.5		µg/L	5	5/12/2022 01:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-003

Client Sample ID: MW-86-120-Q222
Collection Date: 5/4/2022 10:03:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 01:16 PM
Barium	37	0.083	1.0		µg/L	1	5/12/2022 01:16 PM
Manganese	250	0.13	2.5		µg/L	5	5/12/2022 01:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-004

Client Sample ID: MW-86-140-Q222
Collection Date: 5/4/2022 9:23:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 01:28 PM
Barium	64	0.083	1.0		µg/L	1	5/12/2022 01:28 PM
Manganese	890	0.13	2.5		µg/L	5	5/12/2022 01:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-005

Client Sample ID: MW-933-Q422
Collection Date: 5/4/2022 9:33:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 02:12 PM
Barium	61	0.083	1.0		µg/L	1	5/12/2022 02:12 PM
Manganese	900	0.13	2.5		µg/L	5	5/12/2022 02:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-006

Client Sample ID: MW-28-025-Q222
Collection Date: 5/4/2022 12:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220513B**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	0.57	0.050	0.10		µg/L	1	5/13/2022 03:17 PM
Barium	57	0.083	1.0		µg/L	1	5/12/2022 02:30 PM
Manganese	46	0.026	0.50		µg/L	1	5/12/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-008

Client Sample ID: MW-28-090-Q222
Collection Date: 5/4/2022 11:52:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 02:42 PM
Barium	29	0.083	1.0		µg/L	1	5/12/2022 02:42 PM
Manganese	430	0.13	2.5		µg/L	5	5/12/2022 02:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050606-010

Client Sample ID: MW-45-095a-Q222
Collection Date: 5/4/2022 1:02:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 02:54 PM
Barium	24	0.083	1.0		µg/L	1	5/12/2022 02:54 PM
Manganese	120	0.026	0.50		µg/L	1	5/12/2022 02:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92764**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **PBW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92764**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **LCSW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.283	0.10	10.00	0	103	85	115				
Barium	9.456	1.0	10.00	0	94.6	85	115				
Manganese	96.778	0.50	100.0	0	96.8	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	30.812	1.0	10.00	21.65	91.7	75	125				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	192.890	2.5	100.0	100.6	92.3	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050606
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	30.285	1.0	10.00	21.65	86.4	75	125	30.81	1.73	20	

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	219.921	2.5	100.0	100.6	119	75	125	192.9	13.1	20	

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4650440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.894	0.10	10.00	2.279	96.1	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4650441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.187	0.10	10.00	2.279	99.1	75	125	11.89	2.43	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

N050606

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNC		Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	1. Chilled X
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200 Fax:	Others	✓	LEVEL III		3. Container Intact X
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 5/4/22	Sampled By: Riggie Tap		Global ID:		Specify State:		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for						6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: PB Date: 5/4/22						Sample Temp: 4.3°C, 3.0°C
Project Number: 30121866.2Q22GW							Courier: ASSET Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C) H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3) H2SO4 1 L poly	Nitrate (EPA 300.0) 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050606-01	MW-86-030-Q222	5/4/2022	11:12		X		X	X		X			X	E	6	P	BNS	
2	-02	MW-86-066-Q222	5/4/2022	10:34		X		X	X		X			X	E	6	P	BNS	
3	-03	MW-86-120-Q222	5/4/2022	10:03		X		X	X		X			X	E	6	P	BNS	
4	-04	MW-86-140-Q222	5/4/2022	9:23		X		X	X		X			X	E	6	P	BNS	
5	-05	MW-933-Q422	5/4/2022	9:33		X		X	X		X			X	E	6	P	BNS	MS/MSD 6D
6	-06	MW-28-025-Q222	5/4/2022	12:20		X		X	X		X			X	E	6	P	BNS	
7	-07	MW-28-025-EB-Q222	5/4/2022	11:56		X									E	1	P	BNS	
8	-08	MW-28-090-Q222	5/4/2022	11:52		X		X	X		X			X	E	6	P	BNS	
9	-09	MW-28-090-EB-Q222	5/4/2022	11:25		X									E	1	P	BNS	
10	-10	MW-45-095a-Q222	5/4/2022	13:02		X		X	X		X			X	E	6	P	BNS	
11	-11	EB-708-Q222	5/4/2022	13:10		X									E	1	P	BNS	
12																			
13																			
14																			

Relinquished by (Signature and Printed Name): Riggie Tap 5/4/22 1606 Date/Time:
Received by (Signature and Printed Name): MCCARTIN @1606 Date/Time: 5/4/22
Relinquished by (Signature and Printed Name): REL/REC: MCCARTIN Date/Time:
Received by (Signature and Printed Name): 5/4/22 @ 1823 Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. [illegible]
2. Regular TAT is 5-7 business days, surcharges will apply for rush analyses. Less than 24 Hrs = 200% Next Day = 100% 2 Workdays = 50% 3 Workdays = 40% Routine = 0%
3. [illegible]
4. Additional surcharges for Level III Data Packages, Level IV Data Packages, and Data Pail fees. Surcharge applied on total project.
5. The Client and Laboratory Dates are billable sample.
6. Asset Laboratories [illegible] liability is limited to the amount invoiced for the [illegible] analysis.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Hard copy report is available upon request.
9. [illegible] surcharge will apply.

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=Zn/AC; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; R=Teflon; G=Glass; M=Metal; M=Metal; C=Con

White–Laboratory Copy

Yellow–Customers Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/4/2022	Workorder:	N050606
Rep sample Temp (Deg C):	4.3/3.0	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 5/5/2022

Reviewed By: MBC 5/16/2022

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050606

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050606-001A	MW-86-030-Q222	5/4/2022 11:12:00 AM	5/18/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-001B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050606-001C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-001D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050606-002A	MW-86-066-Q222	5/4/2022 10:34:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-002B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050606-002C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-002D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050606-003A	MW-86-120-Q222	5/4/2022 10:03:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-003B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050606

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050606-003C	MW-86-120-Q222	5/4/2022 10:03:00 AM	5/18/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-003D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050606-004A	MW-86-140-Q222	5/4/2022 9:23:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-004B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050606-004C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-004D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050606-005A	MW-933-Q422	5/4/2022 9:33:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-005B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050606-005C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-005D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050606-006A	MW-28-025-Q222	5/4/2022 12:20:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-006B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050606

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050606-006B	MW-28-025-Q222	5/4/2022 12:20:00 PM	5/18/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050606-006C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-006D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050606-007A	MW-28-025-EB-Q222	5/4/2022 11:56:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-008A	MW-28-090-Q222	5/4/2022 11:52:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-008B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050606-008C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-008D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050606-009A	MW-28-090-EB-Q222	5/4/2022 11:25:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-010A	MW-45-095a-Q222	5/4/2022 1:02:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-010B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050606-010C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050606-010D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050606

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050606-011A	EB-708-Q222	5/4/2022 1:10:00 PM	5/18/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050606-012A	FOLDER	5/18/2022	5/18/2022		Folder	Folder	☐	☐	☐	LAB
			5/18/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/18/2022		Folder	Folder	☐	☐	☐	LAB

May 19, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050607

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 04, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050607

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N050607-008 due to matrix. Sample is colored.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Barium in QC samples N050626-011BMS and N050626-011BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Arsenic in QC samples N050626-011BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050607
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050607-001A	MW-36-020-Q222	Groundwater	5/4/2022 11:39:00 AM	5/4/2022	5/19/2022
N050607-001B	MW-36-020-Q222	Groundwater	5/4/2022 11:39:00 AM	5/4/2022	5/19/2022
N050607-001C	MW-36-020-Q222	Groundwater	5/4/2022 11:39:00 AM	5/4/2022	5/19/2022
N050607-001D	MW-36-020-Q222	Groundwater	5/4/2022 11:39:00 AM	5/4/2022	5/19/2022
N050607-002A	MW-36-040-Q222	Groundwater	5/4/2022 1:11:00 PM	5/4/2022	5/19/2022
N050607-002B	MW-36-040-Q222	Groundwater	5/4/2022 1:11:00 PM	5/4/2022	5/19/2022
N050607-002C	MW-36-040-Q222	Groundwater	5/4/2022 1:11:00 PM	5/4/2022	5/19/2022
N050607-002D	MW-36-040-Q222	Groundwater	5/4/2022 1:11:00 PM	5/4/2022	5/19/2022
N050607-002E	MW-36-040-Q222	Groundwater	5/4/2022 1:11:00 PM	5/4/2022	5/19/2022
N050607-003A	MW-36-050-Q222	Groundwater	5/4/2022 2:32:00 PM	5/4/2022	5/19/2022
N050607-003B	MW-36-050-Q222	Groundwater	5/4/2022 2:32:00 PM	5/4/2022	5/19/2022
N050607-003C	MW-36-050-Q222	Groundwater	5/4/2022 2:32:00 PM	5/4/2022	5/19/2022
N050607-003D	MW-36-050-Q222	Groundwater	5/4/2022 2:32:00 PM	5/4/2022	5/19/2022
N050607-004A	MW-36-070-Q222	Groundwater	5/4/2022 12:24:00 PM	5/4/2022	5/19/2022
N050607-004B	MW-36-070-Q222	Groundwater	5/4/2022 12:24:00 PM	5/4/2022	5/19/2022
N050607-004C	MW-36-070-Q222	Groundwater	5/4/2022 12:24:00 PM	5/4/2022	5/19/2022
N050607-004D	MW-36-070-Q222	Groundwater	5/4/2022 12:24:00 PM	5/4/2022	5/19/2022
N050607-005A	MW-36-090-Q222	Groundwater	5/4/2022 1:49:00 PM	5/4/2022	5/19/2022
N050607-005B	MW-36-090-Q222	Groundwater	5/4/2022 1:49:00 PM	5/4/2022	5/19/2022
N050607-005C	MW-36-090-Q222	Groundwater	5/4/2022 1:49:00 PM	5/4/2022	5/19/2022
N050607-005D	MW-36-090-Q222	Groundwater	5/4/2022 1:49:00 PM	5/4/2022	5/19/2022
N050607-006A	MW-932-Q422	Groundwater	5/4/2022 1:59:00 PM	5/4/2022	5/19/2022
N050607-006B	MW-932-Q422	Groundwater	5/4/2022 1:59:00 PM	5/4/2022	5/19/2022
N050607-006C	MW-932-Q422	Groundwater	5/4/2022 1:59:00 PM	5/4/2022	5/19/2022
N050607-006D	MW-932-Q422	Groundwater	5/4/2022 1:59:00 PM	5/4/2022	5/19/2022
N050607-007A	MW-36-100-Q222	Groundwater	5/4/2022 3:01:00 PM	5/4/2022	5/19/2022
N050607-007B	MW-36-100-Q222	Groundwater	5/4/2022 3:01:00 PM	5/4/2022	5/19/2022
N050607-007C	MW-36-100-Q222	Groundwater	5/4/2022 3:01:00 PM	5/4/2022	5/19/2022
N050607-007D	MW-36-100-Q222	Groundwater	5/4/2022 3:01:00 PM	5/4/2022	5/19/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050607
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050607-007E	MW-36-100-Q222	Groundwater	5/4/2022 3:01:00 PM	5/4/2022	5/19/2022
N050607-008A	MW-32-020-Q222	Groundwater	5/4/2022 9:30:00 AM	5/4/2022	5/19/2022
N050607-008B	MW-32-020-Q222	Groundwater	5/4/2022 9:30:00 AM	5/4/2022	5/19/2022
N050607-008C	MW-32-020-Q222	Groundwater	5/4/2022 9:30:00 AM	5/4/2022	5/19/2022
N050607-008D	MW-32-020-Q222	Groundwater	5/4/2022 9:30:00 AM	5/4/2022	5/19/2022
N050607-009A	MW-32-020-EB-Q222	Groundwater	5/4/2022 8:55:00 AM	5/4/2022	5/19/2022
N050607-010A	MW-32-035-Q222	Groundwater	5/4/2022 10:15:00 AM	5/4/2022	5/19/2022
N050607-010B	MW-32-035-Q222	Groundwater	5/4/2022 10:15:00 AM	5/4/2022	5/19/2022
N050607-010C	MW-32-035-Q222	Groundwater	5/4/2022 10:15:00 AM	5/4/2022	5/19/2022
N050607-010D	MW-32-035-Q222	Groundwater	5/4/2022 10:15:00 AM	5/4/2022	5/19/2022
N050607-010E	MW-32-035-Q222	Groundwater	5/4/2022 10:15:00 AM	5/4/2022	5/19/2022
N050607-011A	MW-905-Q422	Groundwater	5/4/2022 10:25:00 AM	5/4/2022	5/19/2022
N050607-011B	MW-905-Q422	Groundwater	5/4/2022 10:25:00 AM	5/4/2022	5/19/2022
N050607-011C	MW-905-Q422	Groundwater	5/4/2022 10:25:00 AM	5/4/2022	5/19/2022
N050607-011D	MW-905-Q422	Groundwater	5/4/2022 10:25:00 AM	5/4/2022	5/19/2022
N050607-011E	MW-905-Q422	Groundwater	5/4/2022 10:25:00 AM	5/4/2022	5/19/2022
N050607-012A	MW-32-035-EB-Q222	Groundwater	5/4/2022 9:40:00 AM	5/4/2022	5/19/2022
N050607-013A	EB-709-Q222	Groundwater	5/4/2022 3:15:00 PM	5/4/2022	5/19/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050607-001

Client Sample ID: MW-36-020-Q222
Collection Date: 5/4/2022 11:39:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 02:14 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 07:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A**	QC Batch: **R162163**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 02:25 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 08:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 2:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A**	QC Batch: **R162163**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 02:35 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 08:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 12:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 02:44 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 08:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 04:27 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A				**EPA 6020**
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 08:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-932-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 04:46 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 09:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050607-007

Client Sample ID: MW-36-100-Q222
Collection Date: 5/4/2022 3:01:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 05:05 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A				**EPA 6020**
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 09:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050607-008

Client Sample ID: MW-32-020-Q222
Collection Date: 5/4/2022 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/5/2022 05:43 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A				**EPA 6020**
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 09:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-EB-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 8:55:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A**	QC Batch: **R162163**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 05:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050607-010

Client Sample ID: MW-32-035-Q222
Collection Date: 5/4/2022 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 03:31 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 09:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220505A** QC Batch: **R162163**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 06:30 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:		**5/6/2022**	Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 10:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-EB-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 9:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505A**	QC Batch: **R162163**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/5/2022 06:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-709-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 3:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220505B**	QC Batch: **R162164**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 12:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162163**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **PBW**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162163**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **LCSW**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.034	0.20	5.000	0	101	90	110				

Sample ID: **N050584-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID: **N050584-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.336	1.0	5.000	0	107	90	110				

Sample ID: **N050584-005AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.200	1.0	5.000	0	104	90	110	5.336	2.57	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050584-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.228	1.0	5.000	0	105	90	110				

Sample ID: **N050584-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.285	1.0	5.000	0	106	90	110				

Sample ID: **N050584-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632755**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.205	1.0	5.000	0	104	90	110				

Sample ID: **N050584-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.293	1.0	5.000	0	106	90	110				

Sample ID: **N050584-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.302	1.0	5.000	0	106	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050584-012ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N050607-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632767**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.038	0.20	1.000	0	104	90	110				

Sample ID: **N050607-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.055	0.20	1.000	0	106	90	110				

Sample ID: **N050607-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632769**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0	103	90	110				

Sample ID: **N050607-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162163**
Client ID: **ZZZZZZ**	Batch ID: **R162163**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050607-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.019	0.20	1.000	0	102	90	110				

Sample ID: **N050607-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.266	1.0	5.000	0	105	90	110				

Sample ID: **N050607-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID: **N050607-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632779**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID: **N050607-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.977	0.20	1.000	0.06420	91.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050607-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID: **N050607-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632788**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N050607-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162163**
Client ID: **ZZZZZZ** Batch ID: **R162163** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.986	0.20	1.000	0	98.6	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R162164** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162164**
Client ID: **LCSW** Batch ID: **R162164** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632799**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.210	0.20	5.000	0	104	90	110				

Sample ID: **MB-R162164** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162164**
Client ID: **PBW** Batch ID: **R162164** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N050605-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162164**
Client ID: **ZZZZZZ** Batch ID: **R162164** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.107	0.20	1.000	1.121	98.6	90	110				

Sample ID: **N050605-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162164**
Client ID: **ZZZZZZ** Batch ID: **R162164** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632803**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.146	0.20	1.000	1.121	103	90	110	2.107	1.83	20	

Sample ID: **N050605-010ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162164**
Client ID: **ZZZZZZ** Batch ID: **R162164** TestNo: **EPA 218.6** Analysis Date: **5/5/2022** SeqNo: **4632805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.414	0.20						2.389	1.05	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050605-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162164**
Client ID: **ZZZZZZ**	Batch ID: **R162164**	TestNo: **EPA 218.6**		Analysis Date: **5/5/2022**	SeqNo: **4632806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.420	0.20	1.000	2.389	103	90	110				

Sample ID: **N050607-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162164**
Client ID: **ZZZZZZ**	Batch ID: **R162164**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4632823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.979	0.20	1.000	0	97.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92765**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **PBW**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92765**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **LCSW**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.874	1.0	10.00	0	98.7	85	115				

Sample ID: **N050626-011BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.658	1.0	10.00	0.1572	95.0	75	125				

Sample ID: **N050626-011BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.687	1.0	10.00	0.1572	95.3	75	125	9.658	0.301	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 11:39:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/5/2022 01:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/5/2022 01:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 2:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/5/2022 02:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 12:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.019	0.10		mg/L	2	5/5/2022 02:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/5/2022 02:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-932-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/5/2022 03:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 3:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/5/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/5/2022 03:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/5/2022 03:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220505A**	QC Batch: **R162128**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/5/2022 04:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162128_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **PBW**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631007**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162128_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **LCSW**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.235	0.050	1.250	0	98.8	90	110				

Sample ID: **N050606-001DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **ZZZZZZ**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.236	0.25	6.250	0.09600	98.2	80	120				

Sample ID: **N050606-001DMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **ZZZZZZ**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.167	0.25	6.250	0.09600	97.1	80	120	6.236	1.11	20	

Sample ID: **N050607-007DDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **ZZZZZZ**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631022**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.25						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050607-007DMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162128**
Client ID: **ZZZZZZ**	Batch ID: **R162128**	TestNo: **EPA 300.0**		Analysis Date: **5/5/2022**	SeqNo: **4631023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.010	0.25	6.250	0	96.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 11:39:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.8	0.084	1.0		mg/L	1	5/7/2022 10:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.0	0.084	1.0		mg/L	1	5/7/2022 10:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 2:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.2	0.084	1.0		mg/L	1	5/7/2022 10:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 12:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 11:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 11:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-932-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 12:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 3:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 12:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.8	0.084	1.0		mg/L	1	5/7/2022 12:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.7	0.084	1.0		mg/L	1	5/7/2022 12:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.7	0.084	1.0		mg/L	1	5/7/2022 01:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162185**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **PBW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162185**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **LCSW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.934	1.0	5.000	0	98.7	85	115				

Sample ID: **N050447-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.348	5.0	25.00	1.446	104	75	125				

Sample ID: **N050447-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.330	5.0	25.00	1.446	104	75	125	27.35	0.0677	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-020-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 11:39:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	620	13	20		µg/L	1	5/10/2022 02:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	460	13	20		µg/L	1	5/10/2022 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 2:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	5/10/2022 02:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 12:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	21	13	20		µg/L	1	5/10/2022 03:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	40	13	20		µg/L	1	5/10/2022 03:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-932-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Iron	37	13	20		µg/L	1	5/10/2022 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 3:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Iron	520	13	20		µg/L	1	5/10/2022 03:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A		**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	2200	64	100		µg/L	5	5/10/2022 03:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-035-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	1900	13	20		µg/L	1	5/10/2022 03:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	2900	13	20		µg/L	1	5/10/2022 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92761**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **PBW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92761**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **LCSW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.323	20	100.0	0	109	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.529	20	100.0	26.73	81.8	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.386	20	100.0	26.73	84.7	75	125	108.5	2.60	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050607-001

Client Sample ID: MW-36-020-Q222
Collection Date: 5/4/2022 11:39:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	0.79	0.050	0.10		µg/L	1	5/12/2022 07:56 PM
Barium	80	0.083	1.0		µg/L	1	5/12/2022 07:56 PM
Manganese	290	0.13	2.5		µg/L	5	5/12/2022 08:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-040-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	6.7	0.050	0.10		µg/L	1	5/12/2022 08:08 PM
Barium	43	0.083	1.0		µg/L	1	5/12/2022 08:08 PM
Manganese	150	0.026	0.50		µg/L	1	5/12/2022 08:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-050-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 2:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Arsenic	4.8	0.050	0.10		µg/L	1	5/12/2022 08:31 PM
Barium	25	0.083	1.0		µg/L	1	5/12/2022 08:31 PM
Manganese	300	0.13	2.5		µg/L	5	5/12/2022 08:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-070-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 12:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Arsenic	2.2	0.050	0.10		µg/L	1	5/12/2022 08:43 PM
Barium	32	0.083	1.0		µg/L	1	5/12/2022 08:43 PM
Manganese	390	0.13	2.5		µg/L	5	5/12/2022 08:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050607-005

Client Sample ID: MW-36-090-Q222
Collection Date: 5/4/2022 1:49:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220513B**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	0.55	0.050	0.10		µg/L	1	5/13/2022 03:35 PM
Barium	38	0.083	1.0		µg/L	1	5/12/2022 08:55 PM
Manganese	110	0.026	0.50		µg/L	1	5/12/2022 08:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-932-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 1:59:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Arsenic	0.51	0.050	0.10		µg/L	1	5/12/2022 09:07 PM
Barium	39	0.083	1.0		µg/L	1	5/12/2022 09:07 PM
Manganese	110	0.026	0.50		µg/L	1	5/12/2022 09:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 3:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	1.5	0.050	0.10		µg/L	1	5/12/2022 09:19 PM
Barium	59	0.083	1.0		µg/L	1	5/12/2022 09:19 PM
Manganese	510	0.13	2.5		µg/L	5	5/12/2022 09:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-32-020-Q222
Lab Order:	N050607	**Collection Date:**	5/4/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 09:42 PM
Barium	77	0.083	1.0		µg/L	1	5/12/2022 09:42 PM
Manganese	94	0.026	0.50		µg/L	1	5/12/2022 09:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050607-010

Client Sample ID: MW-32-035-Q222
Collection Date: 5/4/2022 10:15:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	5.7	0.050	0.10		µg/L	1	5/12/2022 09:54 PM
Barium	84	0.083	1.0		µg/L	1	5/12/2022 09:54 PM
Manganese	740	0.13	2.5		µg/L	5	5/12/2022 10:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q422
Lab Order:	N050607	**Collection Date:**	5/4/2022 10:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050607-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	10	0.050	0.10		µg/L	1	5/12/2022 10:06 PM
Barium	83	0.083	1.0		µg/L	1	5/12/2022 10:06 PM
Manganese	620	0.13	2.5		µg/L	5	5/12/2022 10:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92765**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **PBW**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92765**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **LCSW**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.123	0.10	10.00	0	101	85	115				
Barium	9.435	1.0	10.00	0	94.3	85	115				
Manganese	98.619	0.50	100.0	0	98.6	85	115				

Sample ID: **N050626-011BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	7.685	0.10	10.00	0	76.8	75	125				
Barium	40.331	1.0	10.00	34.87	54.6	75	125				S
Manganese	154.525	0.50	100.0	66.45	88.1	75	125				

Sample ID: **N050626-011BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	7.444	0.10	10.00	0	74.4	75	125	7.685	3.18	20	S
Barium	39.903	1.0	10.00	34.87	50.3	75	125	40.33	1.07	20	S
Manganese	152.433	0.50	100.0	66.45	86.0	75	125	154.5	1.36	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050607
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050626-011B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92765** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	7.994	0.10	10.00	0	79.9	80	120				S
Barium	40.402	1.0	10.00	34.87	55.3	80	120				S
Manganese	153.572	0.50	100.0	66.45	87.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N050607

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNC	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled X
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace
Submitted By: Rigga Top			Others ✓	LEVEL III	3. Container Intact X
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 5/4/22	Sampled By: Rigga Top	Matrix: Ground X Sediment	Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	Potable Soil		Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature:	NPDES Other Solid			Sample Temp: 4.3, 3.0 °C
Project Number: 30121865.2Q22GW	Date: 5/4/22	Surface			Courier: ASSET Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2SO4, NH4OH	Nitrate, sulfate (EPA 300.0)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	Total Organic Carbon (SM5310C) H2SO4	Total metals (SW6010) No filter, HNO3 Total Iron	Ammonia as Nitrogen (SM4500NH3) H2SO4	Nitrate (EPA 300.0)	Nitrate/nitrite as Nitrogen (SM 4500-NO3), H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	1 L poly	500mL poly	500mL poly	500mL poly	3x40 mL VOA	500mL poly	1 L poly	1 L poly	125 mL poly					
1	N050607-01	MW-36-020-Q222		11:39		X		X	X		X			X		E	6	P	BNS	
2	-02	MW-36-040-Q222		13:11		X		X	X		X			X	X	E	7	P	BNS	
3	-03	MW-36-050-Q222		14:32		X		X	X		X			X		E	6	P	BNS	
4	-04	MW-36-070-Q222		12:24		X		X	X		X			X		E	6	P	BNS	
5	-05	MW-36-090-Q222		13:49		X		X	X		X			X		E	6	P	BNS	
6	-06	MW-932-Q422		13:59		X		X	X		X			X		E	6	P	BNS	
7	-07	MW-36-100-Q222		15:01		X		X	X		X			X	X	E	7	P	BNS	
8	-08	MW-32-020-Q222		9:30		X		X	X		X			X	✓	E	7	P	BNS	6 (1)
9	-09	MW-32-020-EB-Q222		8:55		X										E	1	P	BNS	1 (1)
10	-10	MW-32-035-Q222		10:15		X		X	X		X			X	X	E	7	P	BNS	
11	-11	MW-905-Q422		10:25		X		X	X		X			X	X	E	7	P	BNS	
12	-12	MW-32-035-EB-Q222		9:40		X										E	1	P	BNS	
13																				
14	-13	FB-709-Q222		15:15		X										E	1	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Rigga Top	5/4/22 1606	NSCARTIN	5/4/22 1606
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
REL/REC: NSCARTIN			5/4/22 @ 1823
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = <24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. Samples will be disposed of 30 days after receipt unless otherwise instructed. Will be stored beyond 30 days with written request of client.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs = 100% Rush; 24 Hrs = 50% Rush; 48 Hrs = 25% Rush; 72 Hrs = 15% Rush
3. Sample disposal fee = $1.00 per sample
4. Add 10% surcharge for Limited Data Packages. 15% for Level IV Data Packages. Charge applied to final invoice.
5. Trip Blank and Equipment Blanks are billable per
6. Full Data Deliverables are available upon request. Turnaround time is subject to laboratory approval.
7. Terms are net 30 days.
8. All reports are submitted in .pdf format. Hard copy reports are available upon request.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn/AC	O=NaOH	T=$Na_2S_2O_3$		J=Jar	P=Teflon	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

Container Type:

White–Laboratory Copy

Yellow–Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/4/2022	Workorder:	N050607
Rep sample Temp (Deg C):	4.3/3.0	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Collection date taken from label.

For:

Checklist Completed By: GGJ 5/17/2022

Reviewed By: MBC 5/17/2022

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050607

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050607-001A	MW-36-020-Q222	5/4/2022 11:39:00 AM	5/18/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-001B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-001C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-001D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-002A	MW-36-040-Q222	5/4/2022 1:11:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-002B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-002C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-002D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-002E			5/18/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050607-003A	MW-36-050-Q222	5/4/2022 2:32:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-003B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050607

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050607-003B	MW-36-050-Q222	5/4/2022 2:32:00 PM	5/18/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-003C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-003D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-004A	MW-36-070-Q222	5/4/2022 12:24:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-004B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-004C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-004D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-005A	MW-36-090-Q222	5/4/2022 1:49:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-005B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-005C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-005D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-006A	MW-932-Q422	5/4/2022 1:59:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-006B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050607

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050607-006B	MW-932-Q422	5/4/2022 1:59:00 PM	5/18/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-006C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-006D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-007A	MW-36-100-Q222	5/4/2022 3:01:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-007B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-007C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-007D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-007E			5/18/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050607-008A	MW-32-020-Q222	5/4/2022 9:30:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-008B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-008C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-008D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050607

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050607-009A	MW-32-020-EB-Q222	5/4/2022 8:55:00 AM	5/18/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-010A	MW-32-035-Q222	5/4/2022 10:15:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-010B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-010C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-010D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-010E			5/18/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050607-011A	MW-905-Q422	5/4/2022 10:25:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-011B			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/18/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/18/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050607-011C			5/18/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050607-011D			5/18/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050607-011E			5/18/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050607-012A	MW-32-035-EB-Q222	5/4/2022 9:40:00 AM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050607-013A	EB-709-Q222	5/4/2022 3:15:00 PM	5/18/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-May-22

WorkOrder: N050607

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/4/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050607-014A	FOLDER	5/18/2022	5/18/2022		Folder	Folder	☐	☐	☐	LAB
			5/18/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/18/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

09-May-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N050607-002E / MW-36-040-Q222	Groundwater	5/4/2022 1:11:00 PM	8OZP	1		
N050607-007E / MW-36-100-Q222	Groundwater	5/4/2022 3:01:00 PM	8OZP	1		
N050607-010E / MW-32-035-Q222	Groundwater	5/4/2022 10:15:00 AM	8OZP	1		
N050607-011E / MW-905-Q422	Groundwater	5/4/2022 10:25:00 AM	8OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N50607A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 556796582

		Date/Time			Date/Time
Relinquished by:	GGarcia	5/9/2022 16:30	**Received by:**		
Relinquished by:			**Received by:**		

May 20, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050626

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 05, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (10 ug/L) and hexavalent chromium (0 ug/L) for sample N050626-002 (MW-46-205-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N050626-011BMS possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (10 ug/L) and hexavalent chromium (0 ug/L) for sample N050626-002 (MW-46-205-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 9.3 and 1.7 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N050626-011BMS and N050626-011BMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike Duplicate(MSD) is outside recovery criteria in QC sample N050447-009CMSD at 1x dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N050447-009 and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N050626-011CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050626-011 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050626
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050626-001A	MW-46-175-Q222	Groundwater	5/5/2022 9:12:00 AM	5/5/2022	5/20/2022
N050626-001B	MW-46-175-Q222	Groundwater	5/5/2022 9:12:00 AM	5/5/2022	5/20/2022
N050626-001C	MW-46-175-Q222	Groundwater	5/5/2022 9:12:00 AM	5/5/2022	5/20/2022
N050626-001D	MW-46-175-Q222	Groundwater	5/5/2022 9:12:00 AM	5/5/2022	5/20/2022
N050626-001E	MW-46-175-Q222	Groundwater	5/5/2022 9:12:00 AM	5/5/2022	5/20/2022
N050626-002A	MW-46-205-Q222	Groundwater	5/5/2022 10:01:00 AM	5/5/2022	5/20/2022
N050626-002B	MW-46-205-Q222	Groundwater	5/5/2022 10:01:00 AM	5/5/2022	5/20/2022
N050626-002C	MW-46-205-Q222	Groundwater	5/5/2022 10:01:00 AM	5/5/2022	5/20/2022
N050626-002D	MW-46-205-Q222	Groundwater	5/5/2022 10:01:00 AM	5/5/2022	5/20/2022
N050626-003A	MW-27-020-Q222	Groundwater	5/5/2022 12:11:00 PM	5/5/2022	5/20/2022
N050626-003B	MW-27-020-Q222	Groundwater	5/5/2022 12:11:00 PM	5/5/2022	5/20/2022
N050626-003C	MW-27-020-Q222	Groundwater	5/5/2022 12:11:00 PM	5/5/2022	5/20/2022
N050626-003D	MW-27-020-Q222	Groundwater	5/5/2022 12:11:00 PM	5/5/2022	5/20/2022
N050626-004A	MW-27-020-EB-Q222	Groundwater	5/5/2022 11:48:00 AM	5/5/2022	5/20/2022
N050626-005A	MW-27-060-Q222	Groundwater	5/5/2022 11:04:00 AM	5/5/2022	5/20/2022
N050626-005B	MW-27-060-Q222	Groundwater	5/5/2022 11:04:00 AM	5/5/2022	5/20/2022
N050626-005C	MW-27-060-Q222	Groundwater	5/5/2022 11:04:00 AM	5/5/2022	5/20/2022
N050626-005D	MW-27-060-Q222	Groundwater	5/5/2022 11:04:00 AM	5/5/2022	5/20/2022
N050626-005E	MW-27-060-Q222	Groundwater	5/5/2022 11:04:00 AM	5/5/2022	5/20/2022
N050626-006A	MW-27-060-EB-Q222	Groundwater	5/5/2022 10:40:00 AM	5/5/2022	5/20/2022
N050626-007A	MW-27-085-Q222	Groundwater	5/5/2022 11:34:00 AM	5/5/2022	5/20/2022
N050626-007B	MW-27-085-Q222	Groundwater	5/5/2022 11:34:00 AM	5/5/2022	5/20/2022
N050626-007C	MW-27-085-Q222	Groundwater	5/5/2022 11:34:00 AM	5/5/2022	5/20/2022
N050626-007D	MW-27-085-Q222	Groundwater	5/5/2022 11:34:00 AM	5/5/2022	5/20/2022
N050626-007E	MW-27-085-Q222	Groundwater	5/5/2022 11:34:00 AM	5/5/2022	5/20/2022
N050626-008A	MW-27-085-EB-Q222	Groundwater	5/5/2022 11:10:00 AM	5/5/2022	5/20/2022
N050626-009A	MW-34-055-Q222	Groundwater	5/5/2022 1:21:00 PM	5/5/2022	5/20/2022
N050626-009B	MW-34-055-Q222	Groundwater	5/5/2022 1:21:00 PM	5/5/2022	5/20/2022
N050626-009C	MW-34-055-Q222	Groundwater	5/5/2022 1:21:00 PM	5/5/2022	5/20/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050626
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050626-009D	MW-34-055-Q222	Groundwater	5/5/2022 1:21:00 PM	5/5/2022	5/20/2022
N050626-009E	MW-34-055-Q222	Groundwater	5/5/2022 1:21:00 PM	5/5/2022	5/20/2022
N050626-010A	MW-34-055-EB-Q222	Groundwater	5/5/2022 12:58:00 PM	5/5/2022	5/20/2022
N050626-011A	MW-34-080-Q222	Groundwater	5/5/2022 1:49:00 PM	5/5/2022	5/20/2022
N050626-011B	MW-34-080-Q222	Groundwater	5/5/2022 1:49:00 PM	5/5/2022	5/20/2022
N050626-011C	MW-34-080-Q222	Groundwater	5/5/2022 1:49:00 PM	5/5/2022	5/20/2022
N050626-011D	MW-34-080-Q222	Groundwater	5/5/2022 1:49:00 PM	5/5/2022	5/20/2022
N050626-012A	MW-34-080-EB-Q222	Groundwater	5/5/2022 1:26:00 PM	5/5/2022	5/20/2022
N050626-013A	MW-34-100-Q222	Groundwater	5/5/2022 12:49:00 PM	5/5/2022	5/20/2022
N050626-013B	MW-34-100-Q222	Groundwater	5/5/2022 12:49:00 PM	5/5/2022	5/20/2022
N050626-013C	MW-34-100-Q222	Groundwater	5/5/2022 12:49:00 PM	5/5/2022	5/20/2022
N050626-013D	MW-34-100-Q222	Groundwater	5/5/2022 12:49:00 PM	5/5/2022	5/20/2022
N050626-013E	MW-34-100-Q222	Groundwater	5/5/2022 12:49:00 PM	5/5/2022	5/20/2022
N050626-014A	EB-710-Q222	Groundwater	5/5/2022 2:00:00 PM	5/5/2022	5/20/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050626-001

Client Sample ID: MW-46-175-Q222
Collection Date: 5/5/2022 9:12:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	6.9	0.13	1.0		µg/L	5	5/9/2022 01:55 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	6.7	0.035	1.0		µg/L	1	5/12/2022 10:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 10:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/9/2022 02:14 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	10	0.035	1.0		µg/L	1	5/12/2022 10:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A**	QC Batch: **R162222**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 10:36 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 11:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-EB-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:48:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:04:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 02:53 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220512B**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 11:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-EB-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 10:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/9/2022 02:52 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 11:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-EB-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:10:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 04:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:21:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 03:12 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 11:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-EB-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:58:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 05:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220506A** QC Batch: **R162177**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 12:40 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 11:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-EB-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:26:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 05:33 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 10:46 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92765**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/13/2022 12:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-710-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220506A**	QC Batch: **R162177**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/6/2022 05:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162177** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **PBW** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162177** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **LCSW** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.108	0.20	5.000	0	102	90	110				

Sample ID: **N050606-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.032	0.20	1.000	0	103	90	110				

Sample ID: **N050606-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.090	0.20	1.000	0	109	90	110				

Sample ID: **N050606-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633298**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050606-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID: **N050606-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.069	0.20	1.000	0	107	90	110				

Sample ID: **N050606-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.522	1.0	5.000	1.336	104	90	110				

Sample ID: **N050606-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633309**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.248	1.0	5.000	0	105	90	110				

Sample ID: **N050606-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.201	1.0	5.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050606-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.976	0.20	1.000	0	97.6	90	110				

Sample ID: **N050626-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.039	0.20	1.000	0	104	90	110				

Sample ID: **N050606-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633317**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	101	90	110				

Sample ID: **N050606-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633321**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.009	0.20	1.000	0	101	90	110				

Sample ID: **N050626-011AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633322**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110	1.039	0.834	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050606-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633323**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Sample ID: **N050626-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633325**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID: **N050626-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633327**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID: **N050626-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	101	90	110				

Sample ID: **N050626-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162177**
Client ID: **ZZZZZZ**	Batch ID: **R162177**	TestNo: **EPA 218.6**		Analysis Date: **5/6/2022**	SeqNo: **4633333**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.2	90	110				

Sample ID: **N050626-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.961	0.20	1.000	0	96.1	90	110				

Sample ID: **N050626-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633339**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.973	0.20	1.000	0	97.3	90	110				

Sample ID: **N050626-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162177**
Client ID: **ZZZZZZ** Batch ID: **R162177** TestNo: **EPA 218.6** Analysis Date: **5/6/2022** SeqNo: **4633341**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162222**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **PBW**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635279**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162222**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **LCSW**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.996	0.20	5.000	0	99.9	90	110				

Sample ID: **N050627-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.060	0.20	1.000	0	106	90	110				

Sample ID: **N050659-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.550	0.20	5.000	6.592	99.1	90	110				

Sample ID: **N050626-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635289**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID: **N050627-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110	1.060	0.311	20	

Sample ID: **N050663-006ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	29.092	1.0						29.10	0.0189	20	

Sample ID: **N050626-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.928	1.0	5.000	6.886	101	90	110				

Sample ID: **N050626-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.992	1.0	5.000	0.9255	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.041	1.0	5.000	0	101	90	110				

Sample ID: **N050627-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID: **N050627-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N050627-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637418**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.109	0.20	1.000	0.05350	106	90	110				

Sample ID: **N050627-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050627-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.981	0.20	1.000	0	98.1	90	110				

Sample ID: **N050627-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID: **N050627-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.998	0.20	1.000	0	99.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92765**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **PBW**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92765**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **LCSW**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.874	1.0	10.00	0	98.7	85	115				

Sample ID: **N050626-011BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.658	1.0	10.00	0.1572	95.0	75	125				

Sample ID: **N050626-011BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92765**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.687	1.0	10.00	0.1572	95.3	75	125	9.658	0.301	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.0	0.048	0.25		mg/L	5	5/6/2022 10:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 10:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.88	0.048	0.25		mg/L	5	5/6/2022 10:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220507A**	QC Batch: **R162184**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.44	0.019	0.10		mg/L	2	5/7/2022 08:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:04:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/6/2022 10:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/6/2022 11:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:21:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/6/2022 11:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220507A**	QC Batch: **R162184**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 07:34 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/6/2022 11:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R162170_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162170**
Client ID: **LCSW**	Batch ID: **R162170**	TestNo: **EPA 300.0**		Analysis Date: **5/6/2022**	SeqNo: **4633236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.201	0.050	1.250	0	96.1	90	110				

Sample ID: **MB-R162170_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162170**
Client ID: **PBW**	Batch ID: **R162170**	TestNo: **EPA 300.0**		Analysis Date: **5/6/2022**	SeqNo: **4633239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N050627-001DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162170**
Client ID: **ZZZZZZ**	Batch ID: **R162170**	TestNo: **EPA 300.0**		Analysis Date: **5/6/2022**	SeqNo: **4633243**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.953	0.50	12.50	0	95.6	80	120				

Sample ID: **N050627-001DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162170**
Client ID: **ZZZZZZ**	Batch ID: **R162170**	TestNo: **EPA 300.0**		Analysis Date: **5/6/2022**	SeqNo: **4633244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.403	0.50	12.50	0	99.2	80	120	11.95	3.70	20	

Sample ID: **N050627-002DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162170**
Client ID: **ZZZZZZ**	Batch ID: **R162170**	TestNo: **EPA 300.0**		Analysis Date: **5/6/2022**	SeqNo: **4633245**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.223	0.50	12.50	0.1750	96.4	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050629-012BDUP** SampType: **DUP** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	18.616	1.0						18.85	1.23	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: MB-R162184_NO3	SampType: MBLK	TestCode: 300WLLNO3	Units: mg/L	Prep Date:	RunNo: 162184
Client ID: PBW	Batch ID: R162184	TestNo: EPA 300.0		Analysis Date: 5/7/2022	SeqNo: 4633532

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: LCS-R162184_NO3	SampType: LCS	TestCode: 300WLLNO3	Units: mg/L	Prep Date:	RunNo: 162184
Client ID: LCSW	Batch ID: R162184	TestNo: EPA 300.0		Analysis Date: 5/7/2022	SeqNo: 4633533

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.251	0.050	1.250	0	100	90	110				

Sample ID: N050626-011DMS	SampType: MS	TestCode: 300WLLNO3	Units: mg/L	Prep Date:	RunNo: 162184
Client ID: ZZZZZZ	Batch ID: R162184	TestNo: EPA 300.0		Analysis Date: 5/7/2022	SeqNo: 4633535

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.747	0.25	6.250	0	91.9	80	120				

Sample ID: N050626-011DMSD	SampType: MSD	TestCode: 300WLLNO3	Units: mg/L	Prep Date:	RunNo: 162184
Client ID: ZZZZZZ	Batch ID: R162184	TestNo: EPA 300.0		Analysis Date: 5/7/2022	SeqNo: 4633536

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.860	0.25	6.250	0	93.8	80	120	5.746	1.95	20	

Sample ID: N050626-003DDUP	SampType: DUP	TestCode: 300WLLNO3	Units: mg/L	Prep Date:	RunNo: 162184
Client ID: ZZZZZZ	Batch ID: R162184	TestNo: EPA 300.0		Analysis Date: 5/7/2022	SeqNo: 4633538

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.445	0.10						0.4420	0.721	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050661-006DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162184**
Client ID: **ZZZZZZ**	Batch ID: **R162184**	TestNo: **EPA 300.0**		Analysis Date: **5/7/2022**	SeqNo: **4633542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.823	0.50	12.50	0.9780	94.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 01:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 10:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 01:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.5	0.084	1.0		mg/L	1	5/7/2022 02:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:04:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.4	0.084	1.0		mg/L	1	5/7/2022 02:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 02:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:21:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 03:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.7	20		mg/L	20	5/9/2022 01:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-100-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 03:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162185**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **PBW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162185**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **LCSW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.934	1.0	5.000	0	98.7	85	115				

Sample ID: **N050447-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.348	5.0	25.00	1.446	104	75	125				

Sample ID: **N050447-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.330	5.0	25.00	1.446	104	75	125	27.35	0.0677	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162247**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **PBW**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162247**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **LCSW**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638263**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.853	1.0	5.000	0	97.0	85	115				

Sample ID: **N050626-011CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **ZZZZZZ**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.032	20	100.0	0	86.0	75	125				

Sample ID: **N050626-011CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **ZZZZZZ**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	85.542	20	100.0	0	85.5	75	125	86.03	0.571	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/12/2022 11:42 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-205-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 10:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Iron	71	13	20		µg/L	1	5/12/2022 11:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/12/2022 11:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:04:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	430	13	20		µg/L	1	5/12/2022 12:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	240	13	20		µg/L	1	5/12/2022 12:05 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:21:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Iron	27	13	20		µg/L	1	5/12/2022 12:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:49:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	350	13	20		µg/L	1	5/12/2022 12:22 PM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050626-013

Client Sample ID: MW-34-100-Q222
Collection Date: 5/5/2022 12:49:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92762**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	150	13	20		µg/L	1	5/12/2022 12:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92762**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162348**
Client ID: **PBW**	Batch ID: **92762**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92762**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162348**
Client ID: **LCSW**	Batch ID: **92762**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	102.265	20	100.0	0	102	85	115				

Sample ID: **N050626-011BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162348**
Client ID: **ZZZZZZ**	Batch ID: **92762**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642506**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	398.351	20	100.0	348.8	49.6	75	125				S

Sample ID: **N050626-011BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162348**
Client ID: **ZZZZZZ**	Batch ID: **92762**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642507**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	461.415	20	100.0	348.8	113	75	125	398.4	14.7	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050626-011B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **162348**
Client ID: **ZZZZZZ** Batch ID: **92762** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **5/12/2022** SeqNo: **4642505**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	405.947	20	100.0	348.8	57.2	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *20-May-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-46-175-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 9:12:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 10:18 PM
Barium	23	0.083	1.0		µg/L	1	5/12/2022 10:18 PM
Manganese	9.5	0.026	0.50		µg/L	1	5/12/2022 10:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050626-002

Client Sample ID: MW-46-205-Q222
Collection Date: 5/5/2022 10:01:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 10:30 PM
Barium	29	0.083	1.0		µg/L	1	5/12/2022 10:30 PM
Manganese	38	0.026	0.50		µg/L	1	5/12/2022 10:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-020-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 12:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	0.55	0.050	0.10		µg/L	1	5/12/2022 11:06 PM
Barium	75	0.083	1.0		µg/L	1	5/12/2022 11:06 PM
Manganese	ND	0.026	0.50		µg/L	1	5/12/2022 11:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-060-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:04:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Arsenic	9.1	0.050	0.10		µg/L	1	5/12/2022 11:17 PM
Barium	68	0.083	1.0		µg/L	1	5/12/2022 11:17 PM
Manganese	240	0.13	2.5		µg/L	5	5/12/2022 11:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-27-085-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 11:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 11:29 PM
Barium	37	0.083	1.0		µg/L	1	5/12/2022 11:29 PM
Manganese	130	0.026	0.50		µg/L	1	5/12/2022 11:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-055-Q222
Lab Order:	N050626	**Collection Date:**	5/5/2022 1:21:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050626-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:	**5/6/2022**		Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	5/12/2022 11:41 PM
Barium	27	0.083	1.0		µg/L	1	5/12/2022 11:41 PM
Manganese	58	0.026	0.50		µg/L	1	5/12/2022 11:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050626-011

Client Sample ID: MW-34-080-Q222
Collection Date: 5/5/2022 1:49:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 11:53 PM
Barium	35	0.083	1.0		µg/L	1	5/12/2022 11:53 PM
Manganese	66	0.026	0.50		µg/L	1	5/12/2022 11:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050626-013

Client Sample ID: MW-34-100-Q222
Collection Date: 5/5/2022 12:49:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92765**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/13/2022 12:58 AM
Barium	20	0.083	1.0		µg/L	1	5/13/2022 12:58 AM
Manganese	250	0.13	2.5		µg/L	5	5/13/2022 01:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92765** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/6/2022** RunNo: **162369**
Client ID: **PBW** Batch ID: **92765** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/12/2022** SeqNo: **4643762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92765** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/6/2022** RunNo: **162369**
Client ID: **LCSW** Batch ID: **92765** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/12/2022** SeqNo: **4643763**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.123	0.10	10.00	0	101	85	115				
Barium	9.435	1.0	10.00	0	94.3	85	115				
Manganese	98.619	0.50	100.0	0	98.6	85	115				

Sample ID: **N050626-011BMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/6/2022** RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92765** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643811**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	7.685	0.10	10.00	0	76.8	75	125				
Barium	40.331	1.0	10.00	34.87	54.6	75	125				S
Manganese	154.525	0.50	100.0	66.45	88.1	75	125				

Sample ID: **N050626-011BMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/6/2022** RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92765** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643813**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	7.444	0.10	10.00	0	74.4	75	125	7.685	3.18	20	S
Barium	39.903	1.0	10.00	34.87	50.3	75	125	40.33	1.07	20	S
Manganese	152.433	0.50	100.0	66.45	86.0	75	125	154.5	1.36	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050626
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050626-011B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92765** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	7.994	0.10	10.00	0	79.9	80	120				S
Barium	40.402	1.0	10.00	34.87	55.3	80	120				S
Manganese	153.572	0.50	100.0	66.45	87.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNL	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled X
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace
Submitted By: Rissie Tap	Phone: Fax:	Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact X
Title: Field Tech			Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 5/5/22	Sampled By: Rissie Tap	Matrix: Ground X Sediment; Potable Soil; NPDES Other Solid; Surface	Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	6. Method of Cooling: ICE
Project Name: PG&F Topock - PCM	Signature: Date: 5/5/22				Sample Temp: 0.9, 2.8
Project Number: 30121866.2Q22GW					Courier: ASSET; Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2 SO4, NH4 OH 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C) H2SO4 3x40 mL VOA	Total metals (SW6010) No filter, HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate (EPA 300.0) 1 L poly	Nitrate/nitrite as Nitrogen (SM 4500-NO3); H2SO4 125 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050626-01	MW-46-175-Q222	5/5/2022	9:12		X		X	X		X			X	X	E	7	P	BNS	
2	-02	MW-46-205-Q222	5/5/2022	10:01		X		X	X		X			X		E	6	P	BNS	
3	-03	MW-27-020-Q222	5/5/2022	12:11		X		X	X		X			X		C	6	P	BNS	
4	-04	MW-27-020-EB-Q222	5/5/2022	11:49		X										C	1	P	BNS	
5	-05	MW-27-060-Q222	5/5/2022	11:04		X		X	X		X			X	X	E	7	P	BNS	
6	-06	MW-27-060-EB-Q222	5/5/2022	10:40		X										E	1	P	BNS	
7	-07	MW-27-085-Q222	5/5/2022	11:34		X		X	X		X			X	X	E	7	P	BNS	
8	-08	MW-27-085-EB-Q222	5/5/2022	11:10		X										E	1	P	BNS	
9	-09	MW-34-055-Q222	5/5/2022	13:21		X		X	X		X			X	X	E	7	P	BNS	
10	-10	MW-34-055-EB-Q222	5/5/2022	12:58		X										C	1	P	BNS	
11	-11	MW-34-080-Q222	5/5/2022	13:49		X		X	X		X			X		E	9	P	BNS	MS/MSD
12	-12	MW-34-080-EB-Q222	5/5/2022	13:26		X										E	1	P	BNS	
13	-13	MW-34-100-Q222	5/5/2022	12:19		X		X	X		X			X	X	C	7	P	BNS	
14	-14	FB-710-Q222	5/5/2022	1400		X										T	1	P	BNS	

Relinquished by (Signature and Printed Name): Rissie Tap 5/5/22 1604 Date/Time:
Received by (Signature and Printed Name): 5/5/22 @1604 Date/Time:

Relinquished by (Signature and Printed Name): 5/5/22 @1504 Date/Time:
Received by (Signature and Printed Name): Yoanca Rodriguez 5/5/22 1504 Date/Time:

Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- A = <24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM

Special Instruction:

Terms
1. Chain of custody is the document used to track the transfer of samples from the client to the laboratory and is used to document sample custody during transfer.
2. Regular TAT is 5-7 business days; surcharges will apply for rush analysis:
Less than 24 Hrs (A) 100% Next Day (B) 50% 2 Workdays (C) 25% 3 Workdays (D) 15% 4 Workdays (E) 0%
3. Additional surcharges are listed as Packages 1&2 on Level IV Data Packages. Surcharges applied on total project.
4. Sample disposal is 30 days after receipt unless otherwise agreed upon in writing.
5. The Work and Equipment Charges are billable as incurred.
6. Additional charges may apply for Electronic Data Deliverables (EDD).
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform Asset Laboratories if hard copy or reports needed.
9. Late payment charges will be applied on all invoices not paid within 30 days.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=ZnAC	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B (NH4)2SO4/NH4OH			

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=TedJar	G=Glass
M=Metal	M=Metal	C=Can

White–Laboratory Copy
Yellow–Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/5/2022	Workorder:	N050626
Rep sample Temp (Deg C):	0.9/2.8	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/9/2022

Reviewed By: MBC 5/17/2022

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050626

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050626-001A	MW-46-175-Q222	5/5/2022 9:12:00 AM	5/19/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-001B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050626-001C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050626-001D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050626-001E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050626-002A	MW-46-205-Q222	5/5/2022 10:01:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-002B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050626-002C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050626-002D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050626-003A	MW-27-020-Q222	5/5/2022 12:11:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-003B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050626

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050626-003B	MW-27-020-Q222	5/5/2022 12:11:00 PM	5/19/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050626-003C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050626-003D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050626-004A	MW-27-020-EB-Q222	5/5/2022 11:48:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-005A	MW-27-060-Q222	5/5/2022 11:04:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-005B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050626-005C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050626-005D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050626-005E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050626-006A	MW-27-060-EB-Q222	5/5/2022 10:40:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-007A	MW-27-085-Q222	5/5/2022 11:34:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-007B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050626-007C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050626-007D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050626

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050626-007E	MW-27-085-Q222	5/5/2022 11:34:00 AM	5/19/2022	Groundwater	SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050626-008A	MW-27-085-EB-Q222	5/5/2022 11:10:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-009A	MW-34-055-Q222	5/5/2022 1:21:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-009B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050626-009C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050626-009D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050626-009E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050626-010A	MW-34-055-EB-Q222	5/5/2022 12:58:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-011A	MW-34-080-Q222	5/5/2022 1:49:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050626-011B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050626-011C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050626-011D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050626-012A	MW-34-080-EB-Q222	5/5/2022 1:26:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050626

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050626-013A	MW-34-100-Q222	5/5/2022 12:49:00 PM	5/19/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-013B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050626-013C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050626-013D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050626-013E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050626-014A	EB-710-Q222	5/5/2022 2:00:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050626-015A	FOLDER	5/19/2022	5/19/2022		Folder	Folder	☐	☐	☐	LAB
			5/19/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/19/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

09-May-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N050626-001E / MW-46-175-Q222	Groundwater	5/5/2022 9:12:00 AM	8OZP	1		
N050626-005E / MW-27-060-Q222	Groundwater	5/5/2022 11:04:00 AM	8OZP	1		
N050626-007E / MW-27-085-Q222	Groundwater	5/5/2022 11:34:00 AM	8OZP	1		
N050626-009E / MW-34-055-Q222	Groundwater	5/5/2022 1:21:00 PM	8OZP	1		
N050626-013E / MW-34-100-Q222	Groundwater	5/5/2022 12:49:00 PM	8OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N50626A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 556796582

		Date/Time			Date/Time
Relinquished by:	GGarcia	5/9/2022 16:30	**Received by:**		
Relinquished by:			**Received by:**		

May 24, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050627

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 05, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (0 ug/L) for sample N050627-001 (PT5D-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (0 ug/L) for sample N050627-001 (PT5D-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.0 and 0.21 ug/L, respectively. Since these data confirmed

the original result for total dissolved chromium, the original result is reported.

Analytical Comments for SM 5310C:

Matrix Spike Duplicate(MSD) is outside recovery criteria in QC sample N050447-009CMSD at 1x dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N050447-009 and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N050626-011CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050626-011 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N050627-001CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050627-001 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050627
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050627-001A	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-001B	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-001C	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-001D	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-002A	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-002B	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-002C	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-002D	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-003A	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-003B	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-003C	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-003D	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-004A	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004B	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004C	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004D	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004E	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-005A	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-005B	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-005C	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-005D	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-006A	MW-42-055-EB-Q222	Groundwater	5/5/2022 11:11:00 AM	5/5/2022	5/24/2022
N050627-007A	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-007B	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-007C	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-007D	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-008A	MW-42-065-EB-Q222	Groundwater	5/5/2022 11:49:00 AM	5/5/2022	5/24/2022
N050627-009A	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-009B	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050627
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050627-009C	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-009D	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-009E	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-010A	MW-904-Q422	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010B	MW-904-Q422	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010C	MW-904-Q422	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010D	MW-904-Q422	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010E	MW-904-Q422	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-011A	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011B	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011C	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011D	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011E	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-012A	EB-711-Q222	Groundwater	5/5/2022 3:30:00 PM	5/5/2022	5/24/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-001

Client Sample ID: PT5D-Q222
Collection Date: 5/5/2022 2:04:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 11:42 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	2.1	0.035	1.0		µg/L	1	5/12/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-002

Client Sample ID: PT5M-Q222
Collection Date: 5/5/2022 2:40:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 04:28 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 04:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-003

Client Sample ID: PT5S-Q222
Collection Date: 5/5/2022 3:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 04:47 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 04:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 05:06 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 05:44 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-EB-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A**	QC Batch: **R162222**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 06:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-007

Client Sample ID: MW-42-065-Q222
Collection Date: 5/5/2022 12:22:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 06:22 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-EB-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:49:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A**	QC Batch: **R162222**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 06:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 02:59 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-010

Client Sample ID: MW-904-Q422
Collection Date: 5/5/2022 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 03:17 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 03:36 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220521B** QC Batch: **92984**				PrepDate:	**5/20/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/21/2022 11:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-711-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 3:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A**	QC Batch: **R162261**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/10/2022 09:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162222**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **PBW**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635279**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162222**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **LCSW**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.996	0.20	5.000	0	99.9	90	110				

Sample ID: **N050627-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.060	0.20	1.000	0	106	90	110				

Sample ID: **N050659-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.550	0.20	5.000	6.592	99.1	90	110				

Sample ID: **N050626-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635289**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID: **N050627-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110	1.060	0.311	20	

Sample ID: **N050663-006ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	29.092	1.0						29.10	0.0189	20	

Sample ID: **N050626-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.928	1.0	5.000	6.886	101	90	110				

Sample ID: **N050626-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.992	1.0	5.000	0.9255	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.041	1.0	5.000	0	101	90	110				

Sample ID: **N050627-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID: **N050627-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N050627-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637418**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.109	0.20	1.000	0.05350	106	90	110				

Sample ID: **N050627-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050627-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.981	0.20	1.000	0	98.1	90	110				

Sample ID: **N050627-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID: **N050627-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.998	0.20	1.000	0	99.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162261**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **PBW**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162261**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **LCSW**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.115	0.20	5.000	0	102	90	110				

Sample ID: **N050627-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID: **N050688-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1577.140	40						1591	0.845	20	

Sample ID: **N050688-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2576.000	40	1000	1591	98.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050686-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID: **N050686-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	1.0	5.000	0	100	90	110				

Sample ID: **N050661-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.693	1.0	5.000	12.50	104	90	110				

Sample ID: **N050661-006AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.660	1.0	5.000	12.50	103	90	110	17.69	0.184	20	

Sample ID: **N050661-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050661-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N050627-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.191	1.0	5.000	0	104	90	110				

Sample ID: **N050627-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.942	1.0	5.000	0	98.8	90	110				

Sample ID: **N050627-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.114	1.0	5.000	0	102	90	110				

Sample ID: **N050661-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.143	1.0	5.000	0.4150	94.6	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050661-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.219	1.0	5.000	0	104	90	110				

Sample ID: **N050661-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.938	1.0	5.000	0	98.8	90	110				

Sample ID: **N050661-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N050661-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110				

Sample ID: **N050661-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050687-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.051	0.20	1.000	0	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92764**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **PBW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92764**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **LCSW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.793	1.0	10.00	0	97.9	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643553**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.449	1.0	10.00	2.118	93.3	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.877	1.0	10.00	2.118	87.6	75	125	11.45	5.13	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92984**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **PBW**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.084	1.0									

Sample ID: **LCS-92984**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **LCSW**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.640	1.0	10.00	0	96.4	85	115				

Sample ID: **N050606-003B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **ZZZZZZ**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.905	1.0	10.00	1.468	84.4	75	125				

Sample ID: **N050606-003B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **ZZZZZZ**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.828	1.0	10.00	1.468	83.6	75	125	9.905	0.788	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/6/2022 06:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/6/2022 07:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 3:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/6/2022 11:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 12:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 12:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 01:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/7/2022 01:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q422
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/7/2022 01:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/7/2022 01:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R162170_NO3** SampType: **LCS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **LCSW** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.201	0.050	1.250	0	96.1	90	110				

Sample ID: **MB-R162170_NO3** SampType: **MBLK** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **PBW** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N050627-001DMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633243**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.953	0.50	12.50	0	95.6	80	120				

Sample ID: **N050627-001DMSD** SampType: **MSD** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.403	0.50	12.50	0	99.2	80	120	11.95	3.70	20	

Sample ID: **N050627-002DMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633245**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.223	0.50	12.50	0.1750	96.4	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050629-012BDUP** SampType: **DUP** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	18.616	1.0						18.85	1.23	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220510A**	QC Batch: **R162278**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.7	20		mg/L	20	5/10/2022 11:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 03:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 3:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.1	0.084	1.0		mg/L	1	5/7/2022 04:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.3	0.084	1.0		mg/L	1	5/9/2022 11:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/9/2022 11:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/9/2022 12:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.8	0.084	1.0		mg/L	1	5/9/2022 12:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q422
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.8	0.084	1.0		mg/L	1	5/9/2022 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.0	0.084	1.0		mg/L	1	5/9/2022 03:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162185**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **PBW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162185**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **LCSW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.934	1.0	5.000	0	98.7	85	115				

Sample ID: **N050447-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.348	5.0	25.00	1.446	104	75	125				

Sample ID: **N050447-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.330	5.0	25.00	1.446	104	75	125	27.35	0.0677	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162247**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **PBW**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162247**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **LCSW**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638263**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.853	1.0	5.000	0	97.0	85	115				

Sample ID: **N050626-011CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **ZZZZZZ**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.032	20	100.0	0	86.0	75	125				

Sample ID: **N050626-011CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **ZZZZZZ**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	85.542	20	100.0	0	85.5	75	125	86.03	0.571	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162278**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **PBW**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162278**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **LCSW**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.859	1.0	5.000	0	97.2	85	115				

Sample ID: **N050627-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **ZZZZZZ**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	83.942	20	100.0	0	83.9	75	125				

Sample ID: **N050627-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **ZZZZZZ**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	82.676	20	100.0	0	82.7	75	125	83.94	1.52	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	27	13	20		µg/L	1	5/10/2022 03:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	23	13	20		µg/L	1	5/10/2022 04:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-003

Client Sample ID: PT5S-Q222
Collection Date: 5/5/2022 3:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	1200	13	20		µg/L	1	5/10/2022 04:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-004

Client Sample ID: MW-42-030-Q222
Collection Date: 5/5/2022 11:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	330	13	20		µg/L	1	5/10/2022 04:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	5/10/2022 04:24 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	5/10/2022 04:27 PM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-009

Client Sample ID: MW-22-Q222
Collection Date: 5/5/2022 9:07:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	4300	13	20		µg/L	1	5/10/2022 04:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-010

Client Sample ID: MW-904-Q422
Collection Date: 5/5/2022 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	4800	13	20		µg/L	1	5/10/2022 04:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-011

Client Sample ID: MW-90-031-Q222
Collection Date: 5/5/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	6200	13	20		µg/L	1	5/12/2022 11:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92761**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **PBW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92761**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **LCSW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.323	20	100.0	0	109	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.529	20	100.0	26.73	81.8	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.386	20	100.0	26.73	84.7	75	125	108.5	2.60	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-001

Client Sample ID: PT5D-Q222
Collection Date: 5/5/2022 2:04:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220513B**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	5/13/2022 03:23 PM
Barium	22	0.083	1.0		µg/L	1	5/12/2022 03:06 PM
Manganese	100	0.13	2.5		µg/L	5	5/12/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-002

Client Sample ID: PT5M-Q222
Collection Date: 5/5/2022 2:40:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	0.75	0.050	0.10		µg/L	1	5/14/2022 09:37 AM
Barium	44	0.083	1.0		µg/L	1	5/12/2022 04:23 PM
Manganese	2100	0.66	12		µg/L	25	5/13/2022 02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-003

Client Sample ID: PT5S-Q222
Collection Date: 5/5/2022 3:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	7.0	0.050	0.10		µg/L	1	5/12/2022 04:47 PM
Barium	96	0.083	1.0		µg/L	1	5/12/2022 04:47 PM
Manganese	260	0.13	2.5		µg/L	5	5/12/2022 04:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-004

Client Sample ID: MW-42-030-Q222
Collection Date: 5/5/2022 11:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	5/12/2022 04:59 PM
Barium	62	0.083	1.0		µg/L	1	5/12/2022 04:59 PM
Manganese	85	0.026	0.50		µg/L	1	5/12/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-005

Client Sample ID: MW-42-055-Q222
Collection Date: 5/5/2022 11:44:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	8.3	0.050	0.10		µg/L	1	5/12/2022 05:10 PM
Barium	130	0.083	1.0		µg/L	1	5/12/2022 05:10 PM
Manganese	190	0.13	2.5		µg/L	5	5/12/2022 05:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-007

Client Sample ID: MW-42-065-Q222
Collection Date: 5/5/2022 12:22:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	5/12/2022 05:22 PM
Barium	98	0.083	1.0		µg/L	1	5/12/2022 05:22 PM
Manganese	2200	0.66	12		µg/L	25	5/13/2022 02:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-009

Client Sample ID: MW-22-Q222
Collection Date: 5/5/2022 9:07:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	3.7	0.050	0.10		µg/L	1	5/12/2022 05:34 PM
Barium	110	0.083	1.0		µg/L	1	5/12/2022 05:34 PM
Manganese	2100	0.66	12		µg/L	25	5/13/2022 02:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-010

Client Sample ID: MW-904-Q422
Collection Date: 5/5/2022 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Arsenic	5.1	0.050	0.10		µg/L	1	5/12/2022 05:58 PM
Barium	150	0.083	1.0		µg/L	1	5/12/2022 05:58 PM
Manganese	2000	0.66	12		µg/L	25	5/13/2022 02:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-011

Client Sample ID: MW-90-031-Q222
Collection Date: 5/5/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 06:10 PM
Barium	87	0.083	1.0		µg/L	1	5/12/2022 06:10 PM
Manganese	250	0.13	2.5		µg/L	5	5/12/2022 06:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92764**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **PBW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92764**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **LCSW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.283	0.10	10.00	0	103	85	115				
Barium	9.456	1.0	10.00	0	94.6	85	115				
Manganese	96.778	0.50	100.0	0	96.8	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	30.812	1.0	10.00	21.65	91.7	75	125				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	192.890	2.5	100.0	100.6	92.3	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	30.285	1.0	10.00	21.65	86.4	75	125	30.81	1.73	20	

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	219.921	2.5	100.0	100.6	119	75	125	192.9	13.1	20	

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4650440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.894	0.10	10.00	2.279	96.1	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4650441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.187	0.10	10.00	2.279	99.1	75	125	11.89	2.43	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition	Y	N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNC	1. Chilled	X	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	2. Headspace		
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	3. Container Intact	X	
Submitted By: Rosie Top		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present		
Title: Field Tech	Phone: Fax:		Specify: RWQCB	LEVEL IV	5. IR number 3		
Signature: Date: 5/5/22	Sampled By: Rosie Top		Global ID:	Regulatory	6. Method of Cooling: ICE		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally misleading the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	Sample Temp: 0.9, 2.8		
Project Name: PG&F Topock - PCM	Signature: Date: 5/5/22	Matrix: Ground X, Sediment; Potable, Soil; NPDES, Other Solid; Surface			Courier: ASSET		
Project Number: 30121866.2Q22GW					Tracking No.:		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (SW6020) FF; HNO3	Nitrate, sulfate (EPA 300.0)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	Total Organic Carbon (SM5310C) H2SO4	Total metals (SW6010) No filter; HNO3 Total Iron	Ammonia as Nitrogen (SM4500NH3); H2SO4	Nitrate (EPA 300.0)	Nitrate/nitrite as Nitrogen (SM 4500-NO3); H2SO4			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	1 L poly	500mL poly	500mL poly	500mL poly	3x40 mL VOA	500mL poly	1 L poly	1 L poly	125 mL poly							
1	N050627-01	PT5D-Q222	5/5/2022	14:04		X		X	X		X			X				E	9	P	BNS	MS/MSD
2	-02	PT5M-Q222	5/5/2022	14:40		X		X	X		X			X				E	6	P	BNS	
3	-03	PT5S-Q222	5/5/2022	15:11		X		X	X		X			X				E	6	P	BNS	
4	-04	MW-42-030-Q222	5/5/2022	11:05		X		X	X		X			X	X			E	7	P	BNS	
5	-05	MW-42-055-Q222	5/5/2022	11:44		X		X	X		X			X				E	6	P	BNS	
6	-06	MW-42-055-EB-Q222	5/5/2022	11:11		X												E	1	P	BNS	
7	-07	MW-42-065-Q222	5/5/2022	12:22		X		X	X		X			X				E	6	P	BNS	
8	-08	MW-42-065-EB-Q222	5/5/2022	11:49		X												E	1	P	BNS	1 (2)
9	-09	MW-22-Q222	5/5/2022	9:07		X		X	X		X			X	X			E	7	P	BNS	
10	-10	MW-904-Q422	5/5/2022	9:17		X		X	X		X			X	X			E	7	P	BNS	
11	-11	MW-90-031-Q222	5/5/2022	9:50		X		X	X		X			X	X			E	7	P	BNS	
12	-12	EB-711-Q222	5/5/2022	15:30		X												E	1	P	BNS	
13																						
14																						

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Rosie Top	5/5/22 1604		5/5/22 @ 1604
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
	5/5/22 @ 1804	Leandra Rodriguez	5/5/22 1804
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM

Special Instruction:

Terms:

1. [illegible]
2. Regular TAT is 5-7 business days; surcharges will apply for rush analysis. Less than 24 Hrs = 200% Next Day TAT = 100% 2 Workdays = 50% 3 Workdays = 25%
3. [illegible]
4. Acct. is responsible for all charges for Lost or Late Samples. Report will be held until all charges are paid in full.
5. This COC is a legal document. All relinquished samples must be accurately described on this form.
6. [illegible]
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Hard copy reports will be charged for.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	Container Type: T=Tube	V=VOA	P=Pint
Z=Zn(AC)2	O=NaOH	T=$Na_2S_2O_3$		J=Jar	R=Teflon	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White–Laboratory Copy

Yellow–Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/5/2022	Workorder:	N050627
Rep sample Temp (Deg C):	0.9/2.8	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/17/2022

Reviewed By: MBC 5/17/2022

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-001A	PT5D-Q222	5/5/2022 2:04:00 PM	5/19/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050627-001B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050627-001C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050627-001D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050627-002A	PT5M-Q222	5/5/2022 2:40:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-002B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-002C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-002D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-003A	PT5S-Q222	5/5/2022 3:11:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-003B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-003C	PT5S-Q222	5/5/2022 3:11:00 PM	5/19/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-003D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-004A	MW-42-030-Q222	5/5/2022 11:05:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-004B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-004C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-004D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-004E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-005A	MW-42-055-Q222	5/5/2022 11:44:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-005B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-005C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-005D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-006A	MW-42-055-EB-Q222	5/5/2022 11:11:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-007A	MW-42-065-Q222	5/5/2022 12:22:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-007B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-007B	MW-42-065-Q222	5/5/2022 12:22:00 PM	5/19/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-007C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-007D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-008A	MW-42-065-EB-Q222	5/5/2022 11:49:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-009A	MW-22-Q222	5/5/2022 9:07:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-009B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-009C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-009D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-009E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-010A	MW-904-Q422	5/5/2022 9:17:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-010B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

18-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-010C	MW-904-Q422	5/5/2022 9:17:00 AM	5/19/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-010D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-010E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-011A	MW-90-031-Q222	5/5/2022 9:50:00 AM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-011B			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/19/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/19/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-011C			5/19/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-011D			5/19/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-011E			5/19/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-012A	EB-711-Q222	5/5/2022 3:30:00 PM	5/19/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-013A	FOLDER	5/19/2022	5/19/2022		Folder	Folder	☐	☐	☐	LAB
			5/19/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/19/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

09-May-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NO3F		
N050627-004E / MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	8OZP	1		
N050627-009E / MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	8OZP	1		
N050627-010E / MW-904-Q422	Groundwater	5/5/2022 9:17:00 AM	8OZP	1		
N050627-011E / MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	8OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N50627A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 556796582

		Date/Time			Date/Time
Relinquished by:	GGarcia	5/9/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

May 24, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050627

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 05, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

ASSET Laboratories **Date:** *24-May-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050627

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

The report was amended as ID of sample N050627-010 was updated. Please see attached correspondence.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (0 ug/L) for sample N050627-001 (PT5D-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.1 ug/L) and hexavalent chromium (0 ug/L) for

sample N050627-001 (PT5D-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.0 and 0.21 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Analytical Comments for SM 5310C:

Matrix Spike Duplicate(MSD) is outside recovery criteria in QC sample N050447-009CMSD at 1x dilution possibly due to matrix interference. QC samples were diluted and recovery passed criteria. Thus sample reference N050447-009 and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N050626-011CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050626-011 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N050627-001CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050627-001 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *24-May-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050627
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050627-001A	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-001B	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-001C	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-001D	PT5D-Q222	Groundwater	5/5/2022 2:04:00 PM	5/5/2022	5/24/2022
N050627-002A	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-002B	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-002C	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-002D	PT5M-Q222	Groundwater	5/5/2022 2:40:00 PM	5/5/2022	5/24/2022
N050627-003A	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-003B	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-003C	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-003D	PT5S-Q222	Groundwater	5/5/2022 3:11:00 PM	5/5/2022	5/24/2022
N050627-004A	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004B	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004C	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004D	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-004E	MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	5/5/2022	5/24/2022
N050627-005A	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-005B	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-005C	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-005D	MW-42-055-Q222	Groundwater	5/5/2022 11:44:00 AM	5/5/2022	5/24/2022
N050627-006A	MW-42-055-EB-Q222	Groundwater	5/5/2022 11:11:00 AM	5/5/2022	5/24/2022
N050627-007A	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-007B	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-007C	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-007D	MW-42-065-Q222	Groundwater	5/5/2022 12:22:00 PM	5/5/2022	5/24/2022
N050627-008A	MW-42-065-EB-Q222	Groundwater	5/5/2022 11:49:00 AM	5/5/2022	5/24/2022
N050627-009A	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-009B	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050627
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050627-009C	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-009D	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-009E	MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	5/5/2022	5/24/2022
N050627-010A	MW-904-Q222	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010B	MW-904-Q222	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010C	MW-904-Q222	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010D	MW-904-Q222	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-010E	MW-904-Q222	Groundwater	5/5/2022 9:17:00 AM	5/5/2022	5/24/2022
N050627-011A	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011B	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011C	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011D	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-011E	MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	5/5/2022	5/24/2022
N050627-012A	EB-711-Q222	Groundwater	5/5/2022 3:30:00 PM	5/5/2022	5/24/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-001

Client Sample ID: PT5D-Q222
Collection Date: 5/5/2022 2:04:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 11:42 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	2.1	0.035	1.0		µg/L	1	5/12/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-002

Client Sample ID: PT5M-Q222
Collection Date: 5/5/2022 2:40:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 04:28 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 04:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-003

Client Sample ID: PT5S-Q222
Collection Date: 5/5/2022 3:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 04:47 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 04:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 05:06 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 05:44 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-EB-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A**	QC Batch: **R162222**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 06:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-007

Client Sample ID: MW-42-065-Q222
Collection Date: 5/5/2022 12:22:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A** QC Batch: **R162222**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 06:22 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-EB-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:49:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220509A**	QC Batch: **R162222**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/9/2022 06:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 02:59 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *24-May-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 03:17 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92764**				PrepDate:	**5/6/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/12/2022 05:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 03:36 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220521B** QC Batch: **92984**				PrepDate:	**5/20/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/21/2022 11:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-711-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 3:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A**	QC Batch: **R162261**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/10/2022 09:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162222**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **PBW**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635279**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162222**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **LCSW**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635280**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.996	0.20	5.000	0	99.9	90	110				

Sample ID: **N050627-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.060	0.20	1.000	0	106	90	110				

Sample ID: **N050659-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635288**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.550	0.20	5.000	6.592	99.1	90	110				

Sample ID: **N050626-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4635289**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID: **N050627-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110	1.060	0.311	20	

Sample ID: **N050663-006ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635295**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	29.092	1.0						29.10	0.0189	20	

Sample ID: **N050626-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635297**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.928	1.0	5.000	6.886	101	90	110				

Sample ID: **N050626-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635299**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.992	1.0	5.000	0.9255	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050626-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4635301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.041	1.0	5.000	0	101	90	110				

Sample ID: **N050627-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637412**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID: **N050627-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637414**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.996	0.20	1.000	0	99.6	90	110				

Sample ID: **N050627-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637418**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.109	0.20	1.000	0.05350	106	90	110				

Sample ID: **N050627-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162222**
Client ID: **ZZZZZZ** Batch ID: **R162222** TestNo: **EPA 218.6** Analysis Date: **5/9/2022** SeqNo: **4637420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050627-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637422**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.981	0.20	1.000	0	98.1	90	110				

Sample ID: **N050627-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.037	0.20	1.000	0	104	90	110				

Sample ID: **N050627-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162222**
Client ID: **ZZZZZZ**	Batch ID: **R162222**	TestNo: **EPA 218.6**		Analysis Date: **5/9/2022**	SeqNo: **4637426**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.998	0.20	1.000	0	99.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162261**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **PBW**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162261**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **LCSW**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.115	0.20	5.000	0	102	90	110				

Sample ID: **N050627-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID: **N050688-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1577.140	40						1591	0.845	20	

Sample ID: **N050688-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2576.000	40	1000	1591	98.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050686-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID: **N050686-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	1.0	5.000	0	100	90	110				

Sample ID: **N050661-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.693	1.0	5.000	12.50	104	90	110				

Sample ID: **N050661-006AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.660	1.0	5.000	12.50	103	90	110	17.69	0.184	20	

Sample ID: **N050661-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050661-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N050627-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.191	1.0	5.000	0	104	90	110				

Sample ID: **N050627-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.942	1.0	5.000	0	98.8	90	110				

Sample ID: **N050627-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.114	1.0	5.000	0	102	90	110				

Sample ID: **N050661-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.143	1.0	5.000	0.4150	94.6	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050661-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.219	1.0	5.000	0	104	90	110				

Sample ID: **N050661-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.938	1.0	5.000	0	98.8	90	110				

Sample ID: **N050661-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N050661-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110				

Sample ID: **N050661-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050687-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.051	0.20	1.000	0	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92764**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **PBW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643523**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92764**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **LCSW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.793	1.0	10.00	0	97.9	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643553**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	11.449	1.0	10.00	2.118	93.3	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.877	1.0	10.00	2.118	87.6	75	125	11.45	5.13	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92984**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **PBW**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655513**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.084	1.0									

Sample ID: **LCS-92984**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **LCSW**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655514**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.640	1.0	10.00	0	96.4	85	115				

Sample ID: **N050606-003B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **ZZZZZZ**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655518**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.905	1.0	10.00	1.468	84.4	75	125				

Sample ID: **N050606-003B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/20/2022**	RunNo: **162609**
Client ID: **ZZZZZZ**	Batch ID: **92984**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/21/2022**	SeqNo: **4655519**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.828	1.0	10.00	1.468	83.6	75	125	9.905	0.788	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/6/2022 06:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/6/2022 07:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 3:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/6/2022 11:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 12:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 12:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 01:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/7/2022 01:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *24-May-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/7/2022 01:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220506B**	QC Batch: **R162170**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/7/2022 01:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R162170_NO3** SampType: **LCS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **LCSW** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.201	0.050	1.250	0	96.1	90	110				

Sample ID: **MB-R162170_NO3** SampType: **MBLK** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **PBW** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N050627-001DMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633243**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.953	0.50	12.50	0	95.6	80	120				

Sample ID: **N050627-001DMSD** SampType: **MSD** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.403	0.50	12.50	0	99.2	80	120	11.95	3.70	20	

Sample ID: **N050627-002DMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633245**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.223	0.50	12.50	0.1750	96.4	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050629-012BDUP** SampType: **DUP** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162170**
Client ID: **ZZZZZZ** Batch ID: **R162170** TestNo: **EPA 300.0** Analysis Date: **5/6/2022** SeqNo: **4633246**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	18.616	1.0						18.85	1.23	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220510A**	QC Batch: **R162278**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.7	20		mg/L	20	5/10/2022 11:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/7/2022 03:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5S-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 3:11:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220507A**	QC Batch: **R162185**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.1	0.084	1.0		mg/L	1	5/7/2022 04:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-030-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:05:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.3	0.084	1.0		mg/L	1	5/9/2022 11:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/9/2022 11:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/9/2022 12:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-22-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:07:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.8	0.084	1.0		mg/L	1	5/9/2022 12:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *24-May-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.8	0.084	1.0		mg/L	1	5/9/2022 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-90-031-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220509A**	QC Batch: **R162247**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.0	0.084	1.0		mg/L	1	5/9/2022 03:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162185**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **PBW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162185**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **LCSW**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.934	1.0	5.000	0	98.7	85	115				

Sample ID: **N050447-009CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633569**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.348	5.0	25.00	1.446	104	75	125				

Sample ID: **N050447-009CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162185**
Client ID: **ZZZZZZ**	Batch ID: **R162185**	TestNo: **SM 5310C**		Analysis Date: **5/7/2022**	SeqNo: **4633570**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	27.330	5.0	25.00	1.446	104	75	125	27.35	0.0677	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162247**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **PBW**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162247**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **LCSW**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638263**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.853	1.0	5.000	0	97.0	85	115				

Sample ID: **N050626-011CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **ZZZZZZ**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638275**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	86.032	20	100.0	0	86.0	75	125				

Sample ID: **N050626-011CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162247**
Client ID: **ZZZZZZ**	Batch ID: **R162247**	TestNo: **SM 5310C**		Analysis Date: **5/9/2022**	SeqNo: **4638276**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	85.542	20	100.0	0	85.5	75	125	86.03	0.571	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162278**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **PBW**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162278**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **LCSW**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.859	1.0	5.000	0	97.2	85	115				

Sample ID: **N050627-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **ZZZZZZ**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	83.942	20	100.0	0	83.9	75	125				

Sample ID: **N050627-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **ZZZZZZ**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	82.676	20	100.0	0	82.7	75	125	83.94	1.52	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5D-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	27	13	20		µg/L	1	5/10/2022 03:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT5M-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 2:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	23	13	20		µg/L	1	5/10/2022 04:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-003

Client Sample ID: PT5S-Q222
Collection Date: 5/5/2022 3:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	1200	13	20		µg/L	1	5/10/2022 04:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-004

Client Sample ID: MW-42-030-Q222
Collection Date: 5/5/2022 11:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	330	13	20		µg/L	1	5/10/2022 04:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-055-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 11:44:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	5/10/2022 04:24 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-42-065-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	5/10/2022 04:27 PM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-009

Client Sample ID: MW-22-Q222
Collection Date: 5/5/2022 9:07:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	4300	13	20		µg/L	1	5/10/2022 04:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *24-May-22*

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-010

Client Sample ID: MW-904-Q222
Collection Date: 5/5/2022 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220510A**	QC Batch: **92761**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Iron	4800	13	20		µg/L	1	5/10/2022 04:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-011

Client Sample ID: MW-90-031-Q222
Collection Date: 5/5/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92761**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Iron	6200	13	20		µg/L	1	5/12/2022 11:30 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92761**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **PBW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638008**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92761**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **LCSW**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.323	20	100.0	0	109	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638028**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	108.529	20	100.0	26.73	81.8	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162267**
Client ID: **ZZZZZZ**	Batch ID: **92761**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/10/2022**	SeqNo: **4638029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.386	20	100.0	26.73	84.7	75	125	108.5	2.60	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-001

Client Sample ID: PT5D-Q222
Collection Date: 5/5/2022 2:04:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220513B**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	2.3	0.050	0.10		µg/L	1	5/13/2022 03:23 PM
Barium	22	0.083	1.0		µg/L	1	5/12/2022 03:06 PM
Manganese	100	0.13	2.5		µg/L	5	5/12/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-002

Client Sample ID: PT5M-Q222
Collection Date: 5/5/2022 2:40:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220514B**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	0.75	0.050	0.10		µg/L	1	5/14/2022 09:37 AM
Barium	44	0.083	1.0		µg/L	1	5/12/2022 04:23 PM
Manganese	2100	0.66	12		µg/L	25	5/13/2022 02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-003

Client Sample ID: PT5S-Q222
Collection Date: 5/5/2022 3:11:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	7.0	0.050	0.10		µg/L	1	5/12/2022 04:47 PM
Barium	96	0.083	1.0		µg/L	1	5/12/2022 04:47 PM
Manganese	260	0.13	2.5		µg/L	5	5/12/2022 04:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-004

Client Sample ID: MW-42-030-Q222
Collection Date: 5/5/2022 11:05:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	2.5	0.050	0.10		µg/L	1	5/12/2022 04:59 PM
Barium	62	0.083	1.0		µg/L	1	5/12/2022 04:59 PM
Manganese	85	0.026	0.50		µg/L	1	5/12/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-005

Client Sample ID: MW-42-055-Q222
Collection Date: 5/5/2022 11:44:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	8.3	0.050	0.10		µg/L	1	5/12/2022 05:10 PM
Barium	130	0.083	1.0		µg/L	1	5/12/2022 05:10 PM
Manganese	190	0.13	2.5		µg/L	5	5/12/2022 05:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-007

Client Sample ID: MW-42-065-Q222
Collection Date: 5/5/2022 12:22:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	1.4	0.050	0.10		µg/L	1	5/12/2022 05:22 PM
Barium	98	0.083	1.0		µg/L	1	5/12/2022 05:22 PM
Manganese	2200	0.66	12		µg/L	25	5/13/2022 02:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-009

Client Sample ID: MW-22-Q222
Collection Date: 5/5/2022 9:07:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	3.7	0.050	0.10		µg/L	1	5/12/2022 05:34 PM
Barium	110	0.083	1.0		µg/L	1	5/12/2022 05:34 PM
Manganese	2100	0.66	12		µg/L	25	5/13/2022 02:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *24-May-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q222
Lab Order:	N050627	**Collection Date:**	5/5/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050627-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**				PrepDate:	**5/6/2022**	Analyst: **DJ**
Arsenic	5.1	0.050	0.10		µg/L	1	5/12/2022 05:58 PM
Barium	150	0.083	1.0		µg/L	1	5/12/2022 05:58 PM
Manganese	2000	0.66	12		µg/L	25	5/13/2022 02:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050627-011

Client Sample ID: MW-90-031-Q222
Collection Date: 5/5/2022 9:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92764**			PrepDate:		**5/6/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/12/2022 06:10 PM
Barium	87	0.083	1.0		µg/L	1	5/12/2022 06:10 PM
Manganese	250	0.13	2.5		µg/L	5	5/12/2022 06:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92764**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **PBW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92764**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **LCSW**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.283	0.10	10.00	0	103	85	115				
Barium	9.456	1.0	10.00	0	94.6	85	115				
Manganese	96.778	0.50	100.0	0	96.8	85	115				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	30.812	1.0	10.00	21.65	91.7	75	125				

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	192.890	2.5	100.0	100.6	92.3	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050627
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	30.285	1.0	10.00	21.65	86.4	75	125	30.81	1.73	20	

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4643727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	219.921	2.5	100.0	100.6	119	75	125	192.9	13.1	20	

Sample ID: **N050627-001BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4650440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.894	0.10	10.00	2.279	96.1	75	125				

Sample ID: **N050627-001BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/6/2022**	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92764**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4650441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	12.187	0.10	10.00	2.279	99.1	75	125	11.89	2.43	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition	Y	N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNC	1. Chilled	X	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	2. Headspace		
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	3. Container Intact	X	
Submitted By: Rosie Top		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present		
Title: Field Tech	Phone: Fax:		Specify: RWQCB	LEVEL IV	5. IR number 3		
Signature: Date: 5/5/22	Sampled By: Rosie Top		Global ID:	Regulatory	6. Method of Cooling: ICE		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally misleading the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	Sample Temp: 0.9, 2.8		
Project Name: PG&F Topock - PCM	Signature: Date: 5/5/22	Matrix: Ground X, Sediment; Potable, Soil; NPDES, Other Solid; Surface			Courier: ASSET		
Project Number: 30121866.2Q22GW					Tracking No.:		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (SW6020) FF; HNO3	Nitrate, sulfate (EPA 300.0)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	Total Organic Carbon (SM5310C) H2SO4	Total metals (SW6010) No filter; HNO3 Total Iron	Ammonia as Nitrogen (SM4500NH3); H2SO4	Nitrate (EPA 300.0)	Nitrate/nitrite as Nitrogen (SM 4500-NO3); H2SO4			Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	1 L poly	500mL poly	500mL poly	500mL poly	3x40 mL VOA	500mL poly	1 L poly	1 L poly	125 mL poly							
1	N050627-01	PT5D-Q222	5/5/2022	14:04		X		X	X		X			X				E	9	P	BNS	MS/MSD
2	-02	PT5M-Q222	5/5/2022	14:40		X		X	X		X			X				E	6	P	BNS	
3	-03	PT5S-Q222	5/5/2022	15:11		X		X	X		X			X				E	6	P	BNS	
4	-04	MW-42-030-Q222	5/5/2022	11:05		X		X	X		X			X	X			E	7	P	BNS	
5	-05	MW-42-055-Q222	5/5/2022	11:44		X		X	X		X			X				E	6	P	BNS	
6	-06	MW-42-055-EB-Q222	5/5/2022	11:11		X												E	1	P	BNS	
7	-07	MW-42-065-Q222	5/5/2022	12:22		X		X	X		X			X				E	6	P	BNS	
8	-08	MW-42-065-EB-Q222	5/5/2022	11:49		X												E	1	P	BNS	1 (2)
9	-09	MW-22-Q222	5/5/2022	9:07		X		X	X		X			X	X			E	7	P	BNS	
10	-10	MW-904-Q422	5/5/2022	9:17		X		X	X		X			X	X			E	7	P	BNS	
11	-11	MW-90-031-Q222	5/5/2022	9:50		X		X	X		X			X	X			E	7	P	BNS	
12	-12	EB-711-Q222	5/5/2022	15:30		X												E	1	P	BNS	
13																						
14																						

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Rosie Top	5/5/22 1604		5/5/22 @ 1604
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
	5/5/22 @ 1804	Leandra Rodriguez	5/5/22 1804
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM

Special Instruction:

Terms:

1. [illegible]
2. Regular TAT is 5-7 business days; surcharges will apply for rush analysis. Less than 24 Hrs = 200% Next Day TAT = 100% 2 Workdays = 50% 3 Workdays = 25%
3. [illegible]
4. Acct. is responsible for all charges for Lost or Late Samples. Report will be held until all charges are paid in full.
5. This COC is a legal document. All relinquished samples must be accurately described on this form.
6. [illegible]
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Hard copy reports will be charged for.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	Container Type: T=Tube	V=VOA	P=Pint
Z=Zn(AC)2	O=NaOH	T=$Na_2S_2O_3$		J=Jar	R=Teflon	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White–Laboratory Copy

Yellow–Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/5/2022	Workorder:	N050627
Rep sample Temp (Deg C):	0.9/2.8	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/17/2022

Reviewed By: MBC 5/17/2022

Subject: RE: Data uploaded to SHAREPOINT 5/24/2022 Topock
From: Tina Rice <Tina.Rice@locana.co>
Date: 5/24/2022, 11:53 AM
To: Nancy Sibucao <nancy@assetlaboratories.com>, Yoandra Rodriguez <yoandra@assetlaboratories.com>

Please update sample ID MW-904-Q422 to MW-904-Q222. ~Thanks!

FYI: I updated and reloaded the EDD to Enterprise.

From: Nancy Sibucao <nancy@assetlaboratories.com>
Sent: Tuesday, May 24, 2022 11:47 AM
To: Jennifer.Singer@arcadis.com; Dan.Bush@arcadis.com
Cc: Dan Moore <Daniel.Moore@locana.co>; Tina Rice <Tina.Rice@locana.co>; Madsen, Laura <Laura.Madsen@arcadis.com>; Marlon B. Cartin <marlon@assetlaboratories.com>
Subject: Data uploaded to SHAREPOINT 5/24/2022 Topock

N050627-Level 2PDF and EDD uploaded pending sub-lab report.

Thanks,

Nancy Sibucao

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 **I P:** 702.307.2659 Ext. 412 **I F:** 702.307.2691
California: 11060 Artesia Blvd., Ste. C, Cerritos, CA 90703 **I P:** 562.219.7435 **I F:** 562.219.7436

www.assetlaboratories.com

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-001A	PT5D-Q222	5/5/2022 2:04:00 PM	5/17/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050627-001B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050627-001C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050627-001D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050627-002A	PT5M-Q222	5/5/2022 2:40:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-002B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-002C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-002D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-003A	PT5S-Q222	5/5/2022 3:11:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-003B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"
CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638
NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-003C	PT5S-Q222	5/5/2022 3:11:00 PM	5/17/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-003D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-004A	MW-42-030-Q222	5/5/2022 11:05:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-004B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-004C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-004D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-004E			5/17/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-005A	MW-42-055-Q222	5/5/2022 11:44:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-005B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-005C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-005D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-006A	MW-42-055-EB-Q222	5/5/2022 11:11:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-007A	MW-42-065-Q222	5/5/2022 12:22:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-007B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"

CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638

NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-007B	MW-42-065-Q222	5/5/2022 12:22:00 PM	5/17/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-007C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-007D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-008A	MW-42-065-EB-Q222	5/5/2022 11:49:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-009A	MW-22-Q222	5/5/2022 9:07:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-009B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-009C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-009D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-009E			5/17/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-010A	MW-904-Q222	5/5/2022 9:17:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-010B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"
CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638
NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050627

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/5/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050627-010C	MW-904-Q222	5/5/2022 9:17:00 AM	5/17/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-010D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-010E			5/17/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-011A	MW-90-031-Q222	5/5/2022 9:50:00 AM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-011B			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/17/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/17/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050627-011C			5/17/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050627-011D			5/17/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050627-011E			5/17/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050627-012A	EB-711-Q222	5/5/2022 3:30:00 PM	5/17/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050627-013A	FOLDER	5/19/2022	5/17/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/17/2022		Folder	Folder	☐	☐	☐	LAB
			5/19/2022		Folder	Folder	☐	☐	☐	LAB

ASSET LABORATORIES
"Serving Clients with Passion and Professionalism"

CALIFORNIA | P:562.219.7435 F:562.219.7436
11110 Artesia Blvd., Ste B, Cerritos, CA 90703
ELAP Cert 2921
EPA ID CA01638

NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

09-May-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NO3F		
N050627-004E / MW-42-030-Q222	Groundwater	5/5/2022 11:05:00 AM	8OZP	1		
N050627-009E / MW-22-Q222	Groundwater	5/5/2022 9:07:00 AM	8OZP	1		
N050627-010E / MW-904-~~Q422~~ Q222	Groundwater	5/5/2022 9:17:00 AM	8OZP	1		
N050627-011E / MW-90-031-Q222	Groundwater	5/5/2022 9:50:00 AM	8OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N50627A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 556796582

		Date/Time			Date/Time
Relinquished by:	GGarcia	5/9/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

Nancy for 5/24/2022

May 23, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050661

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 06, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Nitrate/Nitrite was subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.5 ug/L) and hexavalent chromium (0 ug/L) for sample N050661-003 (MW-44-115-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Iron in QC sample N050661-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.5 ug/L) and hexavalent chromium (0 ug/L) for sample N050661-003 (MW-44-115-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.6 and 0.42 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Manganese in QC samples N050660-001A-MS and N050660-001A-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N050627-001CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050627-001 and MS/MSD were reported at 20x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050661
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050661-001A	MW-44-070-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-001B	MW-44-070-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-001C	MW-44-070-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-001D	MW-44-070-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-001E	MW-44-070-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-002A	MW-44-070-EB-Q222	Groundwater	5/6/2022 7:57:00 AM	5/6/2022	5/23/2022
N050661-003A	MW-44-115-Q222	Groundwater	5/6/2022 9:27:00 AM	5/6/2022	5/23/2022
N050661-003B	MW-44-115-Q222	Groundwater	5/6/2022 9:27:00 AM	5/6/2022	5/23/2022
N050661-003C	MW-44-115-Q222	Groundwater	5/6/2022 9:27:00 AM	5/6/2022	5/23/2022
N050661-003D	MW-44-115-Q222	Groundwater	5/6/2022 9:27:00 AM	5/6/2022	5/23/2022
N050661-004A	MW-44-125-Q222	Groundwater	5/6/2022 8:51:00 AM	5/6/2022	5/23/2022
N050661-004B	MW-44-125-Q222	Groundwater	5/6/2022 8:51:00 AM	5/6/2022	5/23/2022
N050661-004C	MW-44-125-Q222	Groundwater	5/6/2022 8:51:00 AM	5/6/2022	5/23/2022
N050661-004D	MW-44-125-Q222	Groundwater	5/6/2022 8:51:00 AM	5/6/2022	5/23/2022
N050661-004E	MW-44-125-Q222	Groundwater	5/6/2022 8:51:00 AM	5/6/2022	5/23/2022
N050661-005A	MW-44-125-EB-Q222	Groundwater	5/6/2022 8:27:00 AM	5/6/2022	5/23/2022
N050661-006A	MW-81-043-Q222	Groundwater	5/6/2022 9:01:00 AM	5/6/2022	5/23/2022
N050661-006B	MW-81-043-Q222	Groundwater	5/6/2022 9:01:00 AM	5/6/2022	5/23/2022
N050661-006C	MW-81-043-Q222	Groundwater	5/6/2022 9:01:00 AM	5/6/2022	5/23/2022
N050661-006D	MW-81-043-Q222	Groundwater	5/6/2022 9:01:00 AM	5/6/2022	5/23/2022
N050661-007A	MW-81-098-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-007B	MW-81-098-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-007C	MW-81-098-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-007D	MW-81-098-Q222	Groundwater	5/6/2022 8:21:00 AM	5/6/2022	5/23/2022
N050661-008A	EB-712-Q222	Groundwater	5/6/2022 9:35:00 AM	5/6/2022	5/23/2022
N050661-009A	EB-713-Q222	Groundwater	5/6/2022 9:15:00 AM	5/6/2022	5/23/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/10/2022 02:02 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92828**				PrepDate:	**5/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/13/2022 03:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-EB-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 7:57:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A**	QC Batch: **R162261**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/10/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 03:55 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92828**				PrepDate:	**5/11/2022**		Analyst: **DJ**
Chromium	1.5	0.035	1.0		µg/L	1	5/13/2022 03:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 04:40 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92828**				PrepDate:	**5/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/13/2022 03:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-EB-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A**	QC Batch: **R162261**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/10/2022 05:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	12	0.13	1.0		µg/L	5	5/10/2022 11:59 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92828**				PrepDate:	**5/11/2022**		Analyst: **DJ**
Chromium	14	0.035	1.0		µg/L	1	5/13/2022 03:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A** QC Batch: **R162261**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/10/2022 04:59 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220512B** QC Batch: **92828**				PrepDate:	**5/11/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/13/2022 04:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-712-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:35:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A**	QC Batch: **R162261**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/10/2022 05:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-713-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:15:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220510A**	QC Batch: **R162261**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/10/2022 05:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162261**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **PBW**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162261**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **LCSW**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.115	0.20	5.000	0	102	90	110				

Sample ID: **N050627-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.016	0.20	1.000	0	102	90	110				

Sample ID: **N050688-001ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1577.140	40						1591	0.845	20	

Sample ID: **N050688-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637446**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2576.000	40	1000	1591	98.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050686-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.017	0.20	1.000	0	102	90	110				

Sample ID: **N050686-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.015	1.0	5.000	0	100	90	110				

Sample ID: **N050661-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637453**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.693	1.0	5.000	12.50	104	90	110				

Sample ID: **N050661-006AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637454**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.660	1.0	5.000	12.50	103	90	110	17.69	0.184	20	

Sample ID: **N050661-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4637456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050661-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N050627-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.191	1.0	5.000	0	104	90	110				

Sample ID: **N050627-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.942	1.0	5.000	0	98.8	90	110				

Sample ID: **N050627-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4637466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.114	1.0	5.000	0	102	90	110				

Sample ID: **N050661-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4640105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.143	1.0	5.000	0.4150	94.6	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050661-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4640109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.219	1.0	5.000	0	104	90	110				

Sample ID: **N050661-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4640111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.938	1.0	5.000	0	98.8	90	110				

Sample ID: **N050661-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4640113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.989	0.20	1.000	0	98.9	90	110				

Sample ID: **N050661-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4640115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.975	0.20	1.000	0	97.5	90	110				

Sample ID: **N050661-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162261**
Client ID: **ZZZZZZ**	Batch ID: **R162261**	TestNo: **EPA 218.6**		Analysis Date: **5/10/2022**	SeqNo: **4640117**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.004	0.20	1.000	0	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050687-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162261**
Client ID: **ZZZZZZ** Batch ID: **R162261** TestNo: **EPA 218.6** Analysis Date: **5/10/2022** SeqNo: **4640121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.051	0.20	1.000	0	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92828**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162368**
Client ID: **PBW**	Batch ID: **92828**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92828**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162368**
Client ID: **LCSW**	Batch ID: **92828**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643649**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.839	1.0	10.00	0	98.4	85	115				

Sample ID: **N050660-001A-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92828**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643655**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.457	1.0	10.00	0.04739	94.1	75	125				

Sample ID: **N050660-001A-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162368**
Client ID: **ZZZZZZ**	Batch ID: **92828**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.429	1.0	10.00	0.04739	93.8	75	125	9.457	0.293	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220507A**	QC Batch: **R162184**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 12:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220507A**	QC Batch: **R162184**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 12:22 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220507A**	QC Batch: **R162184**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	5/7/2022 12:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220507A**	QC Batch: **R162184**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.98	0.095	0.50		mg/L	10	5/7/2022 11:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220507A**	QC Batch: **R162184**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/7/2022 12:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162184_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162184**
Client ID: **PBW**	Batch ID: **R162184**	TestNo: **EPA 300.0**		Analysis Date: **5/7/2022**	SeqNo: **4633532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162184_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162184**
Client ID: **LCSW**	Batch ID: **R162184**	TestNo: **EPA 300.0**		Analysis Date: **5/7/2022**	SeqNo: **4633533**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.251	0.050	1.250	0	100	90	110				

Sample ID: **N050626-011DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162184**
Client ID: **ZZZZZZ**	Batch ID: **R162184**	TestNo: **EPA 300.0**		Analysis Date: **5/7/2022**	SeqNo: **4633535**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.747	0.25	6.250	0	91.9	80	120				

Sample ID: **N050626-011DMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162184**
Client ID: **ZZZZZZ**	Batch ID: **R162184**	TestNo: **EPA 300.0**		Analysis Date: **5/7/2022**	SeqNo: **4633536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.860	0.25	6.250	0	93.8	80	120	5.746	1.95	20	

Sample ID: **N050626-003DDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162184**
Client ID: **ZZZZZZ**	Batch ID: **R162184**	TestNo: **EPA 300.0**		Analysis Date: **5/7/2022**	SeqNo: **4633538**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.445	0.10						0.4420	0.721	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050661-006DMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **162184**
Client ID: **ZZZZZZ**	Batch ID: **R162184**	TestNo: **EPA 300.0**		Analysis Date: **5/7/2022**	SeqNo: **4633542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.823	0.50	12.50	0.9780	94.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220510A**	QC Batch: **R162278**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/10/2022 10:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220510A**	QC Batch: **R162278**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/10/2022 11:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220510A**	QC Batch: **R162278**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/10/2022 11:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220510A**	QC Batch: **R162278**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/10/2022 02:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220510A**	QC Batch: **R162278**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.084	1.0		mg/L	1	5/10/2022 02:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162278**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **PBW**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162278**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **LCSW**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.859	1.0	5.000	0	97.2	85	115				

Sample ID: **N050627-001CMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **ZZZZZZ**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	83.942	20	100.0	0	83.9	75	125				

Sample ID: **N050627-001CMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162278**
Client ID: **ZZZZZZ**	Batch ID: **R162278**	TestNo: **SM 5310C**		Analysis Date: **5/10/2022**	SeqNo: **4638990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	82.676	20	100.0	0	82.7	75	125	83.94	1.52	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92830**				PrepDate:	**5/11/2022**	Analyst: **DJ**
Iron	630	13	20		µg/L	1	5/12/2022 03:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92830**				PrepDate:	**5/11/2022**	Analyst: **DJ**
Iron	37	13	20		µg/L	1	5/12/2022 04:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220512A**	QC Batch: **92830**			PrepDate:	**5/11/2022**		Analyst: **DJ**
Iron	460	13	20		µg/L	1	5/12/2022 04:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92830**				PrepDate:	**5/11/2022**	Analyst: **DJ**
Iron	120	13	20		µg/L	1	5/12/2022 04:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220512A**	QC Batch: **92830**				PrepDate:	**5/11/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/12/2022 04:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-92830**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162348**
Client ID: **PBW**	Batch ID: **92830**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642542**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-92830**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162348**
Client ID: **LCSW**	Batch ID: **92830**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642543**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	106.593	20	100.0	0	107	85	115				

Sample ID: **N050661-001B-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162348**
Client ID: **ZZZZZZ**	Batch ID: **92830**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642547**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	717.792	20	100.0	629.9	87.9	75	125				

Sample ID: **N050661-001B-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/11/2022**	RunNo: **162348**
Client ID: **ZZZZZZ**	Batch ID: **92830**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/12/2022**	SeqNo: **4642548**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	699.124	20	100.0	629.9	69.2	75	125	717.8	2.64	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050661-001B-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **162348**
Client ID: **ZZZZZZ** Batch ID: **92830** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **5/12/2022** SeqNo: **4642546**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	695.656	20	100.0	629.9	65.8	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-070-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92828**			PrepDate:		**5/11/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	5/13/2022 03:03 AM
Barium	46	0.083	1.0		µg/L	1	5/13/2022 03:03 AM
Manganese	440	0.13	2.5		µg/L	5	5/13/2022 03:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92828**				PrepDate:	**5/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/13/2022 03:15 AM
Barium	20	0.083	1.0		µg/L	1	5/13/2022 03:15 AM
Manganese	40	0.026	0.50		µg/L	1	5/13/2022 03:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050661-004

Client Sample ID: MW-44-125-Q222
Collection Date: 5/6/2022 8:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220512C**	QC Batch: **92828**			PrepDate:		**5/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/13/2022 03:27 AM
Barium	46	0.083	1.0		µg/L	1	5/13/2022 03:27 AM
Manganese	550	0.13	2.5		µg/L	5	5/13/2022 03:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 9:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92828**				PrepDate:	**5/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/13/2022 03:39 AM
Barium	86	0.083	1.0		µg/L	1	5/13/2022 03:39 AM
Manganese	88	0.026	0.50		µg/L	1	5/13/2022 03:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-Q222
Lab Order:	N050661	**Collection Date:**	5/6/2022 8:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050661-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220512C**	QC Batch: **92828**				PrepDate:	**5/11/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/13/2022 04:02 AM
Barium	51	0.083	1.0		µg/L	1	5/13/2022 04:02 AM
Manganese	160	0.026	0.50		µg/L	1	5/13/2022 04:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92828** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/11/2022** RunNo: **162369**
Client ID: **PBW** Batch ID: **92828** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92828** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/11/2022** RunNo: **162369**
Client ID: **LCSW** Batch ID: **92828** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643820**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.042	0.10	10.00	0	100	85	115				
Barium	9.545	1.0	10.00	0	95.4	85	115				
Manganese	96.175	0.50	100.0	0	96.2	85	115				

Sample ID: **N050660-001A-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/11/2022** RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92828** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643826**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.883	0.10	10.00	0	88.8	75	125				
Barium	107.625	1.0	10.00	98.18	94.5	75	125				

Sample ID: **N050660-001A-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/11/2022** RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92828** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643827**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	804.492	2.5	100.0	640.5	164	75	125				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050660-001A-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/11/2022** RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92828** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643828**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.576	0.10	10.00	0	85.8	75	125	8.883	3.52	20	
Barium	108.827	1.0	10.00	98.18	107	75	125	107.6	1.11	20	

Sample ID: **N050660-001A-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/11/2022** RunNo: **162369**
Client ID: **ZZZZZZ** Batch ID: **92828** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/13/2022** SeqNo: **4643829**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	882.482	2.5	100.0	640.5	242	75	125	804.5	9.25	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050661
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050660-001A-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92828**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.845	0.10	10.00	0	88.4	80	120				
Barium	106.640	1.0	10.00	98.18	84.6	80	120				

Sample ID: **N050660-001A-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **162369**
Client ID: **ZZZZZZ**	Batch ID: **92828**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/13/2022**	SeqNo: **4643825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	816.251	2.5	100.0	640.5	176	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F: 562.219.7436
www.assetlaborstories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace
Submitted By: Riggie Tep			Others ✓	LEVEL III	3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB	LEVEL IV	4. Seal Present ✓
				Regulatory	5. IR number
			Global ID:	Specify State:	6. Method of Cooling: ICE
Signature: Date: 5/6/22	Sampled By: Riggie Tep	Matrix			Sample Temp: 3.6°C
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	Ground X Sediment			Courier: ASSET
Project Name: PG&E Topock - PCM	Signature: Date: 5/6/22	Potable Soil			Tracking No.:
Project Number: 30121856.2Q22GW		NPDES Other Solid			
		Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NaHCO3, SO4, NH4, OH	Nitrate, sulfate (EPA 300.0)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	Total Organic Carbon (SM5310C) H2SO4	Total metals (SW6010) No filter; HNO3 Total Iron	Ammonia as Nitrogen (SM4500NH3); H2SO4	Nitrate (EPA 300.0)	Nitrate/nitrite as Nitrogen (SM 4500-NO3); H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
						250 mL poly	1 L poly	500mL poly	500mL poly	500mL poly	3x40 mL VOA	500mL poly	1 L poly	1 L poly	125 mL poly					
1	N050661-01	MW-44-070-Q222	5/6/2022	8:21		X		X	X		X			X	X	E	7	P	BNS	
2	-02	MW-44-070-EB-Q222	5/6/2022	7:57		X										E	1	P	BNS	
3	-03	MW-44-115-Q222	5/6/2022	0927		X		X	X		X			X		C	6	P	BNS	
4	-04	MW-44-125-Q222	5/6/2022	851		X		X	X		X			X	X	C	7	P	BNS	
5	-05	MW-44-125-EB-Q222	5/6/2022	8:27		X										E	1	P	BNS	
6	-06	MW-81-043-Q222	5/6/2022	9:01		X		X	X		X			X		E	6	P	BNS	
7	-07	MW-81-098-Q222	5/6/2022	8:21		X		X	X		X			X		E	6	P	BNS	
8	-08	EB-712-Q222	5/6/2022	9:35		X										E	1	P	BNS	
9	-09	EB-713-Q222	5/6/2022	9:15		X										E	1	P	BNS	
10																				
11																				
12																				
13																				
14																				

Relinquished by (Signature and Printed Name): Riggie Tep Date/Time: 5/6/22 1127
Received by (Signature and Printed Name): ROMEO ALCANTARA Date/Time: 5/6/22 1127
Relinquished by (Signature and Printed Name): ROMEO ALCANTARA Date/Time: 5/6/22 1740
Received by (Signature and Printed Name): ROMEO ALCANTARA Date/Time: 5/6/22 1740
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- A = <24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM

Special Instruction:

Terms
1. All samples will be disposed in 25 days unless otherwise designated by client upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs=200% Next Day=100% 2 Workdays=75% 3 Workdays=50% 4 Workdays=25%
3. Additional charges for Level III Data Packages, Level IV Data Packages, Standing Orders apply on case by case basis.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages.
5. Trip Blank and Equipment Blanks are billable sample
6. Rejected Laboratory Analysis for samples collected during Laboratory Holidays.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=ZnAC	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White–Laboratory Copy

Yellow–Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/6/2022	Workorder:	N050661
Rep sample Temp (Deg C):	3.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/9/2022

Reviewed By: MBC 5/18/2022

ASSET Laboratories

WORK ORDER Summary

11-May-22

WorkOrder: N050661

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/6/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050661-001A	MW-44-070-Q222	5/6/2022 8:21:00 AM	5/20/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-001B			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050661-001C			5/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050661-001D			5/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050661-001E			5/20/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050661-002A	MW-44-070-EB-Q222	5/6/2022 7:57:00 AM	5/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-003A	MW-44-115-Q222	5/6/2022 9:27:00 AM	5/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-003B			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050661-003C			5/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050661-003D			5/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050661-004A	MW-44-125-Q222	5/6/2022 8:51:00 AM	5/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-004B			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

11-May-22

WorkOrder: N050661

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/6/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050661-004B	MW-44-125-Q222	5/6/2022 8:51:00 AM	5/20/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050661-004C			5/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050661-004D			5/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050661-004E			5/20/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N050661-005A	MW-44-125-EB-Q222	5/6/2022 8:27:00 AM	5/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-006A	MW-81-043-Q222	5/6/2022 9:01:00 AM	5/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-006B			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050661-006C			5/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050661-006D			5/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050661-007A	MW-81-098-Q222	5/6/2022 8:21:00 AM	5/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-007B			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/20/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			5/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050661-007C			5/20/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050661-007D			5/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

11-May-22

WorkOrder: N050661

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/6/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050661-008A	EB-712-Q222	5/6/2022 9:35:00 AM	5/20/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-009A	EB-713-Q222	5/6/2022 9:15:00 AM	5/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050661-010A	FOLDER	5/20/2022	5/20/2022		Folder	Folder	☐	☐	☐	LAB
			5/20/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/20/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie tep

09-May-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NO3F**		
N050661-001E / MW-44-070-Q222	Groundwater	5/6/2022 8:21:00 AM	8OZP	1		
N050661-004E / MW-44-125-Q222	Groundwater	5/6/2022 8:51:00 AM	8OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N50661A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT

Please analyze for Nitrate/Nitrite. EDD requirement Labspec7 edata.

GSO #: 556796582

		Date/Time			Date/Time
Relinquished by:	GGarcia	5/9/2022 16:30	**Received by:**		
Relinquished by:			**Received by:**		

May 24, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050692

RE: PG&E Topock - OMM CAB, 30106892

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 09, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

for

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM CAB, 30106892
Lab Order: N050692

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 8260B:

RPD for Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) is outside criteria for Ethanol. Analyte recovery on both met acceptance criteria.

ASSET Laboratories

Date: *24-May-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM CAB, 30106892
Lab Order: N050692
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050692-001A	CAB_MIXER_606-050922	Groundwater	5/9/2022 12:00:00 PM	5/9/2022	5/24/2022
N050692-001B	CAB_MIXER_606-050922	Groundwater	5/9/2022 12:00:00 PM	5/9/2022	5/24/2022
N050692-002A	CAB_MIXER_607-050922	Groundwater	5/9/2022 12:15:00 PM	5/9/2022	5/24/2022
N050692-002B	CAB_MIXER_607-050922	Groundwater	5/9/2022 12:15:00 PM	5/9/2022	5/24/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050692
Project: PG&E Topock - OMM CAB, 30106892
Lab ID: N050692-001

Client Sample ID: CAB_MIXER_606-050922
Collection Date: 5/9/2022 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220511A**	QC Batch: **R162314**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	690	27	200		mg/L	200	5/11/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-050922
Lab Order:	N050692	**Collection Date:**	5/9/2022 12:15:00 PM
Project:	PG&E Topock - OMM CAB, 30106892	**Matrix:**	GROUNDWATER
Lab ID:	N050692-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220511A**	QC Batch: **R162314**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	640	27	200		mg/L	200	5/11/2022 12:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050692
Project: PG&E Topock - OMM CAB, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162314**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162314**
Client ID: **PBW**	Batch ID: **R162314**	TestNo: **SM 5310C**		Analysis Date: **5/11/2022**	SeqNo: **4641085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162314**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162314**
Client ID: **LCSW**	Batch ID: **R162314**	TestNo: **SM 5310C**		Analysis Date: **5/11/2022**	SeqNo: **4641086**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.003	1.0	5.000	0	100	85	115				

Sample ID: **N050692-001BMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162314**
Client ID: **ZZZZZZ**	Batch ID: **R162314**	TestNo: **SM 5310C**		Analysis Date: **5/11/2022**	SeqNo: **4641093**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1647.500	200	1000	689.0	95.9	75	125				

Sample ID: **N050692-001BCMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162314**
Client ID: **ZZZZZZ**	Batch ID: **R162314**	TestNo: **SM 5310C**		Analysis Date: **5/11/2022**	SeqNo: **4641094**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1651.960	200	1000	689.0	96.3	75	125	1648	0.270	20	

Sample ID: **N050692-002BMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162314**
Client ID: **ZZZZZZ**	Batch ID: **R162314**	TestNo: **SM 5310C**		Analysis Date: **5/11/2022**	SeqNo: **4641098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1613.920	200	1000	642.6	97.1	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050692
Project: PG&E Topock - OMM CAB, 30106892
Lab ID: N050692-001

Client Sample ID: CAB_MIXER_606-050922
Collection Date: 5/9/2022 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
EPA 8260B							
RunID: **CA01638-MS08_220517A** QC Batch: **R22VW068** PrepDate: Analyst: **AW**							
Ethanol	1000000	200000	200000		µg/L	2000	5/17/2022 08:05 PM
Surr: 1,2-Dichloroethane-d4	110	0	77-138		%REC	2000	5/17/2022 08:05 PM
Surr: 4-Bromofluorobenzene	99.3	0	80-120		%REC	2000	5/17/2022 08:05 PM
Surr: Dibromofluoromethane	105	0	80-132		%REC	2000	5/17/2022 08:05 PM
Surr: Toluene-d8	100	0	80-120		%REC	2000	5/17/2022 08:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050692
Project: PG&E Topock - OMM CAB, 30106892
Lab ID: N050692-002

Client Sample ID: CAB_MIXER_607-050922
Collection Date: 5/9/2022 12:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_220517A**	QC Batch: **R22VW068**			PrepDate:			Analyst: **AW**
Ethanol	1300000	200000	200000		µg/L	2000	5/17/2022 08:29 PM
Surr: 1,2-Dichloroethane-d4	114	0	77-138		%REC	2000	5/17/2022 08:29 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	2000	5/17/2022 08:29 PM
Surr: Dibromofluoromethane	105	0	80-132		%REC	2000	5/17/2022 08:29 PM
Surr: Toluene-d8	103	0	80-120		%REC	2000	5/17/2022 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050692
Project: PG&E Topock - OMM CAB, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID: **R220513-LCS** SampType: **LCS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162420**
Client ID: **LCSW** Batch ID: **R22VW067** TestNo: **EPA 8260B** Analysis Date: **5/13/2022** SeqNo: **4647301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	378.370	100	400.0	0	94.6	42	159				
Surr: 1,2-Dichloroethane-d4	24.090		25.00		96.4	77	138				
Surr: 4-Bromofluorobenzene	26.790		25.00		107	80	120				
Surr: Dibromofluoromethane	24.360		25.00		97.4	80	132				
Surr: Toluene-d8	26.440		25.00		106	80	120				

Sample ID: **R220513-LCSD** SampType: **LCSD** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162420**
Client ID: **LCSS02** Batch ID: **R22VW067** TestNo: **EPA 8260B** Analysis Date: **5/13/2022** SeqNo: **4647302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	412.440	100	400.0	0	103	42	159	378.4	8.62	20	
Surr: 1,2-Dichloroethane-d4	24.320		25.00		97.3	77	138		0		
Surr: 4-Bromofluorobenzene	26.130		25.00		105	80	120		0		
Surr: Dibromofluoromethane	24.280		25.00		97.1	80	132		0		
Surr: Toluene-d8	25.610		25.00		102	80	120		0		

Sample ID: **R220513-MB3** SampType: **MBLK** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162420**
Client ID: **PBW** Batch ID: **R22VW067** TestNo: **EPA 8260B** Analysis Date: **5/13/2022** SeqNo: **4647307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	26.440		25.00		106	77	138				
Surr: 4-Bromofluorobenzene	25.000		25.00		100	80	120				
Surr: Dibromofluoromethane	26.820		25.00		107	80	132				
Surr: Toluene-d8	25.900		25.00		104	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050692
Project: PG&E Topock - OMM CAB, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID: **R220517-LCS** SampType: **LCS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162460**
Client ID: **LCSW** Batch ID: **R22VW068** TestNo: **EPA 8260B** Analysis Date: **5/17/2022** SeqNo: **4648719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	494.480	100	400.0	0	124	42	159				
Surr: 1,2-Dichloroethane-d4	24.450		25.00		97.8	77	138				
Surr: 4-Bromofluorobenzene	25.370		25.00		101	80	120				
Surr: Dibromofluoromethane	25.010		25.00		100	80	132				
Surr: Toluene-d8	25.580		25.00		102	80	120				

Sample ID: **R220517-LCSD** SampType: **LCSD** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162460**
Client ID: **LCSS02** Batch ID: **R22VW068** TestNo: **EPA 8260B** Analysis Date: **5/17/2022** SeqNo: **4648720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	332.410	100	400.0	0	83.1	42	159	494.5	39.2	20	R
Surr: 1,2-Dichloroethane-d4	25.570		25.00		102	77	138		0		
Surr: 4-Bromofluorobenzene	25.700		25.00		103	80	120		0		
Surr: Dibromofluoromethane	26.250		25.00		105	80	132		0		
Surr: Toluene-d8	25.400		25.00		102	80	120		0		

Sample ID: **R220517-MB3** SampType: **MBLK** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162460**
Client ID: **PBW** Batch ID: **R22VW068** TestNo: **EPA 8260B** Analysis Date: **5/17/2022** SeqNo: **4648723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	25.610		25.00		102	77	138				
Surr: 4-Bromofluorobenzene	25.150		25.00		101	80	120				
Surr: Dibromofluoromethane	25.950		25.00		104	80	132				
Surr: Toluene-d8	25.890		25.00		104	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050692
Project: PG&E Topock - OMM CAB, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID: **N050750-001C-MS**	SampType: **MS**	TestCode: **CA_8260WAT**	Units: **µg/L**	Prep Date:	RunNo: **162460**
Client ID: **ZZZZZZ**	Batch ID: **R22VW068**	TestNo: **EPA 8260B**		Analysis Date: **5/17/2022**	SeqNo: **4648739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	77048.000	20000	80000	0	96.3	38	170				
Surr: 1,2-Dichloroethane-d4	5750.000		5000		115	77	138				
Surr: 4-Bromofluorobenzene	5200.000		5000		104	80	120				
Surr: Dibromofluoromethane	5600.000		5000		112	80	132				
Surr: Toluene-d8	5282.000		5000		106	80	120				

Sample ID: **N050750-001C-MSD**	SampType: **MSD**	TestCode: **CA_8260WAT**	Units: **µg/L**	Prep Date:	RunNo: **162460**
Client ID: **ZZZZZZ**	Batch ID: **R22VW068**	TestNo: **EPA 8260B**		Analysis Date: **5/17/2022**	SeqNo: **4648740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	75150.000	20000	80000	0	93.9	38	170	77050	2.49	20	
Surr: 1,2-Dichloroethane-d4	5554.000		5000		111	77	138		0		
Surr: 4-Bromofluorobenzene	5122.000		5000		102	80	120		0		
Surr: Dibromofluoromethane	5394.000		5000		108	80	132		0		
Surr: Toluene-d8	5232.000		5000		105	80	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02 C: 5/20/2022 12:00 AM
FOLDER R: 5/10/2022
N050692-003A 1 of 1

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 101 Creekside Ridge Ct, Suite 200	Company: Arcadis	Address:	QA/QC: TYPE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: Y / N; 1. Chilled X; 2. Headspace; 3. Container Intact Y; 4. Seal Present Y; 5. IR number 3; 6 Method of Cooling: 2.6°C ICE; Sample Temp:
Phone: 916 786-3302 Fax:	Address: 101 Creekside Ridge Ct, Suite 200, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.# SWA-ASSET-C9817-051
Submitted By	Phone: 916-786-3302 Fax:	Phone: ~~949-727-1400, ext 200~~	Fax:
Title: O+M Operator	Sampled By: Kevin A.	Global ID:	Specify State:
Signature: Date: 5/9/22	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Courier: ASSET
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 05/09/22		Tracking No.:
Project Name: PG&E Topock - OMM CAB			
Project Number: 30106892			

Matrix: Ground Water; Wastewater; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2SO4, NH4OH; Filtered 250 ml poly	Silica (EPA6010), HNO3; Filtered 16 oz poly	Hardness SM 2340B), HNO3 16 oz poly	Ammonia as Nitrogen (SM4500-NH3C); H2SO4 25 oz poly	Total Kjeldahl Nitrogen (SM4500-Norg); H2SO4 8 oz poly	Biochemical Oxygen Demand (SM5210Bg); None 32 oz poly	Nitrate, Bromide, Nitrite, Sulfate, Fluoride, Chloride, Phosphate (EPA 300.0) 1 liter poly	Total Dissolved Solids (SM2540) 1 liter poly	Sulfide (SM4500S); Zn Ac/NaOH 16 oz poly	Ethanol (8260), HCl 3x40 ml voa	Alkalinity Total (2320B); None 32 oz poly	Bicarbonate (SM 2320B); None 32 oz poly	Biological Activity Test (HACH); None 32 oz poly	Carbonate (SM 2320B); None 32 oz poly	Modified Fouling Index (ASTM); None 32 oz poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL poly	Mercury Dissolved (EPA 7470A) HNO3; Filtered 500 ml poly	Dissolved metals Title 22 (SW 6020), HNO3; filtered 500 ml poly	Calcium, Magnesium, Potassium, Sodium, Iron (SW6010B); HNO3 500 ml poly	Mercury (SW7470A); HNO3 500 ml poly	Total metals Title 22 (SW) 6020), HNO3 500 ml poly	Total Phosphorus(EPA 365.3); H2SO4 8 oz poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050692-01	CAB_MIXER_606-050922	5/9/22	12:00pm											x						x							E	6	PV	BNS	
2	-02	CAB_MIXER_607-050922	5/9/22	12:15pm											x						x							E	6	PV	BNS	
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	
13																																	
14																																	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Kevin Ashley	5/9/22 1710	Romeo Acamara	5/9/22 1710
Romeo Acamara	5/9/22 2200	Romeo Acamara	5/9/22 2200
Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Notes:
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs = 200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applies on each project basis.
5. Trip Blanks and Duplicates Blanks are FREE of charge.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=$ZnAc+NaOH$	O=NaOH	T=$Na_2S_2O_3$		
O=Other/Specify	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint	
J=Jar	B=Tedlar	G=Glass	
M=Metal	R=Resin	C=Can	

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/9/2022	Workorder:	N050692
Rep sample Temp (Deg C):	2.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 5/10/2022

Reviewed By: MBC 5/18/2022

ASSET Laboratories

WORK ORDER Summary

11-May-22

WorkOrder: N050692

Client ID: ARCUS02

Project: PG&E Topock - OMM CAB, 30106892 **QC Level:** Level IV **Date Received:** 5/9/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050692-001A	CAB_MIXER_606-050922	5/9/2022 12:00:00 PM	5/23/2022	Groundwater	EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW-CA
N050692-001B			5/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050692-002A	CAB_MIXER_607-050922	5/9/2022 12:15:00 PM	5/23/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW-CA
N050692-002B			5/23/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050692-003A	FOLDER	5/23/2022	5/23/2022		Folder	Folder	☐	☐	☐	LAB
			5/23/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/23/2022		Folder	Folder	☐	☐	☐	LAB

May 31, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050778

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 16, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Dilution was necessary for some samples since plasma was extinguished when samples were analyzed at lower dilution.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Arsenic in QC samples N050744-002B-MS and N050744-002B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N050778-001CMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050778-001 and MS/MSD were reported at 10x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050778
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050778-001A	MW-76-039-0522	Groundwater	5/16/2022 11:40:00 AM	5/16/2022	5/31/2022
N050778-001B	MW-76-039-0522	Groundwater	5/16/2022 11:40:00 AM	5/16/2022	5/31/2022
N050778-001C	MW-76-039-0522	Groundwater	5/16/2022 11:40:00 AM	5/16/2022	5/31/2022
N050778-001D	MW-76-039-0522	Groundwater	5/16/2022 11:40:00 AM	5/16/2022	5/31/2022
N050778-002A	MW-76-156-0522	Groundwater	5/16/2022 12:10:00 PM	5/16/2022	5/31/2022
N050778-002B	MW-76-156-0522	Groundwater	5/16/2022 12:10:00 PM	5/16/2022	5/31/2022
N050778-002C	MW-76-156-0522	Groundwater	5/16/2022 12:10:00 PM	5/16/2022	5/31/2022
N050778-002D	MW-76-156-0522	Groundwater	5/16/2022 12:10:00 PM	5/16/2022	5/31/2022
N050778-003A	MW-76-181-0522	Groundwater	5/16/2022 12:50:00 PM	5/16/2022	5/31/2022
N050778-003B	MW-76-181-0522	Groundwater	5/16/2022 12:50:00 PM	5/16/2022	5/31/2022
N050778-003C	MW-76-181-0522	Groundwater	5/16/2022 12:50:00 PM	5/16/2022	5/31/2022
N050778-003D	MW-76-181-0522	Groundwater	5/16/2022 12:50:00 PM	5/16/2022	5/31/2022
N050778-004A	MW-76-218-0522	Groundwater	5/16/2022 1:30:00 PM	5/16/2022	5/31/2022
N050778-004B	MW-76-218-0522	Groundwater	5/16/2022 1:30:00 PM	5/16/2022	5/31/2022
N050778-004C	MW-76-218-0522	Groundwater	5/16/2022 1:30:00 PM	5/16/2022	5/31/2022
N050778-004D	MW-76-218-0522	Groundwater	5/16/2022 1:30:00 PM	5/16/2022	5/31/2022
N050778-005A	MW-914-Q222	Groundwater	5/16/2022 12:20:00 PM	5/16/2022	5/31/2022
N050778-005B	MW-914-Q222	Groundwater	5/16/2022 12:20:00 PM	5/16/2022	5/31/2022
N050778-005C	MW-914-Q222	Groundwater	5/16/2022 12:20:00 PM	5/16/2022	5/31/2022
N050778-005D	MW-914-Q222	Groundwater	5/16/2022 12:20:00 PM	5/16/2022	5/31/2022
N050778-006A	EB-714-Q222	Groundwater	5/16/2022 1:40:00 PM	5/16/2022	5/31/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220517A**	QC Batch: **R162470**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	44	0.13	1.0		µg/L	5	5/17/2022 10:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220517A**	QC Batch: **R162470**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5.5	0.13	1.0		µg/L	5	5/17/2022 11:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220517A**	QC Batch: **R162470**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2000	5.0	40		µg/L	200	5/17/2022 11:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220517A**	QC Batch: **R162470**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	120	0.50	4.0		µg/L	20	5/17/2022 01:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q222
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220517A**	QC Batch: **R162470**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5.5	0.13	1.0		µg/L	5	5/17/2022 11:59 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-714-Q222
Lab Order:	N050778	**Collection Date:**	5/16/2022 1:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220517A**	QC Batch: **R162470**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/17/2022 12:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R162470	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470		
Client ID:	PBW	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648915		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R162470	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470		
Client ID:	LCSW	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648916		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.121	0.20	5.000	0	102	90	110						

Sample ID	N050779-004CMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470		
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648927		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	44.692	1.0	25.00	19.23	102	90	110						

Sample ID	N050779-001CDUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470		
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648929		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.613	0.20						5.591	0.389	20			

Sample ID	N050779-004CMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470		
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648934		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	44.637	1.0	25.00	19.23	102	90	110	44.69	0.122	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N050778-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648936

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	69.114	1.0	25.00	44.05	100	90	110				

Sample ID	N050778-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648941

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3008.800	40	1000	2035	97.4	90	110				

Sample ID	N050778-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648944

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.025	0.20	1.000	0	103	90	110				

Sample ID	N050778-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648947

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.233	1.0	5.000	5.490	94.8	90	110				

Sample ID	N050778-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648949

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	221.700	4.0	100.0	123.3	98.4	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N050778-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162470
Client ID:	ZZZZZZ	Batch ID:	R162470	TestNo:	EPA 218.6			Analysis Date:	5/17/2022	SeqNo:	4648950

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.465	1.0	5.000	5.476	99.8	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050778-001

Client Sample ID: MW-76-039-0522
Collection Date: 5/16/2022 11:40:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Sulfate	230	1.2	10		mg/L	20	5/17/2022 12:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.2	0.048	0.25		mg/L	5	5/17/2022 09:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Sulfate	730	6.1	50		mg/L	100	5/17/2022 01:01 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	5/17/2022 09:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Sulfate	910	6.1	50		mg/L	100	5/17/2022 01:47 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.7	0.095	0.50		mg/L	10	5/17/2022 09:42 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit	
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified	
	DO	Surrogate Diluted Out			

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050778-004

Client Sample ID: MW-76-218-0522
Collection Date: 5/16/2022 1:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Sulfate	940	6.1	50		mg/L	100	5/17/2022 02:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	5/17/2022 09:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q222
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	5/17/2022 02:17 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220517A**	QC Batch: **R162442**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	5/17/2022 10:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R162442_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	PBW	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648011

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R162442_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	LCSW	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648012

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.005	0.50	4.000	0	100	90	110				

Sample ID	N050778-001BDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	ZZZZZZ	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648016

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	231.084	10						228.1	1.31	20	

Sample ID	N050778-002BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	ZZZZZZ	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648018

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1136.280	50	400.0	732.0	101	80	120				

Sample ID	N050778-002BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	ZZZZZZ	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648019

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1131.860	50	400.0	732.0	100	80	120	1136	0.390	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R162442_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	PBW	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4647993

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R162442_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	LCSW	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4647994

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.202	0.050	1.250	0	96.1	90	110				

Sample ID	N050778-001BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	ZZZZZZ	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648000

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	2.181	0.25						2.155	1.20	20	

Sample ID	N050778-003BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	ZZZZZZ	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648001

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.768	0.50	12.50	2.690	96.6	80	120				

Sample ID	N050778-003BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	162442
Client ID:	ZZZZZZ	Batch ID:	R162442	TestNo:	EPA 300.0			Analysis Date:	5/17/2022	SeqNo:	4648002

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.873	0.50	12.50	2.690	97.5	80	120	14.77	0.708	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220517A**	QC Batch: **R162450**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.4	10		mg/L	10	5/17/2022 03:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220517A**	QC Batch: **R162450**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/17/2022 01:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220517A**	QC Batch: **R162450**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/17/2022 01:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220517A**	QC Batch: **R162450**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/17/2022 01:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q222
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220517A**	QC Batch: **R162450**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/17/2022 02:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID	MB-R162450	SampType:	MBLK	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	162450		
Client ID:	PBW	Batch ID:	R162450	TestNo:	SM 5310C			Analysis Date:	5/17/2022	SeqNo:	4648196		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	ND	1.0											

Sample ID	LCS-R162450	SampType:	LCS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	162450		
Client ID:	LCSW	Batch ID:	R162450	TestNo:	SM 5310C			Analysis Date:	5/17/2022	SeqNo:	4648197		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	4.925	1.0	5.000	0	98.5	85	115						

Sample ID	LCSD-R162450	SampType:	LCSD	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	162450		
Client ID:	LCSS02	Batch ID:	R162450	TestNo:	SM 5310C			Analysis Date:	5/17/2022	SeqNo:	4648198		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	4.933	1.0	5.000	0	98.7	85	115	4.925	0.164	20			

Sample ID	N050778-001DMS	SampType:	MS	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	162450		
Client ID:	ZZZZZZ	Batch ID:	R162450	TestNo:	SM 5310C			Analysis Date:	5/17/2022	SeqNo:	4648221		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	42.608	10	50.00	0	85.2	75	125						

Sample ID	N050778-001DMSD	SampType:	MSD	TestCode:	5310C_W_T_	Units:	mg/L	Prep Date:		RunNo:	162450		
Client ID:	ZZZZZZ	Batch ID:	R162450	TestNo:	SM 5310C			Analysis Date:	5/17/2022	SeqNo:	4648222		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Organic Carbon, Total	42.619	10	50.00	0	85.2	75	125	42.61	0.0258	20			

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/24/2022 05:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/24/2022 05:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/24/2022 06:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q222
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Iron	23	13	20		µg/L	1	5/24/2022 06:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-93004	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	5/21/2022	RunNo:	162687
Client ID:	PBW	Batch ID:	93004	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	5/24/2022	SeqNo:	4658994

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-93004	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	5/21/2022	RunNo:	162687
Client ID:	LCSW	Batch ID:	93004	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	5/24/2022	SeqNo:	4658995

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.101	20	100.0	0	94.1	85	115				

Sample ID	N050865-008CMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	5/21/2022	RunNo:	162687
Client ID:	ZZZZZZ	Batch ID:	93004	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	5/24/2022	SeqNo:	4659016

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.454	20	100.0	14.80	79.6	75	125				

Sample ID	N050865-008CMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	5/21/2022	RunNo:	162687
Client ID:	ZZZZZZ	Batch ID:	93004	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	5/24/2022	SeqNo:	4659017

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.939	20	100.0	14.80	81.1	75	125	94.45	1.56	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/23/2022 05:12 PM
Barium	70	0.083	1.0		µg/L	1	5/23/2022 05:12 PM
Manganese	1.4	0.026	0.50		µg/L	1	5/23/2022 05:12 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/23/2022 05:35 PM
Barium	43	0.083	1.0		µg/L	1	5/23/2022 05:35 PM
Manganese	71	0.026	0.50		µg/L	1	5/23/2022 05:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050778-003

Client Sample ID: MW-76-181-0522
Collection Date: 5/16/2022 12:50:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/23/2022 05:47 PM
Barium	56	0.083	1.0		µg/L	1	5/23/2022 05:47 PM
Manganese	16	0.026	0.50		µg/L	1	5/23/2022 05:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-0522
Lab Order:	N050778	**Collection Date:**	5/16/2022 1:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Arsenic	3.6	0.050	0.10		µg/L	1	5/23/2022 05:59 PM
Barium	54	0.083	1.0		µg/L	1	5/23/2022 05:59 PM
Manganese	140	0.026	0.50		µg/L	1	5/23/2022 05:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-914-Q222
Lab Order:	N050778	**Collection Date:**	5/16/2022 12:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050778-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/23/2022 06:11 PM
Barium	44	0.083	1.0		µg/L	1	5/23/2022 06:11 PM
Manganese	70	0.026	0.50		µg/L	1	5/23/2022 06:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-92996**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162664**
Client ID: **PBW**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4658005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID **LCS-92996**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162664**
Client ID: **LCSW**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4658006**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.596	0.10	10.00	0	96.0	85	115				
Barium	9.316	1.0	10.00	0	93.2	85	115				
Manganese	91.090	0.50	100.0	0	91.1	85	115				

Sample ID **N050744-002B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162664**
Client ID: **ZZZZZZ**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4658010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.076	0.10	10.00	0	50.8	75	125				S
Barium	46.327	1.0	10.00	36.46	98.7	75	125				
Manganese	81.488	0.50	100.0	0	81.5	75	125				

Sample ID **N050744-002B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162664**
Client ID: **ZZZZZZ**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4658011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.192	0.10	10.00	0	51.9	75	125	5.076	2.26	20	S
Barium	47.519	1.0	10.00	36.46	111	75	125	46.33	2.54	20	
Manganese	80.370	0.50	100.0	0	80.4	75	125	81.49	1.38	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050778
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **N050744-002B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92996** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.155	0.10	10.00	0	51.6	80	120				S
Barium	45.950	1.0	10.00	36.46	94.9	80	120				
Manganese	80.991	0.50	100.0	0	81.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N050778

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Global ID:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	
Submitted By: Riggie Top	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech			
Signature: Date: 5/16/22	Sampled By: Riggie Top		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action.		
Project Name: PG&E Topock - PCM	Signature: Date: 5/16/22		
Project Number: 30121866.2Q22GW			

Matrix: Ground; Potable; NPDES; Surface; X; Sediment; Soil; Other Solid

Sample Receipt Condition

	Y	N
1. Chilled	X	
2. Headspace		
3. Container Intact	X	
4. Seal Present		✓
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 1.3 °C		

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)						TRUE	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050778-01	MW-76-039-0522	5/16/2022	11:40		X	X	X			X									E	6	P	BNS	
2	-02	MW-76-156-0522	5/16/2022	12:10		X	X	X			X									E	6	P	BNS	
3	-03	MW-76-181-0522	5/16/2022	12:50		X	X	X			X									E	6	P	BNS	
4	-04	MW-76-218-0522	5/16/2022	13:30		X	X	X			X									E	6	P	BNS	
5	-05	MW-914-Q222	5/16/2022	12:20		X	X	X			X									E	1	P	BNS	
6	-06	EB-714-Q222	5/16/2022	13:40																				
7														###	###	###	###	###	###					
8														###	###	###	###	###	###					
9																								
10																								
11																								
12																								
13																								
14														###	###	###	###	###	###					

Reliquished by (Signature and Printed Name): Riggie Top Date/Time: 5/16/22 1558
Reliquished by (Signature and Printed Name): ROMEO ALCANTARA Date/Time: 5/16/22 1558
Reliquished by (Signature and Printed Name): ROMEO ALCANTARA 1930 Date/Time:
Reliquished by (Signature and Printed Name): ROMEO ALCANTARA Date/Time: 5/16/22 1930
Reliquished by (Signature and Printed Name): Date/Time:
Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=Zn(AC)$_2$; O=NaOH; T=$Na_2S_2O_3$; Other/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/16/2022	Workorder:	N050778
Rep sample Temp (Deg C):	1.3	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 5/17/2022 Reviewed By: MBC 5/21/2022

Subject: RE: PG&E Topock - PCM, 30121866.2Q22GW (ASSET Labs No. N050778)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 5/17/2022, 11:19 AM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "sonny.lorenzo@assetlaboratories.com" <sonny.lorenzo@assetlaboratories.com>, "giselle@assetlaboratories.com" <giselle@assetlaboratories.com>, "marlon@assetlaboratories.com" <marlon@assetlaboratories.com>

Hi,
Yes, please analyze for Cr6 for sample 6.

Thanks,
Laura

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Tuesday, May 17, 2022 12:30 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; sonny.lorenzo@assetlaboratories.com; giselle@assetlaboratories.com; marlon@assetlaboratories.com
Subject: PG&E Topock - PCM, 30121866.2Q22GW (ASSET Labs No. N050778)

Hi Laura,

Please, confirm if sample 6 on the attached COC should be analyzed for Hex Cr.

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

ASSET LABORATORIES - Serving Clients with Passion and Professionalism

This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

ASSET Laboratories

WORK ORDER Summary

21-May-22

WorkOrder: N050778

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050778-001A	MW-76-039-0522	5/16/2022 11:40:00 AM	5/31/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050778-001B			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050778-001C			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/31/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050778-001D			5/31/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050778-002A	MW-76-156-0522	5/16/2022 12:10:00 PM	5/31/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050778-002B			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050778-002C			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/31/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050778-002D			5/31/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050778-003A	MW-76-181-0522	5/16/2022 12:50:00 PM	5/31/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050778-003B			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050778-003C			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

21-May-22

WorkOrder: N050778

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050778-003C	MW-76-181-0522	5/16/2022 12:50:00 PM	5/31/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050778-003D			5/31/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050778-004A	MW-76-218-0522	5/16/2022 1:30:00 PM	5/31/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050778-004B			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050778-004C			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/31/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050778-004D			5/31/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050778-005A	MW-914-Q222	5/16/2022 12:20:00 PM	5/31/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050778-005B			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			5/31/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050778-005C			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			5/31/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			5/31/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050778-005D			5/31/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050778-006A	EB-714-Q222	5/16/2022 1:40:00 PM	5/31/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050778-007A	FOLDER	5/31/2022	5/31/2022		Folder	Folder	☐	☐	☐	LAB
			5/31/2022		Folder	Level IV Report	☐	☐	☐	LAB
			5/31/2022		Folder	Folder	☐	☐	☐	LAB

June 03, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050852

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 19, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050852

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Samples N050852-007 (AmbientBlank-1-Q222) and N050852-009 (AmbientBlank-2-Q222) were not analyzed as per COC.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N050744-002B-MS and N050744-002B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Arsenic in QC samples N050744-002B-MS and N050744-002B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *03-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050852
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050852-001A	MW-931-Q222	Surface Water	5/18/2022 9:35:00 AM	5/19/2022	6/3/2022
N050852-001B	MW-931-Q222	Surface Water	5/18/2022 9:35:00 AM	5/19/2022	6/3/2022
N050852-002A	C-R22A-D-Q222	Surface Water	5/18/2022 9:47:00 AM	5/19/2022	6/3/2022
N050852-002B	C-R22A-D-Q222	Surface Water	5/18/2022 9:47:00 AM	5/19/2022	6/3/2022
N050852-003A	C-R22A-S-Q222	Surface Water	5/18/2022 9:55:00 AM	5/19/2022	6/3/2022
N050852-003B	C-R22A-S-Q222	Surface Water	5/18/2022 9:55:00 AM	5/19/2022	6/3/2022
N050852-004A	C-R27-D-Q222	Surface Water	5/18/2022 10:26:00 AM	5/19/2022	6/3/2022
N050852-004B	C-R27-D-Q222	Surface Water	5/18/2022 10:26:00 AM	5/19/2022	6/3/2022
N050852-005A	C-R27-S-Q222	Surface Water	5/18/2022 10:35:00 AM	5/19/2022	6/3/2022
N050852-005B	C-R27-S-Q222	Surface Water	5/18/2022 10:35:00 AM	5/19/2022	6/3/2022
N050852-006A	C-TAZ-D-Q222	Surface Water	5/18/2022 8:21:00 AM	5/19/2022	6/3/2022
N050852-006B	C-TAZ-D-Q222	Surface Water	5/18/2022 8:21:00 AM	5/19/2022	6/3/2022
N050852-007A	AmbientBlank-1-Q222	Surface Water	5/18/2022 8:27:00 AM	5/19/2022	6/3/2022
N050852-008A	C-TAZ-S-Q222	Surface Water	5/18/2022 8:31:00 AM	5/19/2022	6/3/2022
N050852-008B	C-TAZ-S-Q222	Surface Water	5/18/2022 8:31:00 AM	5/19/2022	6/3/2022
N050852-009A	AmbientBlank-2-Q222	Surface Water	5/18/2022 10:48:00 AM	5/19/2022	6/3/2022
N050852-010A	R-28-Q222	Surface Water	5/18/2022 10:50:00 AM	5/19/2022	6/3/2022
N050852-010B	R-28-Q222	Surface Water	5/18/2022 10:50:00 AM	5/19/2022	6/3/2022
N050852-011A	R63-Q222	Surface Water	5/18/2022 9:25:00 AM	5/19/2022	6/3/2022
N050852-011B	R63-Q222	Surface Water	5/18/2022 9:25:00 AM	5/19/2022	6/3/2022
N050852-012A	C-BNS-Q222	Surface Water	5/18/2022 10:14:00 AM	5/19/2022	6/3/2022
N050852-012B	C-BNS-Q222	Surface Water	5/18/2022 10:14:00 AM	5/19/2022	6/3/2022
N050852-013A	C-I-3-D-Q222	Surface Water	5/18/2022 8:59:00 AM	5/19/2022	6/3/2022
N050852-013B	C-I-3-D-Q222	Surface Water	5/18/2022 8:59:00 AM	5/19/2022	6/3/2022
N050852-014A	C-I-3-S-Q222	Surface Water	5/18/2022 9:10:00 AM	5/19/2022	6/3/2022
N050852-014B	C-I-3-S-Q222	Surface Water	5/18/2022 9:10:00 AM	5/19/2022	6/3/2022
N050852-015A	SW1-Q222	Surface Water	5/18/2022 3:07:00 PM	5/19/2022	6/3/2022
N050852-015B	SW1-Q222	Surface Water	5/18/2022 3:07:00 PM	5/19/2022	6/3/2022
N050852-016A	SW2-Q222	Surface Water	5/18/2022 3:15:00 PM	5/19/2022	6/3/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050852
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050852-016B	SW2-Q222	Surface Water	5/18/2022 3:15:00 PM	5/19/2022	6/3/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-931-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:35:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520B** QC Batch: **R162582** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 07:18 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220523C** QC Batch: **92996** PrepDate: **5/21/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 06:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:47:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 08:34 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:55:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 08:53 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:26:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220520B** QC Batch: **R162582**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 07:47 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220523C** QC Batch: **92996**				PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 07:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:35:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520B** QC Batch: **R162582** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 09:12 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220523C** QC Batch: **92996** PrepDate: **5/21/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 07:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 8:21:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 09:31 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 07:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 8:31:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 09:50 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 08:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:50:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520B** QC Batch: **R162582** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 10:28 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220523C** QC Batch: **92996** PrepDate: **5/21/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 08:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:25:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 10:46 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 08:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:14:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520B** QC Batch: **R162582**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 11:05 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220523C** QC Batch: **92996**				PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 08:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 8:59:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 11:24 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 08:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:10:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 11:43 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 09:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 3:07:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 12:21 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 09:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW2-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 3:15:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520B**	QC Batch: **R162582**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 12:40 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/23/2022 09:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R162582** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **LCSW** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653953**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.053	0.20	5.000	0	101	90	110				

Sample ID: **MB-R162582** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **PBW** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653954**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N050852-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653956**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.033	0.20	1.000	0	103	90	110				

Sample ID: **N050852-001AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653957**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.026	0.20	1.000	0	103	90	110	1.033	0.612	20	

Sample ID: **N050852-004ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653959**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050852-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653960**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	105	90	110				

Sample ID: **N050852-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653964**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.015	0.20	1.000	0	101	90	110				

Sample ID: **N050852-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653966**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Sample ID: **N050852-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653968**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0	104	90	110				

Sample ID: **N050852-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653970**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.070	0.20	1.000	0	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050852-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653972**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N050852-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.969	0.20	1.000	0	96.9	90	110				

Sample ID: **N050852-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.064	0.20	1.000	0	106	90	110				

Sample ID: **N050852-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653980**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.025	0.20	1.000	0	102	90	110				

Sample ID: **N050852-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.036	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050852-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653984**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.039	0.20	1.000	0	104	90	110				

Sample ID: **N050852-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4653988**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.062	0.20	1.000	0	106	90	110				

Sample ID: **N050852-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4653990**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.052	0.20	1.000	0	105	90	110				

Sample ID: **N050849-003BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162582**
Client ID: **ZZZZZZ** Batch ID: **R162582** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4653992**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92996**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162663**
Client ID: **PBW**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4657833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92996**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162663**
Client ID: **LCSW**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4657834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.788	1.0	10.00	0	87.9	85	115				

Sample ID: **N050744-002B-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659670**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1717.195	25	10.00	1481	2360	75	125				S

Sample ID: **N050744-002B-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92996**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659671**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1503.027	25	10.00	1481	219	75	125	1717	13.3	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N050744-002B-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **162709**
Client ID: **ZZZZZZ** Batch ID: **92996** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1431.093	25	10.00	1481	-501	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-931-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:35:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 06:23 PM
Manganese	1.2	0.026	0.50		µg/L	1	5/23/2022 06:23 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:47:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 06:47 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R22A-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:55:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 06:59 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:26:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 07:10 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 07:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-R27-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:35:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/23/2022 07:22 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 07:22 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 8:21:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	5/23/2022 07:34 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 07:34 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-TAZ-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 8:31:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 08:10 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 08:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-28-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:50:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 08:21 PM
Manganese	0.58	0.026	0.50		µg/L	1	5/23/2022 08:21 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R63-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:25:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 08:33 PM
Manganese	1.2	0.026	0.50		µg/L	1	5/23/2022 08:33 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-BNS-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 10:14:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	5/23/2022 08:45 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 08:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-D-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 8:59:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/23/2022 08:57 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 08:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-I-3-S-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 9:10:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/23/2022 09:21 PM
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 09:21 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW1-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 3:07:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	5/23/2022 09:32 PM
Manganese	11	0.026	0.50		µg/L	1	5/23/2022 09:32 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	SW2-Q222
Lab Order:	N050852	**Collection Date:**	5/18/2022 3:15:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050852-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92996**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/23/2022 09:44 PM
Manganese	1.8	0.026	0.50		µg/L	1	5/23/2022 09:44 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92996** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **PBW** Batch ID: **92996** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658005**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID: **LCS-92996** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **LCSW** Batch ID: **92996** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658006**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.596	0.10	10.00	0	96.0	85	115				
Manganese	91.090	0.50	100.0	0	91.1	85	115				

Sample ID: **N050744-002B-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92996** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.076	0.10	10.00	0	50.8	75	125				S
Manganese	81.488	0.50	100.0	0	81.5	75	125				

Sample ID: **N050744-002B-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92996** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.192	0.10	10.00	0	51.9	75	125	5.076	2.26	20	S
Manganese	80.370	0.50	100.0	0	80.4	75	125	81.49	1.38	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050852
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050744-002B-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92996** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658009**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.155	0.10	10.00	0	51.6	80	120				S
Manganese	80.991	0.50	100.0	0	81.0	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N050852

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 2

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes		EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:		Excel EDD		RTNE		1. Chilled	✓	
				Geotracker		RWQCB	✓	2. Headspace		
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.moore@arcadis.com	Address:		Labspec		CalTrans		3. Container Intact	✓	
				Others	✓	LEVEL III		4. Seal Present	✓	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@nivox.com	P.O.#	Specify: RWQCB		LEVEL IV		5. IR number		
Submitted By: Riggie Top						Regulatory		6. Method of Cooling: ICE		
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200	Fax:	Global ID:		Specify State:		Sample Temp: 3.6°C/4.4°C		
Signature: Date: 5/18/22	Sampled By: Riggie Top							Courier: [redacted]		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for							Tracking No.:		
Project Name: PG&E Topock - RCM	Signature:	Date: 5/18/22								
Project Number: 30121868.2Q22GW										

Matrix: Ground; Sediment; Potable; Soil; NPDES; Other Solid; Surface (X)

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 (125 mL poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050852-01	MW-931-Q222	5/18/2022	9:35		X		X	X	E	2	P	BN	
2	-02	C-R22A-D-Q222	5/18/2022	9:47		X		X	X	E	2	P	BN	
3	-03	C-R22A-S-Q222	5/18/2022	9:55		X		X	X	E	2	P	BN	
4	-04	C-R27-D-Q222	5/18/2022	10:26		X		X	X	E	2	P	BN	
5	-05	C-R27-S-Q222	5/18/2022	10:35		X		X	X	E	2	P	BN	
	-06	C-TAZ-D-Q222	5/18/2022	8:21		X		X	X	E	2	P	BN	
7	-07	AmbientBlank-1-Q222	5/18/2022	8:27		X		X	X	E	2	P	BN	Hold
8	-08	C-TAZ-S-Q222	5/18/2022	8:31		X		X	X	E	2	P	BN	
9	-09	AmbientBlank-2-Q222	5/18/2022	10:48		X		X	X	E	2	P	BN	Hold
10	-10	R-28-Q222	5/18/2022	10:50		X		X	X	E	2	P	BN	
11	-11	R63-Q222	5/18/2022	9:25		X		X	X	E	2	P	BN	
12	-12	C-BNS-Q222	5/18/2022	10:14		X		X	X	E	2	P	BN	-
13	-13	C-I-3-D-Q222	5/18/2022	8:59		X		X	X	E	2	P	BN	
14	-14	C-I-3-S-Q222	5/18/2022	9:10		X		X	X	E	2	P	BN	

Relinquished by (Signature and Printed Name): Riggie Top 5/18/22 1556 — Date/Time:
Relinquished by (Signature and Printed Name): EDMUND MCCARTHER 5/19/22 1556 — Date/Time:
Relinquished by (Signature and Printed Name): EDMUND MCCARTHER 5/19/22 1915 — Date/Time:
Relinquished by (Signature and Printed Name): EDMUND MCCARTHER 5/19/22 1915 — Date/Time:
Relinquished by (Signature and Printed Name): — Date/Time:
Relinquished by (Signature and Printed Name): — Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages. 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis. TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Riggie Top		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: [signature] Date: 5/18/22	Sampled By: Riggie Top		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: [signature] Date: 5/18/22		
Project Number: 30121866.2Q22GW			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
		Regulatory	
Global ID:		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number		
6. Method of Cooling: ICE		
Sample Temp: 3.6°C/4.4°C		
Courier: ASSET		
Tracking No.:		

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface	X		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 (125 mL poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1														
2	N050852-15	SW1-Q222	5/18/2022	1507		X		X	X	E	2	P	BN	
3	-16	SW2-Q222	5/18/2022	1515		X		X	X	E	2	P	BN	
4										E	2	P	BN	
5														
7														
8														
9														
10														
11														
12														
13														
14														

Relinquished by (Signature and Printed Name)	Date/Time	Relinquished by (Signature and Printed Name)	Date/Time
[signature] Riggie Top	5/19/22 1556	[signature] Romeo Alcantara	5/19/22 1556
[signature] Romeo Alcantara	5/19/22 1915	[signature] Romeo Alcantara	5/19/22 1915

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms:
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs - 200% Next Day=100% 2 Workdays=50% 3 Workdays=35% 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/19/2022	Workorder:	N050852
Rep sample Temp (Deg C):	3.6/4.4	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YR 5/31/2022

Reviewed By: MBC 5/31/2022

ASSET Laboratories

WORK ORDER Summary

20-May-22

WorkOrder: N050852

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050852-001A	MW-931-Q222	5/18/2022 9:35:00 AM	6/3/2022	Surface Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-001B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-002A	C-R22A-D-Q222	5/18/2022 9:47:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-002B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-003A	C-R22A-S-Q222	5/18/2022 9:55:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-003B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-004A	C-R27-D-Q222	5/18/2022 10:26:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-004B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-005A	C-R27-S-Q222	5/18/2022 10:35:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-005B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-006A	C-TAZ-D-Q222	5/18/2022 8:21:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-006B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-May-22

WorkOrder: N050852

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050852-006B	C-TAZ-D-Q222	5/18/2022 8:21:00 AM	6/3/2022	Surface Water	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-007A	AmbientBlank-1-Q222	5/18/2022 8:27:00 AM					☐	☐	☐	WW
N050852-008A	C-TAZ-S-Q222	5/18/2022 8:31:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-008B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-009A	AmbientBlank-2-Q222	5/18/2022 10:48:00 AM					☐	☐	☐	WW
N050852-010A	R-28-Q222	5/18/2022 10:50:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-010B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-011A	R63-Q222	5/18/2022 9:25:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-011B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-012A	C-BNS-Q222	5/18/2022 10:14:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-012B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-013A	C-I-3-D-Q222	5/18/2022 8:59:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-013B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

20-May-22

WorkOrder: N050852

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050852-013B	C-I-3-D-Q222	5/18/2022 8:59:00 AM	6/3/2022	Surface Water	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-014A	C-I-3-S-Q222	5/18/2022 9:10:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-014B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-015A	SW1-Q222	5/18/2022 3:07:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-015B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-016A	SW2-Q222	5/18/2022 3:15:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050852-016B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050852-017A	FOLDER	6/3/2022	6/3/2022		Folder	Folder	☐	☐	☐	LAB
			6/3/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/3/2022		Folder	Folder	☐	☐	☐	LAB

June 03, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050854

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on May 19, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N050854-007 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050854-008CMS and N050854-008CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N050849-003A-MS1 and N050849-003A-MSD1 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N050854-008DMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050854-008 and MS/MSD were reported at 10x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050854
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050854-001A	IRZ-09-100-0522	Groundwater	5/18/2022 9:00:00 AM	5/19/2022	6/3/2022
N050854-001B	IRZ-09-100-0522	Groundwater	5/18/2022 9:00:00 AM	5/19/2022	6/3/2022
N050854-001C	IRZ-09-100-0522	Groundwater	5/18/2022 9:00:00 AM	5/19/2022	6/3/2022
N050854-001D	IRZ-09-100-0522	Groundwater	5/18/2022 9:00:00 AM	5/19/2022	6/3/2022
N050854-002A	IRZ-13D-210-0522	Groundwater	5/17/2022 9:45:00 AM	5/19/2022	6/3/2022
N050854-002B	IRZ-13D-210-0522	Groundwater	5/17/2022 9:45:00 AM	5/19/2022	6/3/2022
N050854-002C	IRZ-13D-210-0522	Groundwater	5/17/2022 9:45:00 AM	5/19/2022	6/3/2022
N050854-002D	IRZ-13D-210-0522	Groundwater	5/17/2022 9:45:00 AM	5/19/2022	6/3/2022
N050854-003A	IRZ-13S-095-0522	Groundwater	5/17/2022 10:00:00 AM	5/19/2022	6/3/2022
N050854-003B	IRZ-13S-095-0522	Groundwater	5/17/2022 10:00:00 AM	5/19/2022	6/3/2022
N050854-003C	IRZ-13S-095-0522	Groundwater	5/17/2022 10:00:00 AM	5/19/2022	6/3/2022
N050854-003D	IRZ-13S-095-0522	Groundwater	5/17/2022 10:00:00 AM	5/19/2022	6/3/2022
N050854-004A	IRZ-23-143-0522	Groundwater	5/17/2022 8:45:00 AM	5/19/2022	6/3/2022
N050854-004B	IRZ-23-143-0522	Groundwater	5/17/2022 8:45:00 AM	5/19/2022	6/3/2022
N050854-004C	IRZ-23-143-0522	Groundwater	5/17/2022 8:45:00 AM	5/19/2022	6/3/2022
N050854-004D	IRZ-23-143-0522	Groundwater	5/17/2022 8:45:00 AM	5/19/2022	6/3/2022
N050854-005A	MW-21-0522	Groundwater	5/18/2022 2:38:00 PM	5/19/2022	6/3/2022
N050854-005B	MW-21-0522	Groundwater	5/18/2022 2:38:00 PM	5/19/2022	6/3/2022
N050854-005C	MW-21-0522	Groundwater	5/18/2022 2:38:00 PM	5/19/2022	6/3/2022
N050854-005D	MW-21-0522	Groundwater	5/18/2022 2:38:00 PM	5/19/2022	6/3/2022
N050854-006A	MW-21-EB-0522	Groundwater	5/18/2022 2:14:00 PM	5/19/2022	6/3/2022
N050854-007A	MW-71-035-0522	Groundwater	5/18/2022 1:48:00 PM	5/19/2022	6/3/2022
N050854-007B	MW-71-035-0522	Groundwater	5/18/2022 1:48:00 PM	5/19/2022	6/3/2022
N050854-007C	MW-71-035-0522	Groundwater	5/18/2022 1:48:00 PM	5/19/2022	6/3/2022
N050854-007D	MW-71-035-0522	Groundwater	5/18/2022 1:48:00 PM	5/19/2022	6/3/2022
N050854-008A	MW-80-057-0522	Groundwater	5/18/2022 12:32:00 PM	5/19/2022	6/3/2022
N050854-008B	MW-80-057-0522	Groundwater	5/18/2022 12:32:00 PM	5/19/2022	6/3/2022
N050854-008C	MW-80-057-0522	Groundwater	5/18/2022 12:32:00 PM	5/19/2022	6/3/2022
N050854-008D	MW-80-057-0522	Groundwater	5/18/2022 12:32:00 PM	5/19/2022	6/3/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050854
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050854-009A	MW-80-082-0522	Groundwater	5/18/2022 1:03:00 PM	5/19/2022	6/3/2022
N050854-009B	MW-80-082-0522	Groundwater	5/18/2022 1:03:00 PM	5/19/2022	6/3/2022
N050854-009C	MW-80-082-0522	Groundwater	5/18/2022 1:03:00 PM	5/19/2022	6/3/2022
N050854-009D	MW-80-082-0522	Groundwater	5/18/2022 1:03:00 PM	5/19/2022	6/3/2022
N050854-010A	EB-719-Q222	Groundwater	5/18/2022 3:30:00 PM	5/19/2022	6/3/2022
N050854-011A	MW-79-058-0522	Groundwater	5/19/2022 1:02:00 PM	5/19/2022	6/3/2022
N050854-011B	MW-79-058-0522	Groundwater	5/19/2022 1:02:00 PM	5/19/2022	6/3/2022
N050854-011C	MW-79-058-0522	Groundwater	5/19/2022 1:02:00 PM	5/19/2022	6/3/2022
N050854-011D	MW-79-058-0522	Groundwater	5/19/2022 1:02:00 PM	5/19/2022	6/3/2022
N050854-012A	MW-79-102-0522	Groundwater	5/19/2022 1:34:00 PM	5/19/2022	6/3/2022
N050854-012B	MW-79-102-0522	Groundwater	5/19/2022 1:34:00 PM	5/19/2022	6/3/2022
N050854-012C	MW-79-102-0522	Groundwater	5/19/2022 1:34:00 PM	5/19/2022	6/3/2022
N050854-012D	MW-79-102-0522	Groundwater	5/19/2022 1:34:00 PM	5/19/2022	6/3/2022
N050854-013A	MW-934-Q222	Groundwater	5/19/2022 1:44:00 PM	5/19/2022	6/3/2022
N050854-013B	MW-934-Q222	Groundwater	5/19/2022 1:44:00 PM	5/19/2022	6/3/2022
N050854-013C	MW-934-Q222	Groundwater	5/19/2022 1:44:00 PM	5/19/2022	6/3/2022
N050854-013D	MW-934-Q222	Groundwater	5/19/2022 1:44:00 PM	5/19/2022	6/3/2022
N050854-014A	MW-78-070-0522	Groundwater	5/19/2022 11:40:00 AM	5/19/2022	6/3/2022
N050854-014B	MW-78-070-0522	Groundwater	5/19/2022 11:40:00 AM	5/19/2022	6/3/2022
N050854-014C	MW-78-070-0522	Groundwater	5/19/2022 11:40:00 AM	5/19/2022	6/3/2022
N050854-014D	MW-78-070-0522	Groundwater	5/19/2022 11:40:00 AM	5/19/2022	6/3/2022
N050854-015A	MW-78-142-0522	Groundwater	5/19/2022 12:16:00 PM	5/19/2022	6/3/2022
N050854-015B	MW-78-142-0522	Groundwater	5/19/2022 12:16:00 PM	5/19/2022	6/3/2022
N050854-015C	MW-78-142-0522	Groundwater	5/19/2022 12:16:00 PM	5/19/2022	6/3/2022
N050854-015D	MW-78-142-0522	Groundwater	5/19/2022 12:16:00 PM	5/19/2022	6/3/2022
N050854-016A	EB-721-Q222	Groundwater	5/19/2022 1:50:00 PM	5/19/2022	6/3/2022
N050854-017A	TW-02D-0522	Groundwater	5/19/2022 2:36:00 PM	5/19/2022	6/3/2022
N050854-017B	TW-02D-0522	Groundwater	5/19/2022 2:36:00 PM	5/19/2022	6/3/2022
N050854-017C	TW-02D-0522	Groundwater	5/19/2022 2:36:00 PM	5/19/2022	6/3/2022
N050854-017D	TW-02D-0522	Groundwater	5/19/2022 2:36:00 PM	5/19/2022	6/3/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050854
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050854-018A	TW-02S-0522	Groundwater	5/19/2022 2:20:00 PM	5/19/2022	6/3/2022
N050854-018B	TW-02S-0522	Groundwater	5/19/2022 2:20:00 PM	5/19/2022	6/3/2022
N050854-018C	TW-02S-0522	Groundwater	5/19/2022 2:20:00 PM	5/19/2022	6/3/2022
N050854-018D	TW-02S-0522	Groundwater	5/19/2022 2:20:00 PM	5/19/2022	6/3/2022
N050854-019A	TW-03D-0522	Groundwater	5/19/2022 3:16:00 PM	5/19/2022	6/3/2022
N050854-019B	TW-03D-0522	Groundwater	5/19/2022 3:16:00 PM	5/19/2022	6/3/2022
N050854-019C	TW-03D-0522	Groundwater	5/19/2022 3:16:00 PM	5/19/2022	6/3/2022
N050854-019D	TW-03D-0522	Groundwater	5/19/2022 3:16:00 PM	5/19/2022	6/3/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 9:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520A** QC Batch: **R162581** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	15	0.13	1.0		µg/L	5	5/20/2022 09:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	500	1.3	10		µg/L	50	5/20/2022 10:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520A** QC Batch: **R162581** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	23	0.13	1.0		µg/L	5	5/20/2022 10:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 8:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	650	2.5	20		µg/L	100	5/20/2022 06:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 2:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 11:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-EB-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 2:14:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 05:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	5/20/2022 01:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 12:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1000	2.5	20		µg/L	100	5/20/2022 09:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	470	2.5	20		µg/L	100	5/20/2022 12:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-719-Q222
Lab Order:	N050854	**Collection Date:**	5/18/2022 3:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 05:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520A** QC Batch: **R162581** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2900	13	100		µg/L	500	5/20/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:34:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520A** QC Batch: **R162581** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2300	13	100		µg/L	500	5/20/2022 01:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-934-Q222
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:44:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220520A** QC Batch: **R162581** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2200	13	100		µg/L	500	5/20/2022 01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	660	2.5	20		µg/L	100	5/20/2022 12:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 12:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5200	50	400		µg/L	2000	5/20/2022 02:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-721-Q222
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/20/2022 05:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.5	0.025	0.20		µg/L	1	5/20/2022 03:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	97	0.50	4.0		µg/L	20	5/20/2022 03:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 3:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220520A**	QC Batch: **R162581**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	610	2.5	20		µg/L	100	5/20/2022 03:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162581**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162581**
Client ID: **PBW**	Batch ID: **R162581**	TestNo: **EPA 218.6**		Analysis Date: **5/20/2022**	SeqNo: **4653831**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162581**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162581**
Client ID: **LCSW**	Batch ID: **R162581**	TestNo: **EPA 218.6**		Analysis Date: **5/20/2022**	SeqNo: **4653832**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.938	0.20	5.000	0	98.8	90	110				

Sample ID: **N050854-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162581**
Client ID: **ZZZZZZ**	Batch ID: **R162581**	TestNo: **EPA 218.6**		Analysis Date: **5/20/2022**	SeqNo: **4653834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1523.650	20	500.0	1013	102	90	110				

Sample ID: **N050854-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162581**
Client ID: **ZZZZZZ**	Batch ID: **R162581**	TestNo: **EPA 218.6**		Analysis Date: **5/20/2022**	SeqNo: **4653836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.187	1.0	25.00	14.95	105	90	110				

Sample ID: **N050823-013CDUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162581**
Client ID: **ZZZZZZ**	Batch ID: **R162581**	TestNo: **EPA 218.6**		Analysis Date: **5/20/2022**	SeqNo: **4653838**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	209.656	4.0						211.0	0.630	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050854-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653842**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	757.455	10	250.0	497.4	104	90	110				

Sample ID: **N050854-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653844**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.100	1.0	25.00	22.60	106	90	110				

Sample ID: **N050854-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Sample ID: **N050854-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5502.200	100	2500	2945	102	90	110				

Sample ID: **N050854-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4950.050	100	2500	2341	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050854-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4905.650	100	2500	2228	107	90	110				

Sample ID: **N050854-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.467	1.0	5.000	0	109	90	110				

Sample ID: **N050854-008AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653861**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1525.350	20	500.0	1013	102	90	110	1524	0.112	20	

Sample ID: **N050854-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653863**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15548.600	400	10000	5236	103	90	110				

Sample ID: **N050854-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	974.270	20	500.0	474.0	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050854-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653867**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1157.420	20	500.0	659.8	99.5	90	110				

Sample ID: **N050854-018AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653869**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	203.016	4.0	100.0	97.13	106	90	110				

Sample ID: **N050854-019AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1127.390	20	500.0	613.4	103	90	110				

Sample ID: **N050854-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.990	0.20	1.000	0	99.0	90	110				

Sample ID: **N050854-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653877**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.998	0.20	1.000	0	99.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050854-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653879**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1170.970	20	500.0	654.0	103	90	110				

Sample ID: **N050854-017AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.394	0.20	5.000	8.520	97.5	90	110				

Sample ID: **N050854-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162581**
Client ID: **ZZZZZZ** Batch ID: **R162581** TestNo: **EPA 218.6** Analysis Date: **5/20/2022** SeqNo: **4653883**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	101	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 2:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	2000	12	100		mg/L	200	5/23/2022 03:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/20/2022 08:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	1100	6.1	50		mg/L	100	5/23/2022 03:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/20/2022 08:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 12:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	520	3.0	25		mg/L	50	5/23/2022 01:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	11	0.19	1.0		mg/L	20	5/20/2022 08:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	560	3.0	25		mg/L	50	5/23/2022 04:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.9	0.095	0.50		mg/L	10	5/20/2022 08:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	410	3.0	25		mg/L	50	5/23/2022 04:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	11	0.095	0.50		mg/L	10	5/20/2022 11:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:34:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	690	6.1	50		mg/L	100	5/23/2022 04:45 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.5	0.095	0.50		mg/L	10	5/20/2022 11:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-934-Q222
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:44:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	700	6.1	50		mg/L	100	5/23/2022 05:00 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	7.5	0.095	0.50		mg/L	10	5/20/2022 11:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	360	3.0	25		mg/L	50	5/23/2022 05:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.048	0.25		mg/L	5	5/20/2022 11:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 12:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	910	6.1	50		mg/L	100	5/23/2022 05:31 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	9.6	0.095	0.50		mg/L	10	5/20/2022 12:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-017

Client Sample ID: TW-02D-0522
Collection Date: 5/19/2022 2:36:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	400	6.1	50		mg/L	100	5/23/2022 02:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.36	0.048	0.25		mg/L	5	5/20/2022 12:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	190	1.2	10		mg/L	20	5/23/2022 05:46 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.4	0.048	0.25		mg/L	5	5/20/2022 12:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 3:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A**	QC Batch: **R162645**			PrepDate:			Analyst: **RAB**
Sulfate	850	6.1	50		mg/L	100	5/23/2022 06:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220520A**	QC Batch: **R162591**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	5/20/2022 12:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R162645_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **PBW**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R162645_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **LCSW**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.972	0.50	4.000	0	99.3	90	110				

Sample ID: **N050854-008BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	720.320	25	200.0	516.3	102	80	120				

Sample ID: **N050854-008BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657365**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	719.940	25	200.0	516.3	102	80	120	720.3	0.0528	20	

Sample ID: **N050854-017BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657367**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	402.890	50						399.4	0.868	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N050865-008BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **162645**
Client ID: **ZZZZZZ** Batch ID: **R162645** TestNo: **EPA 300.0** Analysis Date: **5/23/2022** SeqNo: **4657390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1125.470	50	400.0	715.9	102	80	120				

Sample ID: **N050865-008BMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **162645**
Client ID: **ZZZZZZ** Batch ID: **R162645** TestNo: **EPA 300.0** Analysis Date: **5/23/2022** SeqNo: **4657391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1120.440	50	400.0	715.9	101	80	120	1125	0.448	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162591_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162591**
Client ID: **PBW**	Batch ID: **R162591**	TestNo: **EPA 300.0**		Analysis Date: **5/20/2022**	SeqNo: **4655258**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162591_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162591**
Client ID: **LCSW**	Batch ID: **R162591**	TestNo: **EPA 300.0**		Analysis Date: **5/20/2022**	SeqNo: **4655259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.227	0.050	1.250	0	98.1	90	110				

Sample ID: **N050854-008BMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162591**
Client ID: **ZZZZZZ**	Batch ID: **R162591**	TestNo: **EPA 300.0**		Analysis Date: **5/20/2022**	SeqNo: **4655264**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	36.654	1.0	25.00	11.17	102	80	120				

Sample ID: **N050854-008BMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162591**
Client ID: **ZZZZZZ**	Batch ID: **R162591**	TestNo: **EPA 300.0**		Analysis Date: **5/20/2022**	SeqNo: **4655265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	36.516	1.0	25.00	11.17	101	80	120	36.65	0.377	20	

Sample ID: **N050854-009BDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162591**
Client ID: **ZZZZZZ**	Batch ID: **R162591**	TestNo: **EPA 300.0**		Analysis Date: **5/20/2022**	SeqNo: **4655266**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.790	0.50						1.861	3.89	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N050854-009BMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **162591**
Client ID: **ZZZZZZ** Batch ID: **R162591** TestNo: **EPA 300.0** Analysis Date: **5/20/2022** SeqNo: **4655267**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.029	0.50	12.50	1.861	97.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 9:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 12:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 12:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 02:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 8:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 03:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 2:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 03:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 04:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 12:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	1.4	10		mg/L	10	5/20/2022 02:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 05:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 05:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:34:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 05:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-934-Q222
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:44:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 06:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 12:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 06:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 06:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 07:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 3:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220520A**	QC Batch: **R162588**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/20/2022 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162588**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162588**
Client ID: **PBW**	Batch ID: **R162588**	TestNo: **SM 5310C**		Analysis Date: **5/20/2022**	SeqNo: **4654521**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162588**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162588**
Client ID: **LCSW**	Batch ID: **R162588**	TestNo: **SM 5310C**		Analysis Date: **5/20/2022**	SeqNo: **4654522**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.984	1.0	5.000	0	99.7	85	115				

Sample ID: **N050854-008DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162588**
Client ID: **ZZZZZZ**	Batch ID: **R162588**	TestNo: **SM 5310C**		Analysis Date: **5/20/2022**	SeqNo: **4654535**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	39.471	10	50.00	0	78.9	75	125				

Sample ID: **N050854-008DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162588**
Client ID: **ZZZZZZ**	Batch ID: **R162588**	TestNo: **SM 5310C**		Analysis Date: **5/20/2022**	SeqNo: **4654539**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	39.855	10	50.00	0	79.7	75	125	39.47	0.968	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-001

Client Sample ID: IRZ-09-100-0522
Collection Date: 5/18/2022 9:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 07:40 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524B**	QC Batch: **92995**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	140	13	20		µg/L	1	5/24/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-002

Client Sample ID: IRZ-13D-210-0522
Collection Date: 5/17/2022 9:45:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 07:45 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524B**	QC Batch: **92995**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	64	100		µg/L	5	5/24/2022 04:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-003

Client Sample ID: IRZ-13S-095-0522
Collection Date: 5/17/2022 10:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 07:50 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524B**	QC Batch: **92995**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	54	13	20		µg/L	1	5/24/2022 04:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-004

Client Sample ID: IRZ-23-143-0522
Collection Date: 5/17/2022 8:45:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 08:19 PM
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524B**	QC Batch: **92995**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 04:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 2:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	930	13	20		µg/L	1	5/24/2022 08:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *03-Jun-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	58	13	20		µg/L	1	5/24/2022 08:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 12:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	50	13	20		µg/L	1	5/24/2022 08:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 08:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 09:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:34:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 09:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-934-Q222
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:44:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 09:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 09:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 12:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 09:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	560	13	20		µg/L	1	5/24/2022 09:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 09:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-019

Client Sample ID: TW-03D-0522
Collection Date: 5/19/2022 3:16:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93005**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 09:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-93005**	SampType: **MBLK**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **PBW**	Batch ID: **93005**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659018**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-93005**	SampType: **LCS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **LCSW**	Batch ID: **93005**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659019**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	87.605	20	100.0	0	87.6	85	115				

Sample ID: **N050854-008CMS**	SampType: **MS**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **ZZZZZZ**	Batch ID: **93005**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659033**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	107.612	20	100.0	50.36	57.2	75	125				S

Sample ID: **N050854-008CMSD**	SampType: **MSD**	TestCode: **6010_WDPGE**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **ZZZZZZ**	Batch ID: **93005**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	97.012	20	100.0	50.36	46.6	75	125	107.6	10.4	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **MB-92995**	SampType: **MBLK**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162672**
Client ID: **PBW**	Batch ID: **92995**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4658443**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS1-92995**	SampType: **LCS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162672**
Client ID: **LCSW**	Batch ID: **92995**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4658444**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.847	20	100.0	0	101	85	115				

Sample ID: **N050849-003A-MS1**	SampType: **MS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162672**
Client ID: **ZZZZZZ**	Batch ID: **92995**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4658448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	93.996	20	100.0	27.29	66.7	75	125				S

Sample ID: **N050849-003A-MSD1**	SampType: **MSD**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162672**
Client ID: **ZZZZZZ**	Batch ID: **92995**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4658449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	99.573	20	100.0	27.29	72.3	75	125	94.00	5.76	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N050854-008C-PS** SampType: **PS** TestCode: **6010_WDPGE** Units: **µg/L** Prep Date: RunNo: **162687**
Client ID: **ZZZZZZ** Batch ID: **93005** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	101.746	20	100.0	50.36	51.4	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID: **N050849-003A-PS**	SampType: **PS**	TestCode: **6010_WPGEP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162672**
Client ID: **ZZZZZZ**	Batch ID: **92995**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4658447**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	96.442	20	100.0	27.29	69.2	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 9:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 10:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 9:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Manganese	2.5	0.026	0.50		µg/L	1	5/23/2022 10:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 10:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-0522
Lab Order:	N050854	**Collection Date:**	5/17/2022 8:45:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	5/23/2022 10:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 2:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Arsenic	7.6	0.050	0.10		µg/L	1	5/23/2022 11:08 PM
Barium	35	0.083	1.0		µg/L	1	5/23/2022 11:08 PM
Manganese	480	0.13	2.5		µg/L	5	5/23/2022 11:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:48:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/23/2022 11:20 PM
Barium	41	0.083	1.0		µg/L	1	5/23/2022 11:20 PM
Manganese	45	0.026	0.50		µg/L	1	5/23/2022 11:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 12:32:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/23/2022 11:56 PM
Barium	61	0.083	1.0		µg/L	1	5/23/2022 11:56 PM
Manganese	5.9	0.026	0.50		µg/L	1	5/23/2022 11:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-0522
Lab Order:	N050854	**Collection Date:**	5/18/2022 1:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 01:01 AM
Barium	42	0.083	1.0		µg/L	1	5/24/2022 01:01 AM
Manganese	4.0	0.026	0.50		µg/L	1	5/24/2022 01:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 01:13 AM
Barium	76	0.083	1.0		µg/L	1	5/24/2022 01:13 AM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 01:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:34:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 01:25 AM
Barium	40	0.083	1.0		µg/L	1	5/24/2022 01:25 AM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 01:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-934-Q222
Lab Order:	N050854	**Collection Date:**	5/19/2022 1:44:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 01:37 AM
Barium	39	0.083	1.0		µg/L	1	5/24/2022 01:37 AM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 01:37 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 11:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 01:49 AM
Barium	120	0.083	1.0		µg/L	1	5/24/2022 01:49 AM
Manganese	470	0.13	2.5		µg/L	5	5/24/2022 01:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 12:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 02:13 AM
Barium	26	0.083	1.0		µg/L	1	5/24/2022 02:13 AM
Manganese	1.6	0.026	0.50		µg/L	1	5/24/2022 02:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-017

Client Sample ID: TW-02D-0522
Collection Date: 5/19/2022 2:36:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 02:25 AM
Barium	51	0.083	1.0		µg/L	1	5/24/2022 02:25 AM
Manganese	270	0.13	2.5		µg/L	5	5/24/2022 02:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-0522
Lab Order:	N050854	**Collection Date:**	5/19/2022 2:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050854-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	0.57	0.050	0.10		µg/L	1	5/24/2022 02:37 AM
Barium	52	0.083	1.0		µg/L	1	5/24/2022 02:37 AM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 02:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050854-019

Client Sample ID: TW-03D-0522
Collection Date: 5/19/2022 3:16:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 02:49 AM
Barium	43	0.083	1.0		µg/L	1	5/24/2022 02:49 AM
Manganese	150	0.026	0.50		µg/L	1	5/24/2022 02:49 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050854
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92997** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **PBW** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	ND	0.50									

Sample ID: **LCS-92997** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **LCSW** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658061**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.014	0.10	10.00	0	90.1	85	115				
Barium	9.271	1.0	10.00	0	92.7	85	115				
Manganese	93.199	0.50	100.0	0	93.2	85	115				

Sample ID: **N050854-008CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4658085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.559	0.10	10.00	0	85.6	75	125				
Barium	69.212	1.0	10.00	61.40	78.1	75	125				
Manganese	87.230	0.50	100.0	5.910	81.3	75	125				

Sample ID: **N050854-008CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4658087**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.087	0.10	10.00	0	80.9	75	125	8.559	5.67	20	
Barium	69.246	1.0	10.00	61.40	78.4	75	125	69.21	0.0495	20	
Manganese	87.705	0.50	100.0	5.910	81.8	75	125	87.23	0.542	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N050854

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@arcadis.com	Address:	Sample Receipt Condition (Y N): 1. Chilled Y; 2. Headspace; 3. Container Intact Y; 4. Seal Present Y; 5. IR number 3; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Sample Temp: 3.0°C / 3.6°C / 4.5°C
Submitted By: Kevin Ashley	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:	Courier: ASSET
Title: Otrg Operator	Sampled By: Kevin A.	Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid	Tracking No.:
Signature: Date: 5/18/22	Signature: Date: 5/18/22		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - PCM			
Project Number: 301218862022GW			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2; SO4, NH4, OH (250 mL poly)	Nitrate/Nitrite (SM4500NO3) Nitrogen; H2SO4 (125 mL poly)	Dissolved metals (SW6020) FF; HNO3 Iron, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050854-01	IRZ-09-100-0522	5/18/22	0900A		X		X			X	X	E	6	P	BNS	
2	-02	IRZ-13D-210-0522	5/17/22	09:45A		X		X			X	X	E	6	P	BNS	
3	-03	IRZ-13S-095-0522	5/17/22	10:00AM		X		X			X	X	E	6	P	BNS	
4	-04	IRZ-23-143-0522	5/17/22	08:45A		X		X			X	X	E	6	P	BNS	
5																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

Relinquished by (Signature and Printed Name): Kevin Ashley	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time: 5/19/22 1556
Relinquished by (Signature and Printed Name):	Date/Time: 5/19/22 1559	Relinquished by (Signature and Printed Name): ROMEO ALCANTARA	Date/Time: 5/19/22 1559
Relinquished by (Signature and Printed Name): ROMEO ALCANTARA	Date/Time: 5/19/22 1915	Relinquished by (Signature and Printed Name): ROMEO ALCANTARA	Date/Time: 5/19/22 1915

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instructions:

Preservatives: I=ICL; N=HNO_3; S=H_2SO_4; C=4 C; Z=Zn(AC_2); O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Pint; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

Terms
1. All samples will be disposed at 45 days and records will be archived 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs. +100% Next Day+100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price

5. Trip Blanks and Equipment Blanks are billable samples.
6. Asset Laboratories is not responsible for samples collected using incorrect method(s).
7. Turnaround not 30 days
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontracted analyses, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.#
Submitted By: Nava Tay	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech			
Signature: Date: 5/19/22	Sampled By: Nava Tay		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - PCM	Signature: Date: 5/18/22		
Project Number: 30121866.2Q22GW			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace	✓	
3. Container Intact	✓	
4. Seal Present	✓	
5. IR number		
6. Method of Cooling: ICE		
Sample Temp: 3.0°C / 3.6°C / 4.5°C		
Courier: ASSET		
Tracking No.:		

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050854-05	MW-21-0522	5/18/2022	14:38		X	X	X			X			E	6	P	BNS	
2	-06	MW-21-EB-0522	5/18/2022	14:16		X								E	6	P	BNS	
3	-07	MW-71-035-0522	5/18/2022	13:48		X	X	X			X			E	6	P	BNS	
4	-08	MW-80-057-0522	5/18/2022	12:32		X	X	X			X			E	9	P	BNS	MS/MSD
5	-09	MW-80-082-0522	5/18/2022	13:03		X	X	X			X			E	6	P	BNS	
6	-10	EB-719-Q222	5/18/2022	15:30		X								E	1	P	BNS	
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name): Nava Tay Date/Time: 5/19/22 1616
Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:

Received by (Signature and Printed Name): ROMEO RUCANTAKA Date/Time: 5/19/22 1616
Received by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): ROMEO RUCANTAKA Date/Time: 5/19/22 1915

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#
Submitted By: Nara Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:
Title: Field Tech		
Signature: Date: 5/19/22	Sampled By: Nara Tep	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	
Project Name: PG&E Topock - PCM	Signature: Date: 5/19/22	
Project Number: 30121866.2Q22GW		

EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Excel EDD		RTNE		1. Chilled	✓	
Geotracker		RWQCB	✓	2. Headspace		✓
Labspec		CalTrans		3. Container Intact	✓	
Others	✓	LEVEL III		4. Seal Present		✓
Specify: RWQCB		LEVEL IV		5. IR number		
Global ID:		Regulatory		6. Method of Cooling: ICE		
		Specify State:		Sample Temp: 3.0°C/3.6°C/4.5°C		

Courier: Asset
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Matrix: Ground	Matrix: Potable	Matrix: NPDES	Matrix: Surface	Matrix: X	Matrix: Sediment	Matrix: Soil	Matrix: Other Solid	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	1 L poly: Nitrate, sulfate (EPA 300.0)	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	500mL poly: Total metals (SW6010) No filter; HNO3 Total Iron	1 L poly: Ammonia as Nitrogen (SM4500NH3); H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050854-11	MW-79-058-0522	5/19/2022	13:02						X				X	X	X			X			E	6	P	BNS	
2	-12	MW-79-102-0522	5/19/2022	13:34						X				X	X	X			X			E	6	P	BNS	
3	-13	MW-934-Q222	5/19/2022	13:44						X				X	X	X			X			E	6	P	BNS	
4	-14	MW-78-070-0522	5/19/2022	11:40						X				X	X	X			X			E	6	P	BNS	
5	-15	MW-78-142-0522	5/19/2022	12:16						X				X	X	X			X			E	6	P	BNS	
6	-16	EB-721-Q222	5/19/2022	13:50						X				X					X			E	6	P	BNS	
7	-17	TW-02D-0522	5/19/2022	14:36						X				X	X	X			X			E	1	P	BNS	
8	-18	TW-02S-0522	5/19/2022	14:20						X				X	X	X			X			E	6	P	BNS	
9	-19	TW-03D-0522	5/19/2022	15:16						X				X	X	X			X			E	6	P	BNS	
10																						E	6	P	BNS	
11																										
12																										
13																										
14																										

Relinquished by (Signature and Printed Name): Nara Tep Date/Time: 5/19/22 1616
Relinquished by (Signature and Printed Name): Romeo Fucanara Date/Time: 5/19/22 1915
Relinquished by (Signature and Printed Name): Date/Time:

Relinquished by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Romeo Fucanara Date/Time: 5/19/22 1616
Relinquished by (Signature and Printed Name): Romeo Fucanara Date/Time: 5/19/22 1915
Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy
Yellow=Customer's Copy

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/19/2022	Workorder:	N050854
Rep sample Temp (Deg C):	3.0/3.6/4.5	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/23/2022

Reviewed By: MBC 5/31/2022

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050854

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050854-001A	IRZ-09-100-0522	5/18/2022 9:00:00 AM	6/3/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-001B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-001C			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-001D			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050854-002A	IRZ-13D-210-0522	5/17/2022 9:45:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-002B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-002C			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-002D			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050854-003A	IRZ-13S-095-0522	5/17/2022 10:00:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-003B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-003C			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050854

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050854-003D	IRZ-13S-095-0522	5/17/2022 10:00:00 AM	6/3/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050854-004A	IRZ-23-143-0522	5/17/2022 8:45:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-004B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-004C			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-004D			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N050854-005A	MW-21-0522	5/18/2022 2:38:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-005B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-005C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-005D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-006A	MW-21-EB-0522	5/18/2022 2:14:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-007A	MW-71-035-0522	5/18/2022 1:48:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-007B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050854

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050854-007C	MW-71-035-0522	5/18/2022 1:48:00 PM	6/3/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-007D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-008A	MW-80-057-0522	5/18/2022 12:32:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050854-008B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050854-008C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050854-008D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050854-009A	MW-80-082-0522	5/18/2022 1:03:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-009B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-009C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-009D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-010A	EB-719-Q222	5/18/2022 3:30:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050854

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050854-011A	MW-79-058-0522	5/19/2022 1:02:00 PM	6/3/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-011B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-011C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-011D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-012A	MW-79-102-0522	5/19/2022 1:34:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-012B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-012C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-012D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-013A	MW-934-Q222	5/19/2022 1:44:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-013B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-013C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050854

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050854-013C	MW-934-Q222	5/19/2022 1:44:00 PM	6/3/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-013D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-014A	MW-78-070-0522	5/19/2022 11:40:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-014B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-014C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-014D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-015A	MW-78-142-0522	5/19/2022 12:16:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-015B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-015C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-015D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-016A	EB-721-Q222	5/19/2022 1:50:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-017A	TW-02D-0522	5/19/2022 2:36:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-017B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050854

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050854-017C	TW-02D-0522	5/19/2022 2:36:00 PM	6/3/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-017D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-018A	TW-02S-0522	5/19/2022 2:20:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-018B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-018C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-018D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-019A	TW-03D-0522	5/19/2022 3:16:00 PM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050854-019B			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/3/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050854-019C			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050854-019D			6/3/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050854-020A	FOLDER	6/3/2022	6/3/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050854

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050854-020A	FOLDER	6/3/2022	6/3/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/3/2022		Folder	Folder	☐	☐	☐	LAB

June 03, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050855

RE: PG&E Topock - RCM, 30121866.2Q22GW

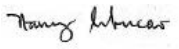
Attention: Dan Bush

Enclosed are the results for sample(s) received on May 19, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Sample N050855-015 (AmbientBlank-3-Q222) was not analyzed as per COC.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N050854-008CMS and N050854-008CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N050865-008CMS and N050865-008CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *03-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050855
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050855-001A	C-CON-D-Q222	Surface Water	5/19/2022 8:01:00 AM	5/19/2022	6/3/2022
N050855-001B	C-CON-D-Q222	Surface Water	5/19/2022 8:01:00 AM	5/19/2022	6/3/2022
N050855-002A	MW-929-Q222	Surface Water	5/19/2022 8:11:00 AM	5/19/2022	6/3/2022
N050855-002B	MW-929-Q222	Surface Water	5/19/2022 8:11:00 AM	5/19/2022	6/3/2022
N050855-003A	C-CON-S-Q222	Surface Water	5/19/2022 8:15:00 AM	5/19/2022	6/3/2022
N050855-003B	C-CON-S-Q222	Surface Water	5/19/2022 8:15:00 AM	5/19/2022	6/3/2022
N050855-004A	C-NR1-D-Q222	Surface Water	5/19/2022 8:30:00 AM	5/19/2022	6/3/2022
N050855-004B	C-NR1-D-Q222	Surface Water	5/19/2022 8:30:00 AM	5/19/2022	6/3/2022
N050855-005A	C-NR1-S-Q222	Surface Water	5/19/2022 8:37:00 AM	5/19/2022	6/3/2022
N050855-005B	C-NR1-S-Q222	Surface Water	5/19/2022 8:37:00 AM	5/19/2022	6/3/2022
N050855-006A	C-NR3-D-Q222	Surface Water	5/19/2022 8:53:00 AM	5/19/2022	6/3/2022
N050855-006B	C-NR3-D-Q222	Surface Water	5/19/2022 8:53:00 AM	5/19/2022	6/3/2022
N050855-007A	MW-930-Q222	Surface Water	5/19/2022 9:03:00 AM	5/19/2022	6/3/2022
N050855-007B	MW-930-Q222	Surface Water	5/19/2022 9:03:00 AM	5/19/2022	6/3/2022
N050855-008A	C-NR3-S-Q222	Surface Water	5/19/2022 9:09:00 AM	5/19/2022	6/3/2022
N050855-008B	C-NR3-S-Q222	Surface Water	5/19/2022 9:09:00 AM	5/19/2022	6/3/2022
N050855-009A	C-NR4-D-Q222	Surface Water	5/19/2022 9:16:00 AM	5/19/2022	6/3/2022
N050855-009B	C-NR4-D-Q222	Surface Water	5/19/2022 9:16:00 AM	5/19/2022	6/3/2022
N050855-010A	C-NR4-S-Q222	Surface Water	5/19/2022 9:21:00 AM	5/19/2022	6/3/2022
N050855-010B	C-NR4-S-Q222	Surface Water	5/19/2022 9:21:00 AM	5/19/2022	6/3/2022
N050855-011A	R-19-Q222	Surface Water	5/19/2022 9:40:00 AM	5/19/2022	6/3/2022
N050855-011B	R-19-Q222	Surface Water	5/19/2022 9:40:00 AM	5/19/2022	6/3/2022
N050855-012A	C-MAR-D-Q222	Surface Water	5/19/2022 9:54:00 AM	5/19/2022	6/3/2022
N050855-012B	C-MAR-D-Q222	Surface Water	5/19/2022 9:54:00 AM	5/19/2022	6/3/2022
N050855-013A	C-MAR-S-Q222	Surface Water	5/19/2022 9:59:00 AM	5/19/2022	6/3/2022
N050855-013B	C-MAR-S-Q222	Surface Water	5/19/2022 9:59:00 AM	5/19/2022	6/3/2022
N050855-014A	RRB-Q222	Surface Water	5/19/2022 10:20:00 AM	5/19/2022	6/3/2022
N050855-014B	RRB-Q222	Surface Water	5/19/2022 10:20:00 AM	5/19/2022	6/3/2022
N050855-015A	AmbientBlank-3-Q222	Surface Water	5/19/2022 10:19:00 AM	5/19/2022	6/3/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:01:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 10:26 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 03:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-929-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:11:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 09:58 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220523C**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 03:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:15:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220521A** QC Batch: **R162619** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 11:04 AM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220523C** QC Batch: **92997** PrepDate: **5/21/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 03:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 11:23 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220523C**	QC Batch: **92997**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:37:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 09:28 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220524C**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 05:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:53:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 11:42 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220524C**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 05:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-930-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:03:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 12:01 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220524C**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 05:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:09:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 12:20 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220524C**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 06:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:16:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 12:57 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220524C**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 06:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:21:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 01:16 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220524C**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:40:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220521A** QC Batch: **R162619** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 01:35 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220524C** QC Batch: **92998** PrepDate: **5/21/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 06:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:54:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220521A** QC Batch: **R162619** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 01:54 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220524C** QC Batch: **92998** PrepDate: **5/21/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 06:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:59:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220521A** QC Batch: **R162619** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 02:13 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220524C** QC Batch: **92998** PrepDate: **5/21/2022** Analyst: **DJ**							
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 06:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	RRB-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 10:20:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220521A**	QC Batch: **R162619**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/21/2022 02:51 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220524C**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	5/24/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162619** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **PBW** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162619** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **LCSW** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656018**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.156	0.20	5.000	0	103	90	110				

Sample ID: **N050855-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656020**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.028	0.20	1.000	0	103	90	110				

Sample ID: **N050855-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656021**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110	1.028	3.85	20	

Sample ID: **N050855-002DUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656023**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20						0	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050855-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656024**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID: **N050855-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656026**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.994	0.20	1.000	0	99.4	90	110				

Sample ID: **N050855-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.057	0.20	1.000	0	106	90	110				

Sample ID: **N050855-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656032**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.041	0.20	1.000	0	104	90	110				

Sample ID: **N050855-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656034**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.027	0.20	1.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050855-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.086	0.20	1.000	0	109	90	110				

Sample ID: **N050855-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.008	0.20	1.000	0	101	90	110				

Sample ID: **N050855-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.023	0.20	1.000	0	102	90	110				

Sample ID: **N050855-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656044**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID: **N050855-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162619**
Client ID: **ZZZZZZ** Batch ID: **R162619** TestNo: **EPA 218.6** Analysis Date: **5/21/2022** SeqNo: **4656046**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.038	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050855-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162619**
Client ID: **ZZZZZZ**	Batch ID: **R162619**	TestNo: **EPA 218.6**		Analysis Date: **5/21/2022**	SeqNo: **4656048**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.047	0.20	1.000	0	105	90	110				

Sample ID: **N050855-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162619**
Client ID: **ZZZZZZ**	Batch ID: **R162619**	TestNo: **EPA 218.6**		Analysis Date: **5/21/2022**	SeqNo: **4656050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.025	0.20	1.000	0	102	90	110				

Sample ID: **N050855-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162619**
Client ID: **ZZZZZZ**	Batch ID: **R162619**	TestNo: **EPA 218.6**		Analysis Date: **5/21/2022**	SeqNo: **4656054**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92997**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162663**
Client ID: **PBW**	Batch ID: **92997**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4657888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92997**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162663**
Client ID: **LCSW**	Batch ID: **92997**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/23/2022**	SeqNo: **4657889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	8.658	1.0	10.00	0	86.6	85	115				

Sample ID: **N050854-008CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92997**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659680**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	986.758	25	10.00	952.2	345	75	125				S

Sample ID: **N050854-008CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92997**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659681**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	1046.259	25	10.00	952.2	940	75	125	986.8	5.85	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92998**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **PBW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92998**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **LCSW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.133	1.0	10.00	0	91.3	85	115				

Sample ID: **N050865-008CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	29.753	1.0	10.00	22.41	73.4	75	125				S

Sample ID: **N050865-008CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	29.403	1.0	10.00	22.41	69.9	75	125	29.75	1.19	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N050854-008C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **162709**
Client ID: **ZZZZZZ** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659679**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	944.589	25	10.00	952.2	-76.4	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N050865-008C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.085	1.0	10.00	22.41	76.8	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:01:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/24/2022 03:01 AM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 03:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-929-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:11:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/24/2022 03:36 AM
Manganese	3.7	0.026	0.50		µg/L	1	5/24/2022 03:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-CON-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:15:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/24/2022 03:48 AM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 03:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR1-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220523D**	QC Batch: **92997**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.8	0.050	0.10		µg/L	1	5/24/2022 04:00 AM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 04:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N050855-005

Client Sample ID: C-NR1-S-Q222
Collection Date: 5/19/2022 8:37:00 AM
Matrix: SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/24/2022 05:48 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 05:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 8:53:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/24/2022 05:53 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 05:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-930-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:03:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	5/24/2022 05:59 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 05:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR3-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:09:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/24/2022 06:05 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 06:05 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-NR4-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:16:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/24/2022 06:11 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 06:11 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N050855-010

Client Sample ID: C-NR4-S-Q222
Collection Date: 5/19/2022 9:21:00 AM
Matrix: SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/24/2022 06:17 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	R-19-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:40:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.9	0.050	0.10		µg/L	1	5/24/2022 06:23 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 06:23 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-D-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:54:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.1	0.050	0.10		µg/L	1	5/24/2022 06:47 PM
Manganese	0.96	0.026	0.50		µg/L	1	5/24/2022 06:47 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	C-MAR-S-Q222
Lab Order:	N050855	**Collection Date:**	5/19/2022 9:59:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	SURFACE WATER
Lab ID:	N050855-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/24/2022 06:53 PM
Manganese	2.6	0.026	0.50		µg/L	1	5/24/2022 06:53 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N050855-014

Client Sample ID: RRB-Q222
Collection Date: 5/19/2022 10:20:00 AM
Matrix: SURFACE WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	5/24/2022 06:59 PM
Manganese	7.6	0.026	0.50		µg/L	1	5/24/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92997** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **PBW** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658060**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID: **LCS-92997** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **LCSW** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/23/2022** SeqNo: **4658061**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.014	0.10	10.00	0	90.1	85	115				
Manganese	93.199	0.50	100.0	0	93.2	85	115				

Sample ID: **N050854-008CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4658085**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.559	0.10	10.00	0	85.6	75	125				
Manganese	87.230	0.50	100.0	5.910	81.3	75	125				

Sample ID: **N050854-008CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4658087**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.087	0.10	10.00	0	80.9	75	125	8.559	5.67	20	
Manganese	87.705	0.50	100.0	5.910	81.8	75	125	87.23	0.542	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92998**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **PBW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID: **LCS-92998**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **LCSW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.206	0.10	10.00	0	92.1	85	115				
Manganese	92.550	0.50	100.0	0	92.6	85	115				

Sample ID: **N050865-008CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.606	0.10	10.00	0	46.1	75	125				S
Manganese	85.121	0.50	100.0	2.966	82.2	75	125				

Sample ID: **N050865-008CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.945	0.10	10.00	0	49.4	75	125	4.606	7.11	20	S
Manganese	84.859	0.50	100.0	2.966	81.9	75	125	85.12	0.308	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050854-008C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162664**
Client ID: **ZZZZZZ** Batch ID: **92997** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4658083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.160	0.10	10.00	0	81.6	80	120				
Manganese	87.234	0.50	100.0	5.910	81.3	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050855
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050865-008C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162710**
Client ID: **ZZZZZZ** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.725	0.10	10.00	0	47.2	80	120				S
Manganese	85.771	0.50	100.0	2.966	82.8	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us: N050855
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 2

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
			Geotracker	RWQCB ✓	1. Chilled ✓
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Labspec	CalTrans	2. Headspace
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Others ✓	LEVEL III	3. Container Intact ✓
Submitted By: Riggie Typ			Specify: RWQCB	LEVEL IV	4. Seal Present ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Global ID:	Regulatory	5. IR number 3
Signature: Date: 5/19/22	Sampled By: Riggie Typ			Specify State:	6. Method of Cooling: ICE
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*				Sample Temp: 3.6°C / 14.4°F
Project Name: PG&E Topock - RCM	Signature: Date: 5/19/22				Courier: ASSET
Project Number: 30121866.2Q22GW					Tracking No.:

Matrix: Ground; Sediment; Potable; Soil; NPDES; Other Solid; Surface (X)

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH	125 mL poly: Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4	500mL poly: Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese,	500mL poly: Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium,	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050855-01	C-CON-D-Q222	5/19/22	8:01		X		X	X	E	2	P	BN	
2	-02	MW-929-Q222		8:11		X		X	X	E	2	P	BN	
3	-03	C-CON-S-Q222		8:15		X		X	X	E	2	P	BN	
4	-04	C-NR1-D-Q222		8:30		X		X	X	E	2	P	BN	
5	-05	C-NR1-S-Q222		8:37		X		X	X	E	2	P	BN	
	-06	C-NR3-D-Q222		8:53		X		X	X	E	2	P	BN	
7	-07	MW-930-Q222		9:03		X		X	X	E	2	P	BN	
8	-08	C-NR3-S-Q222		9:09		X		X	X	E	2	P	BN	
9	-09	C-NR4-D-Q222		9:16		X		X	X	E	2	P	BN	
10	-10	C-NR4-S-Q222		9:21		X		X	X	E	2	P	BN	
11	-11	R-19-Q222		9:40		X		X	X	E	2	P	BN	
12	-12	C-MAR-D-Q222		9:54		X		X	X	E	2	P	BN	
13	-13	C-MAR-S-Q222		9:59		X		X	X	E	2	P	BN	
14	-14	RRB-Q222		10:20		X		X	X	E	2	P	BN	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nora Tey	5/19/22 1601	ROMEO ACCIARRA	5/19/22 1601
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
ROMEO ACCIARRA	5/19/22 1915	ROMEO ACCIARRA	5/19/22 1915
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.moore@nitrogen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com	P.O.#
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200	Fax:
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: [signature] Date: 5/19/22	Sampled By: Riggie Tap		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: [signature] Date: 5/19/22		
Project Number: 30121866.2Q22GW			

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
		Regulatory	
Global ID:		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number		
6. Method of Cooling: ICE		
Sample Temp: 3.6°C / 4.4°C		
Courier: ASSET		
Tracking No.:		

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface	X		

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate/Nitrite (SM4500N03) Nitrogen; H2SO4 (125 mL poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Manganese, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050855-15	AmbientBlank-3-Q222	5/19/2022	10:19		X				E	1	P	BN	Hold
2														
3														
4														
5														
7														
8														
9														
10														
11														
12														
13														
14														

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
[signature] Nara Tap	5/19/22 1601	[signature] ROMEO ALCANTARA	5/19/22 1601
[signature] ROMEO ALCANTARA	5/19/22 1915	[signature] ROMEO ALCANTARA	5/19/22 1915

Turn Around Time (TAT)

- [ ] A < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Yellow=Customer's Copy

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/19/2022	Workorder:	N050855
Rep sample Temp (Deg C):	3.6/4.4	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/23/2022

Reviewed By: MBC 5/31/2022

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050855

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050855-001A	C-CON-D-Q222	5/19/2022 8:01:00 AM	6/3/2022	Surface Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-001B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-002A	MW-929-Q222	5/19/2022 8:11:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-002B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-003A	C-CON-S-Q222	5/19/2022 8:15:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-003B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-004A	C-NR1-D-Q222	5/19/2022 8:30:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-004B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-005A	C-NR1-S-Q222	5/19/2022 8:37:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-005B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-006A	C-NR3-D-Q222	5/19/2022 8:53:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-006B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050855

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050855-006B	C-NR3-D-Q222	5/19/2022 8:53:00 AM	6/3/2022	Surface Water	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-007A	MW-930-Q222	5/19/2022 9:03:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-007B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-008A	C-NR3-S-Q222	5/19/2022 9:09:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-008B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-009A	C-NR4-D-Q222	5/19/2022 9:16:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-009B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-010A	C-NR4-S-Q222	5/19/2022 9:21:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-010B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-011A	R-19-Q222	5/19/2022 9:40:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-011B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

31-May-22

WorkOrder: N050855

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/19/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050855-012A	C-MAR-D-Q222	5/19/2022 9:54:00 AM	6/3/2022	Surface Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-012B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-013A	C-MAR-S-Q222	5/19/2022 9:59:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-013B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-014A	RRB-Q222	5/19/2022 10:20:00 AM	6/3/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050855-014B			6/3/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/3/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050855-015A	AmbientBlank-3-Q222	5/19/2022 10:19:00 AM					☐	☐	☐	WW
N050855-016A	FOLDER	6/3/2022	6/3/2022		Folder	Folder	☐	☐	☐	LAB
			6/3/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/3/2022		Folder	Folder	☐	☐	☐	LAB

June 06, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050865

RE: PG&E Topock - PCM, 30121866.2Q22GW

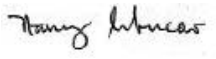
Attention: Dan Bush

Enclosed are the results for sample(s) received on May 20, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N050865-008CMS and N050865-008CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N050865-008DMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N050865-008 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050865
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050865-001A	MW-26-0522	Groundwater	5/20/2022 8:20:00 AM	5/20/2022	6/6/2022
N050865-001B	MW-26-0522	Groundwater	5/20/2022 8:20:00 AM	5/20/2022	6/6/2022
N050865-001C	MW-26-0522	Groundwater	5/20/2022 8:20:00 AM	5/20/2022	6/6/2022
N050865-001D	MW-26-0522	Groundwater	5/20/2022 8:20:00 AM	5/20/2022	6/6/2022
N050865-002A	MW-51-0522	Groundwater	5/20/2022 9:00:00 AM	5/20/2022	6/6/2022
N050865-002B	MW-51-0522	Groundwater	5/20/2022 9:00:00 AM	5/20/2022	6/6/2022
N050865-002C	MW-51-0522	Groundwater	5/20/2022 9:00:00 AM	5/20/2022	6/6/2022
N050865-002D	MW-51-0522	Groundwater	5/20/2022 9:00:00 AM	5/20/2022	6/6/2022
N050865-003A	MW-20-070-0522	Groundwater	5/20/2022 9:17:00 AM	5/20/2022	6/6/2022
N050865-003B	MW-20-070-0522	Groundwater	5/20/2022 9:17:00 AM	5/20/2022	6/6/2022
N050865-003C	MW-20-070-0522	Groundwater	5/20/2022 9:17:00 AM	5/20/2022	6/6/2022
N050865-003D	MW-20-070-0522	Groundwater	5/20/2022 9:17:00 AM	5/20/2022	6/6/2022
N050865-004A	MW-915-Q222	Groundwater	5/20/2022 9:27:00 AM	5/20/2022	6/6/2022
N050865-004B	MW-915-Q222	Groundwater	5/20/2022 9:27:00 AM	5/20/2022	6/6/2022
N050865-004C	MW-915-Q222	Groundwater	5/20/2022 9:27:00 AM	5/20/2022	6/6/2022
N050865-004D	MW-915-Q222	Groundwater	5/20/2022 9:27:00 AM	5/20/2022	6/6/2022
N050865-005A	MW-20-100-0522	Groundwater	5/20/2022 10:31:00 AM	5/20/2022	6/6/2022
N050865-005B	MW-20-100-0522	Groundwater	5/20/2022 10:31:00 AM	5/20/2022	6/6/2022
N050865-005C	MW-20-100-0522	Groundwater	5/20/2022 10:31:00 AM	5/20/2022	6/6/2022
N050865-005D	MW-20-100-0522	Groundwater	5/20/2022 10:31:00 AM	5/20/2022	6/6/2022
N050865-006A	MW-20-130-0522	Groundwater	5/20/2022 9:55:00 AM	5/20/2022	6/6/2022
N050865-006B	MW-20-130-0522	Groundwater	5/20/2022 9:55:00 AM	5/20/2022	6/6/2022
N050865-006C	MW-20-130-0522	Groundwater	5/20/2022 9:55:00 AM	5/20/2022	6/6/2022
N050865-006D	MW-20-130-0522	Groundwater	5/20/2022 9:55:00 AM	5/20/2022	6/6/2022
N050865-007A	MW-31-060-0522	Groundwater	5/20/2022 8:32:00 AM	5/20/2022	6/6/2022
N050865-007B	MW-31-060-0522	Groundwater	5/20/2022 8:32:00 AM	5/20/2022	6/6/2022
N050865-007C	MW-31-060-0522	Groundwater	5/20/2022 8:32:00 AM	5/20/2022	6/6/2022
N050865-007D	MW-31-060-0522	Groundwater	5/20/2022 8:32:00 AM	5/20/2022	6/6/2022
N050865-008A	MW-31-135-0522	Groundwater	5/20/2022 7:50:00 AM	5/20/2022	6/6/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N050865
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050865-008B	MW-31-135-0522	Groundwater	5/20/2022 7:50:00 AM	5/20/2022	6/6/2022
N050865-008C	MW-31-135-0522	Groundwater	5/20/2022 7:50:00 AM	5/20/2022	6/6/2022
N050865-008D	MW-31-135-0522	Groundwater	5/20/2022 7:50:00 AM	5/20/2022	6/6/2022
N050865-009A	EB-723-Q222	Groundwater	5/20/2022 10:40:00 AM	5/20/2022	6/6/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 8:20:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A**	QC Batch: **R162636**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	340	2.5	20		µg/L	100	5/23/2022 11:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220523A** QC Batch: **R162636** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	870	2.5	20		µg/L	100	5/23/2022 11:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A**	QC Batch: **R162636**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	330	2.5	20		µg/L	100	5/23/2022 11:41 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-915-Q222
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220523A** QC Batch: **R162636** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	330	2.5	20		µg/L	100	5/23/2022 11:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220523A** QC Batch: **R162636** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	880	5.0	40		µg/L	200	5/23/2022 12:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:55:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A**	QC Batch: **R162636**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2000	13	100		µg/L	500	5/23/2022 12:52 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 8:32:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A**	QC Batch: **R162636**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	48	0.25	2.0		µg/L	10	5/23/2022 04:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220523A** QC Batch: **R162636** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	26	0.13	1.0		µg/L	5	5/23/2022 11:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-723-Q222
Lab Order:	N050865	**Collection Date:**	5/20/2022 10:40:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A**	QC Batch: **R162636**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/23/2022 02:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162636**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **PBW**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162636**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **LCSW**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.941	0.20	5.000	0	98.8	90	110				

Sample ID: **N050866-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	205.640	40	200.0	0	103	90	110				

Sample ID: **N050865-006ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1982.050	100						1961	1.08	20	

Sample ID: **N050865-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4493.700	100	2500	1961	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050866-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9608.300	200	5000	4501	102	90	110				

Sample ID: **N050865-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.637	1.0	25.00	25.72	104	90	110				

Sample ID: **N050865-008AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.624	1.0	25.00	25.72	104	90	110	51.64	0.0252	20	

Sample ID: **N050865-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1903.260	40	1000	876.1	103	90	110				

Sample ID: **N050865-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050866-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Sample ID: **N050865-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	860.680	20	500.0	341.0	104	90	110				

Sample ID: **N050865-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1404.290	20	500.0	871.7	107	90	110				

Sample ID: **N050865-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	843.810	20	500.0	330.4	103	90	110				

Sample ID: **N050865-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	840.500	20	500.0	328.5	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050865-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	99.157	2.0	50.00	48.30	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-001

Client Sample ID: MW-26-0522
Collection Date: 5/20/2022 8:20:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	560	3.0	25		mg/L	50	5/23/2022 06:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	5/21/2022 09:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-002

Client Sample ID: MW-51-0522
Collection Date: 5/20/2022 9:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	590	3.0	25		mg/L	50	5/23/2022 07:03 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.1	0.095	0.50		mg/L	10	5/21/2022 09:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-003

Client Sample ID: MW-20-070-0522
Collection Date: 5/20/2022 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	280	1.2	10		mg/L	20	5/23/2022 07:18 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	16	0.095	0.50		mg/L	10	5/21/2022 09:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-004

Client Sample ID: MW-915-Q222
Collection Date: 5/20/2022 9:27:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	270	1.2	10		mg/L	20	5/23/2022 07:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	16	0.095	0.50		mg/L	10	5/21/2022 11:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	650	6.1	50		mg/L	100	5/23/2022 07:49 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	4.3	0.095	0.50		mg/L	10	5/21/2022 10:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-006

Client Sample ID: MW-20-130-0522
Collection Date: 5/20/2022 9:55:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	1400	6.1	50		mg/L	100	5/23/2022 08:04 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	4.0	0.095	0.50		mg/L	10	5/21/2022 10:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-007

Client Sample ID: MW-31-060-0522
Collection Date: 5/20/2022 8:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	560	3.0	25		mg/L	50	5/23/2022 08:19 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	5/21/2022 11:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-008

Client Sample ID: MW-31-135-0522
Collection Date: 5/20/2022 7:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220523A** QC Batch: **R162645**				PrepDate:			Analyst: **RAB**
Sulfate	720	6.1	50		mg/L	100	5/23/2022 08:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A** QC Batch: **R162608**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	5/21/2022 09:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R162645_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **PBW**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R162645_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **LCSW**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.972	0.50	4.000	0	99.3	90	110				

Sample ID: **N050854-008BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	720.320	25	200.0	516.3	102	80	120				

Sample ID: **N050854-008BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657365**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	719.940	25	200.0	516.3	102	80	120	720.3	0.0528	20	

Sample ID: **N050854-017BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657367**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	402.890	50						399.4	0.868	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N050865-008BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657390**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1125.470	50	400.0	715.9	102	80	120				

Sample ID: **N050865-008BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **162645**
Client ID: **ZZZZZZ**	Batch ID: **R162645**	TestNo: **EPA 300.0**		Analysis Date: **5/23/2022**	SeqNo: **4657391**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1120.440	50	400.0	715.9	101	80	120	1125	0.448	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162608_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162608**
Client ID: **PBW**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**	SeqNo: **4655692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162608_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162608**
Client ID: **LCSW**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**	SeqNo: **4655693**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.235	0.050	1.250	0	98.8	90	110				

Sample ID: **N050865-008BMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162608**
Client ID: **ZZZZZZ**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**	SeqNo: **4655705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.835	0.50	12.50	1.549	98.3	80	120				

Sample ID: **N050865-008BMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162608**
Client ID: **ZZZZZZ**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**	SeqNo: **4655706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.776	0.50	12.50	1.549	97.8	80	120	13.84	0.427	20	

Sample ID: **N050865-001BDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **162608**
Client ID: **ZZZZZZ**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**	SeqNo: **4655707**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.157	0.50						1.218	5.14	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 8:20:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/24/2022 11:24 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/24/2022 11:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:17:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/24/2022 12:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-915-Q222
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/24/2022 12:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 10:31:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/24/2022 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:55:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/24/2022 03:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 8:32:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	5/24/2022 03:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220524A**	QC Batch: **R162660**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	6.8	50		mg/L	50	5/24/2022 02:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R162660**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162660**
Client ID: **PBW**	Batch ID: **R162660**	TestNo: **SM 5310C**		Analysis Date: **5/24/2022**	SeqNo: **4657978**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R162660**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162660**
Client ID: **LCSW**	Batch ID: **R162660**	TestNo: **SM 5310C**		Analysis Date: **5/24/2022**	SeqNo: **4657979**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.639	1.0	5.000	0	92.8	85	115				

Sample ID: **N050865-008DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162660**
Client ID: **ZZZZZZ**	Batch ID: **R162660**	TestNo: **SM 5310C**		Analysis Date: **5/24/2022**	SeqNo: **4657992**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	205.465	50	250.0	0	82.2	75	125				

Sample ID: **N050865-008DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162660**
Client ID: **ZZZZZZ**	Batch ID: **R162660**	TestNo: **SM 5310C**		Analysis Date: **5/24/2022**	SeqNo: **4657993**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	209.020	50	250.0	0	83.6	75	125	205.5	1.72	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-001

Client Sample ID: MW-26-0522
Collection Date: 5/20/2022 8:20:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 06:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 06:24 PM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-003

Client Sample ID: MW-20-070-0522
Collection Date: 5/20/2022 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 06:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-004

Client Sample ID: MW-915-Q222
Collection Date: 5/20/2022 9:27:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 06:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-005

Client Sample ID: MW-20-100-0522
Collection Date: 5/20/2022 10:31:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 06:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 9:55:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 06:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-007

Client Sample ID: MW-31-060-0522
Collection Date: 5/20/2022 8:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	140	13	20		µg/L	1	5/24/2022 06:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220524C**	QC Batch: **93004**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	5/24/2022 07:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-93004**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **PBW**	Batch ID: **93004**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4658994**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-93004**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **LCSW**	Batch ID: **93004**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4658995**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.101	20	100.0	0	94.1	85	115				

Sample ID: **N050865-008CMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **ZZZZZZ**	Batch ID: **93004**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659016**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	94.454	20	100.0	14.80	79.6	75	125				

Sample ID: **N050865-008CMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162687**
Client ID: **ZZZZZZ**	Batch ID: **93004**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659017**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.939	20	100.0	14.80	81.1	75	125	94.45	1.56	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-001

Client Sample ID: MW-26-0522
Collection Date: 5/20/2022 8:20:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 07:05 PM
Barium	87	0.083	1.0		µg/L	1	5/25/2022 02:53 PM
Manganese	120	0.026	0.50		µg/L	1	5/24/2022 07:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-002

Client Sample ID: MW-51-0522
Collection Date: 5/20/2022 9:00:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 07:11 PM
Barium	29	0.083	1.0		µg/L	1	5/25/2022 03:05 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 07:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-003

Client Sample ID: MW-20-070-0522
Collection Date: 5/20/2022 9:17:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	1.1	0.050	0.10		µg/L	1	5/24/2022 07:17 PM
Barium	29	0.083	1.0		µg/L	1	5/25/2022 03:17 PM
Manganese	1.6	0.026	0.50		µg/L	1	5/24/2022 07:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-004

Client Sample ID: MW-915-Q222
Collection Date: 5/20/2022 9:27:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	0.95	0.050	0.10		µg/L	1	5/24/2022 07:23 PM
Barium	26	0.083	1.0		µg/L	1	5/25/2022 08:18 PM
Manganese	1.3	0.026	0.50		µg/L	1	5/24/2022 07:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-005

Client Sample ID: MW-20-100-0522
Collection Date: 5/20/2022 10:31:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 07:29 PM
Barium	62	0.083	1.0		µg/L	1	5/25/2022 08:30 PM
Manganese	ND	0.026	0.50		µg/L	1	5/24/2022 07:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-006

Client Sample ID: MW-20-130-0522
Collection Date: 5/20/2022 9:55:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 07:35 PM
Barium	32	0.083	1.0		µg/L	1	5/25/2022 08:48 PM
Manganese	3.2	0.026	0.50		µg/L	1	5/24/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N050865-007

Client Sample ID: MW-31-060-0522
Collection Date: 5/20/2022 8:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 08:10 PM
Barium	79	0.083	1.0		µg/L	1	5/25/2022 09:12 PM
Manganese	690	0.13	2.5		µg/L	5	5/25/2022 09:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-0522
Lab Order:	N050865	**Collection Date:**	5/20/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050865-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	5/24/2022 08:16 PM
Barium	51	0.083	1.0		µg/L	1	5/25/2022 09:24 PM
Manganese	3.0	0.026	0.50		µg/L	1	5/24/2022 08:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92998** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162710**
Client ID: **PBW** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID: **LCS-92998** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162710**
Client ID: **LCSW** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.206	0.10	10.00	0	92.1	85	115				
Manganese	92.550	0.50	100.0	0	92.6	85	115				

Sample ID: **N050865-008CMS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162710**
Client ID: **ZZZZZZ** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.606	0.10	10.00	0	46.1	75	125				S
Manganese	85.121	0.50	100.0	2.966	82.2	75	125				

Sample ID: **N050865-008CMSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162710**
Client ID: **ZZZZZZ** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.945	0.10	10.00	0	49.4	75	125	4.606	7.11	20	S
Manganese	84.859	0.50	100.0	2.966	81.9	75	125	85.12	0.308	20	

Sample ID: **MB-92998** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **5/21/2022** RunNo: **162723**
Client ID: **PBW** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/25/2022** SeqNo: **4660536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92998**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162723**
Client ID: **PBW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/25/2022**	SeqNo: **4660536**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID: **LCS-92998**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162723**
Client ID: **LCSW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/25/2022**	SeqNo: **4660537**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.290	1.0	10.00	0	92.9	85	115				

Sample ID: **N050865-008CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162743**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/25/2022**	SeqNo: **4661469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	59.060	1.0	10.00	51.03	80.3	75	125				

Sample ID: **N050865-008CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162743**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/25/2022**	SeqNo: **4661470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	60.273	1.0	10.00	51.03	92.5	75	125	59.06	2.03	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050865
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N050865-008C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162710**
Client ID: **ZZZZZZ** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/24/2022** SeqNo: **4659835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.725	0.10	10.00	0	47.2	80	120				S
Manganese	85.771	0.50	100.0	2.966	82.8	80	120				

Sample ID: **N050865-008C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **162743**
Client ID: **ZZZZZZ** Batch ID: **92998** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **5/25/2022** SeqNo: **4661468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	59.103	1.0	10.00	51.03	80.7	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02 C: 6/6/2022 12:00 AM
FOLDER R: 5/20/2022
N050865-010A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes		EDD Requirement		QA/QC		Sample Receipt Condition	Y	N
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:		Excel EDD		RTNE		1. Chilled	✓	
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com cc: mbloes@pivox.com	Address:		Geotracker		RWQCB	✓	2. Headspace		
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com	P.O.#	Labspec		CalTrans		3. Container Intact	✓	
Submitted By: Reggie Tap		Phone: 949-727-1400, ext 200	Fax:	Others	✓	LEVEL III		4. Seal Present	✓	
Title: Field Tech	Phone: 916-786-3302 Fax:			Specify: RWQCB		LEVEL IV		5. IR number 3		
				Global ID:		Regulatory		6. Method of Cooling: 2.8°C / 4.6°C Ice		
Signature: Date: 5/20/22	Sampled By: Reggie Tap					Specify State:		Sample Temp:		

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Project Name: PG&E Topock - PCM
Project Number: 30121866.2Q22GW
Signature: Date: 5/20/22

Matrix: Ground X Sediment; Potable; Soil; NPDES; Other Solid; Surface

Courier: ASSET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050865-01	MW-26-0522	5/20/2022	8:20		X	X	X			X			E	6	P	BNS	
2	-02	MW-51-0522	5/20/2022	9:00		X	X	X			X			E	6	P	BNS	
3	-03	MW-20-070-0522	5/20/2022	9:17		X	X	X			X			E	6	P	BNS	
4	-04	MW-915-Q222	5/20/2022	9:27		X	X	X			X			E	6	P	BNS	
5	-05	MW-20-100-0522	5/20/2022	10:31		X	X	X			X			E	6	P	BNS	
6	-06	MW-20-130-0522	5/20/2022	9:55		X	X	X			X			E	6	P	BNS	
7	-07	MW-31-060-0522	5/20/2022	8:32		X	X	X			X			E	6	P	BNS	
8	-08	MW-31-135-0522	5/20/2022	7:50		X	X	X			X			E	9	P	BNS	MS/MSD
9	-09	EB-723-Q222	5/20/2022	10:40		X								E	1	P	BNS	
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name): Reggie Tap Date/Time: 5/20/22 1225
Received by (Signature and Printed Name): Romeo Macaraeg Date/Time: 5/20/22 1225
Relinquished by (Signature and Printed Name): Romeo Macaraeg Date/Time: 5/20/22 1545
Received by (Signature and Printed Name): Joaquin Rodriguez Date/Time: 5/20/22 1545
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/20/2022	Workorder:	N050865
Rep sample Temp (Deg C):	2.8/4.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/23/2022

Reviewed By: MBC 5/26/2022

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050865

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/20/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050865-001A	MW-26-0522	5/20/2022 8:20:00 AM	6/6/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-001B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050865-001C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050865-001D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050865-002A	MW-51-0522	5/20/2022 9:00:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-002B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050865-002C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050865-002D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050865-003A	MW-20-070-0522	5/20/2022 9:17:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-003B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050865-003C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050865

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/20/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050865-003C	MW-20-070-0522	5/20/2022 9:17:00 AM	6/6/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050865-003D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050865-004A	MW-915-Q222	5/20/2022 9:27:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-004B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050865-004C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050865-004D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050865-005A	MW-20-100-0522	5/20/2022 10:31:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-005B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050865-005C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050865-005D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050865-006A	MW-20-130-0522	5/20/2022 9:55:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-006B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050865-006C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050865

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/20/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050865-006C	MW-20-130-0522	5/20/2022 9:55:00 AM	6/6/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050865-006D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050865-007A	MW-31-060-0522	5/20/2022 8:32:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-007B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050865-007C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050865-007D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050865-008A	MW-31-135-0522	5/20/2022 7:50:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N050865-008B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N050865-008C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/6/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N050865-008D			6/6/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N050865-009A	EB-723-Q222	5/20/2022 10:40:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050865-010A	FOLDER	6/6/2022	6/6/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050865

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/20/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050865-010A	FOLDER	6/6/2022	6/6/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/6/2022		Folder	Folder	☐	☐	☐	LAB

June 06, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050866

RE: PG&E Topock - RCM, 30121866.2Q22GW

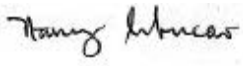
Attention: Dan Bush

Enclosed are the results for sample(s) received on May 20, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050866

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Sample N050866-002 required high dilution due to matrix. Sample is bright pink in color.

Analytical Comments for EPA 300.0:

Sample N050866-002 required high dilution due to matrix. Sample is bright pink in color.

Analytical Comments for EPA 6020_Dissolved:

Sample N050866-002 required initial dilution due to matrix. Digestate is colored.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N050865-008CMS and N050865-008CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *06-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N050866
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050866-001A	MW-68-180-0522	Groundwater	5/20/2022 10:22:00 AM	5/20/2022	6/6/2022
N050866-001B	MW-68-180-0522	Groundwater	5/20/2022 10:22:00 AM	5/20/2022	6/6/2022
N050866-002A	MW-67-185-0522	Groundwater	5/20/2022 11:18:00 AM	5/20/2022	6/6/2022
N050866-002B	MW-67-185-0522	Groundwater	5/20/2022 11:18:00 AM	5/20/2022	6/6/2022
N050866-002C	MW-67-185-0522	Groundwater	5/20/2022 11:18:00 AM	5/20/2022	6/6/2022
N050866-003A	EB-722-Q222	Groundwater	5/20/2022 11:40:00 AM	5/20/2022	6/6/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N050866-001

Client Sample ID: MW-68-180-0522
Collection Date: 5/20/2022 10:22:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A**	QC Batch: **R162636**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4500	25	200		µg/L	1000	5/23/2022 01:39 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220525E**	QC Batch: **92998**			PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	4100	0.88	25		µg/L	25	5/25/2022 09:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-0522
Lab Order:	N050866	**Collection Date:**	5/20/2022 11:18:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050866-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A** QC Batch: **R162636**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	5.0	40		µg/L	200	5/23/2022 12:05 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220524C** QC Batch: **92998**				PrepDate:	**5/21/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	5/24/2022 08:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-722-Q222
Lab Order:	N050866	**Collection Date:**	5/20/2022 11:40:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050866-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220523A**	QC Batch: **R162636**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	5/23/2022 03:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R162636**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **PBW**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R162636**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **LCSW**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.941	0.20	5.000	0	98.8	90	110				

Sample ID: **N050866-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	205.640	40	200.0	0	103	90	110				

Sample ID: **N050865-006ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656726**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1982.050	100						1961	1.08	20	

Sample ID: **N050865-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656727**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4493.700	100	2500	1961	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050866-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9608.300	200	5000	4501	102	90	110				

Sample ID: **N050865-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.637	1.0	25.00	25.72	104	90	110				

Sample ID: **N050865-008AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.624	1.0	25.00	25.72	104	90	110	51.64	0.0252	20	

Sample ID: **N050865-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1903.260	40	1000	876.1	103	90	110				

Sample ID: **N050865-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050866-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656738**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.985	0.20	1.000	0	98.5	90	110				

Sample ID: **N050865-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656739**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	860.680	20	500.0	341.0	104	90	110				

Sample ID: **N050865-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1404.290	20	500.0	871.7	107	90	110				

Sample ID: **N050865-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	843.810	20	500.0	330.4	103	90	110				

Sample ID: **N050865-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **162636**
Client ID: **ZZZZZZ** Batch ID: **R162636** TestNo: **EPA 218.6** Analysis Date: **5/23/2022** SeqNo: **4656742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	840.500	20	500.0	328.5	102	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N050865-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **162636**
Client ID: **ZZZZZZ**	Batch ID: **R162636**	TestNo: **EPA 218.6**		Analysis Date: **5/23/2022**	SeqNo: **4656744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	99.157	2.0	50.00	48.30	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-92998**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **PBW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-92998**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **LCSW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.133	1.0	10.00	0	91.3	85	115				

Sample ID: **N050865-008CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	29.753	1.0	10.00	22.41	73.4	75	125				S

Sample ID: **N050865-008CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	29.403	1.0	10.00	22.41	69.9	75	125	29.75	1.19	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N050865-008C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **162709**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	30.085	1.0	10.00	22.41	76.8	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-0522
Lab Order:	N050866	**Collection Date:**	5/20/2022 11:18:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050866-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220521A**	QC Batch: **R162608**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	1.9	10		mg/L	200	5/21/2022 08:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R162608_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:		RunNo: **162608**					
Client ID: **PBW**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**		SeqNo: **4655692**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R162608_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:		RunNo: **162608**					
Client ID: **LCSW**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**		SeqNo: **4655693**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.235	0.050	1.250	0	98.8	90	110				

Sample ID: **N050865-008BMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:		RunNo: **162608**					
Client ID: **ZZZZZZ**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**		SeqNo: **4655705**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.835	0.50	12.50	1.549	98.3	80	120				

Sample ID: **N050865-008BMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:		RunNo: **162608**					
Client ID: **ZZZZZZ**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**		SeqNo: **4655706**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.776	0.50	12.50	1.549	97.8	80	120	13.84	0.427	20	

Sample ID: **N050865-001BDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:		RunNo: **162608**					
Client ID: **ZZZZZZ**	Batch ID: **R162608**	TestNo: **EPA 300.0**		Analysis Date: **5/21/2022**		SeqNo: **4655707**					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.157	0.50						1.218	5.14	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-0522
Lab Order:	N050866	**Collection Date:**	5/20/2022 10:22:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N050866-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**				PrepDate:	**5/21/2022**	Analyst: **DJ**
Molybdenum	42	0.12	0.50		µg/L	1	5/24/2022 08:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N050866-002

Client Sample ID: MW-67-185-0522
Collection Date: 5/20/2022 11:18:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220524D**	QC Batch: **92998**			PrepDate:		**5/21/2022**	Analyst: **DJ**
Manganese	1300	0.66	12		µg/L	25	5/24/2022 08:58 PM
Molybdenum	42	0.60	2.5		µg/L	5	5/24/2022 08:52 PM
Selenium	51	0.22	2.5		µg/L	5	5/24/2022 08:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050866
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-92998**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **PBW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-92998**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **LCSW**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.550	0.50	100.0	0	92.6	85	115				
Molybdenum	9.270	0.50	10.00	0	92.7	85	115				
Selenium	8.558	0.50	10.00	0	85.6	85	115				

Sample ID: **N050865-008CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659836**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	85.121	0.50	100.0	2.966	82.2	75	125				
Molybdenum	37.843	0.50	10.00	27.65	102	75	125				
Selenium	9.417	0.50	10.00	0.8509	85.7	75	125				

Sample ID: **N050865-008CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **5/21/2022**	RunNo: **162710**
Client ID: **ZZZZZZ**	Batch ID: **92998**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **5/24/2022**	SeqNo: **4659837**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	84.859	0.50	100.0	2.966	81.9	75	125	85.12	0.308	20	
Molybdenum	37.683	0.50	10.00	27.65	100	75	125	37.84	0.424	20	
Selenium	9.309	0.50	10.00	0.8509	84.6	75	125	9.417	1.16	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ARCUS02 C: 6/6/2022 12:00 AM
FOLDER R: 5/20/2022
N050866-004A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95661	Email: [redacted]	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@nivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Ryan Tap			Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present ✓
Signature: Date: RT 5/20/22	Sampled By: Ryan Tap		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: Ice
Project Name: PG&E Topock - RCM	Signature: Date: 5/20 pm	Matrix: Ground X Sediment; Potable Soil; NPDES Other Solid; Surface					Sample Temp: 2.8°C / 4.6 °C

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Dissolved metals (SW6020) FF; HNO3 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050866-01	MW-68-180-0522	5/20/2022	10:22		X			X		X	E	2	P	BNS	
2	-02	MW-67-185-0522	5/20/2022	11:18		X	X	X	X	X		E	3	P	BNS	
3	-03	EB-722-Q222	5/20/2022	11:40		X						E	1	P	BNS	
4																
5																
7																
8																
9																
10																
11																
12																
13																
14																

Courier: Asset
Tracking No.:

Dissolved metals (SW6020) FF; HNO3 Molybdenum

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Ryan Tap	5/20/22 1225	Edmundo Alcantara	5/20/22 1295
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Edmundo Alcantara	5/20/22 1545	Joaudon Rodriguez	5/20/22 1545
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=60% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/20/2022	Workorder:	N050866
Rep sample Temp (Deg C):	2.8/4.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/23/2022

Reviewed By: MBC 5/26/2022

ASSET Laboratories

WORK ORDER Summary

24-May-22

WorkOrder: N050866

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 5/20/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050866-001A	MW-68-180-0522	5/20/2022 10:22:00 AM	6/6/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050866-001B			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050866-002A	MW-67-185-0522	5/20/2022 11:18:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050866-002B			6/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N050866-002C			6/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050866-003A	EB-722-Q222	5/20/2022 11:40:00 AM	6/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050866-004A	FOLDER	6/6/2022	6/6/2022		Folder	Folder	☐	☐	☐	LAB
			6/6/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/6/2022		Folder	Folder	☐	☐	☐	LAB

June 10, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050916

RE: PG&E Topock - OMM Baseline, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on May 24, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) is outside recovery criteria for Iron in QC sample N050916-001B-MS1 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

RPD for Matrix Spike (MS) and Matrix Spike Duplicate (MSD) is outside criteria; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N050916-001C-MS and N050916-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *10-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N050916
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050916-001A	Backwash Pre-filter-052322	Water	5/23/2022 12:00:00 PM	5/24/2022	6/10/2022
N050916-001B	Backwash Pre-filter-052322	Water	5/23/2022 12:00:00 PM	5/24/2022	6/10/2022
N050916-001C	Backwash Pre-filter-052322	Water	5/23/2022 12:00:00 PM	5/24/2022	6/10/2022
N050916-002A	Backwash Post-filter-052322	Water	5/23/2022 12:15:00 PM	5/24/2022	6/10/2022
N050916-002B	Backwash Post-filter-052322	Water	5/23/2022 12:15:00 PM	5/24/2022	6/10/2022
N050916-002C	Backwash Post-filter-052322	Water	5/23/2022 12:15:00 PM	5/24/2022	6/10/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-052322
Lab Order:	N050916	**Collection Date:**	5/23/2022 12:00:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050916-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220526A**	QC Batch: **R162741**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	400	1.3	10		µg/L	50	5/26/2022 10:31 AM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220609B**	QC Batch: **93260**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	400	0.18	5.0		µg/L	5	6/9/2022 08:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-052322
Lab Order:	N050916	**Collection Date:**	5/23/2022 12:15:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050916-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220526A**	QC Batch: **R162741**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	390	1.3	10		µg/L	50	5/26/2022 10:59 AM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220608D**	QC Batch: **93099**			PrepDate:	**5/27/2022**		Analyst: **DJ**
Chromium	450	0.18	5.0		µg/L	5	6/8/2022 09:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R162741	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162741
Client ID:	PBW	Batch ID:	R162741	TestNo:	EPA 218.6			Analysis Date:	5/26/2022	SeqNo:	4661378

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R162741	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162741
Client ID:	LCSW	Batch ID:	R162741	TestNo:	EPA 218.6			Analysis Date:	5/26/2022	SeqNo:	4661379

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.033	0.20	5.000	0	101	90	110				

Sample ID	N050916-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162741
Client ID:	ZZZZZZ	Batch ID:	R162741	TestNo:	EPA 218.6			Analysis Date:	5/26/2022	SeqNo:	4661383

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	668.550	10	250.0	404.8	106	90	110				

Sample ID	N050916-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162741
Client ID:	ZZZZZZ	Batch ID:	R162741	TestNo:	EPA 218.6			Analysis Date:	5/26/2022	SeqNo:	4661384

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	675.200	10	250.0	404.8	108	90	110	668.6	0.990	20	

Sample ID	N050916-002ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162741
Client ID:	ZZZZZZ	Batch ID:	R162741	TestNo:	EPA 218.6			Analysis Date:	5/26/2022	SeqNo:	4661388

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	390.330	10						394.2	0.997	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N050916-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	162741
Client ID:	ZZZZZZ	Batch ID:	R162741	TestNo:	EPA 218.6			Analysis Date:	5/26/2022	SeqNo:	4661389

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	648.235	10	250.0	394.2	102	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	MB-93099	SampType:	MBLK	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	5/27/2022	RunNo:	162770
Client ID:	PBW	Batch ID:	93099	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	5/27/2022	SeqNo:	4662606

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93099	SampType:	LCS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	5/27/2022	RunNo:	162770
Client ID:	LCSW	Batch ID:	93099	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	5/27/2022	SeqNo:	4662607

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.838	1.0	10.00	0	98.4	85	115				

Sample ID	N050895-001A-MS	SampType:	MS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	5/27/2022	RunNo:	162770
Client ID:	ZZZZZZ	Batch ID:	93099	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	5/27/2022	SeqNo:	4662611

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	58.193	5.0	50.00	10.49	95.4	75	125				

Sample ID	N050895-001A-MSD	SampType:	MSD	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	5/27/2022	RunNo:	162770
Client ID:	ZZZZZZ	Batch ID:	93099	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	5/27/2022	SeqNo:	4662612

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	59.025	5.0	50.00	10.49	97.1	75	125	58.19	1.42	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	MB-93260	SampType:	MBLK	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163100
Client ID:	PBW	Batch ID:	93260	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4675837

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.091	1.0									

Sample ID	LCS-93260	SampType:	LCS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163100
Client ID:	LCSW	Batch ID:	93260	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4675838

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.537	1.0	10.00	0	95.4	85	115				

Sample ID	N050916-001C-MS	SampType:	MS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163100
Client ID:	ZZZZZZ	Batch ID:	93260	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4675844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	484.484	5.0	10.00	396.8	877	75	125				S

Sample ID	N050916-001C-MSD	SampType:	MSD	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163100
Client ID:	ZZZZZZ	Batch ID:	93260	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4675845

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	460.258	5.0	10.00	396.8	635	75	125	484.5	5.13	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	**N050895-001A-PS**	SampType:	**PS**	TestCode:	**6020_W_CRP**	Units:	**µg/L**	Prep Date:		RunNo:	**162770**
Client ID:	**ZZZZZZ**	Batch ID:	**93099**	TestNo:	**EPA 6020**	**EPA 3010A**		Analysis Date:	**5/27/2022**	SeqNo:	**4662610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	58.535	5.0	50.00	10.49	96.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	N050916-001C-PS	SampType:	PS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:		RunNo:	163100
Client ID:	ZZZZZZ	Batch ID:	93260	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4675843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	475.568	5.0	10.00	396.8	788	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-052322
Lab Order:	N050916	**Collection Date:**	5/23/2022 12:00:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050916-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220607A**	QC Batch: **93200**			PrepDate:		**6/6/2022**	Analyst: **DJ**
Iron	25	13	20		µg/L	1	6/7/2022 12:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-052322
Lab Order:	N050916	**Collection Date:**	5/23/2022 12:15:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050916-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220607A**	QC Batch: **93200**				PrepDate:	**6/6/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/7/2022 12:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	**N050916-001B-MS1**	SampType:	**MS**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**6/6/2022**	RunNo:	**163009**
Client ID:	**ZZZZZZ**	Batch ID:	**93200**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**6/7/2022**	SeqNo:	**4671846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	82.720	20	100.0	25.18	57.5	75	125				S

Sample ID	**N050916-001B-MSD**	SampType:	**MSD**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**6/6/2022**	RunNo:	**163009**
Client ID:	**ZZZZZZ**	Batch ID:	**93200**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**6/7/2022**	SeqNo:	**4671847**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	109.576	20	100.0	25.18	84.4	75	125	82.72	27.9	20	R

Sample ID	**MB-93200**	SampType:	**MBLK**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**6/6/2022**	RunNo:	**163009**
Client ID:	**PBW**	Batch ID:	**93200**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**6/7/2022**	SeqNo:	**4671852**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	**LCS1-93200**	SampType:	**LCS**	TestCode:	**6010_WDPG**	Units:	**µg/L**	Prep Date:	**6/6/2022**	RunNo:	**163009**
Client ID:	**LCSW**	Batch ID:	**93200**	TestNo:	**EPA 6010B**	**EPA 3010A**		Analysis Date:	**6/7/2022**	SeqNo:	**4671853**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	89.251	20	100.0	0	89.3	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID **N050916-001B-PS**	SampType: **PS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date:					RunNo: **163009**		
Client ID: **ZZZZZZ**	Batch ID: **93200**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/7/2022**					SeqNo: **4671845**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	97.638	20	100.0	25.18	72.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Pre-filter-052322
Lab Order:	N050916	**Collection Date:**	5/23/2022 12:00:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050916-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220601D**	QC Batch: **93149**			PrepDate:	**6/1/2022**		Analyst: **DJ**
Manganese	5.1	0.026	0.50		µg/L	1	6/1/2022 08:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-052322
Lab Order:	N050916	**Collection Date:**	5/23/2022 12:15:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050916-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220601D**	QC Batch: **93149**			PrepDate:	**6/1/2022**		Analyst: **DJ**
Manganese	5.2	0.026	0.50		µg/L	1	6/1/2022 09:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050916
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-93149**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/1/2022**	RunNo: **162887**
Client ID: **PBW**	Batch ID: **93149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/1/2022**	SeqNo: **4666158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID **LCS-93149**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/1/2022**	RunNo: **162887**
Client ID: **LCSW**	Batch ID: **93149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/1/2022**	SeqNo: **4666159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	97.189	0.50	100.0	0	97.2	85	115				

Sample ID **N050996-001B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/1/2022**	RunNo: **162887**
Client ID: **ZZZZZZ**	Batch ID: **93149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/1/2022**	SeqNo: **4666165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	88.939	0.50	100.0	0	88.9	75	125				

Sample ID **N050996-001B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/1/2022**	RunNo: **162887**
Client ID: **ZZZZZZ**	Batch ID: **93149**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/1/2022**	SeqNo: **4666171**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	86.959	0.50	100.0	0	87.0	75	125	88.94	2.25	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition (Y / N): 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#: SWA-ASSET-C9817-051	Sample Temp: 3.8°C
Submitted By: Kevin Ashley	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: O&M Operator	Sampled By: Kevin A.		Courier: ASSET
Signature: Date: 5/23/22	Signature: Date: 5/23/22		Tracking No.:
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - OMM Baseline			
Project Number: 30106892			

Matrix: Ground; Sediment; Potable; Soil; NPDES; Other Solid; Surface; Water X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	250 mL poly: Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH; Filtered	500 mL poly: Dissolved metals: iron, manganese (SW6020) HNO3; Filtered	500 mL poly: Total chromium (SW6020) HNO3; NOT Filtered	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050916-01	Backwash Pre-filter-052322	5/23/2022	1200		X	X	X	E	3	PV	BNS	
2	-02	Backwash Post-filter-052322	5/23/2022	1215		X	X	X	E	3	PV	BNS	
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name)	Date/Time	Received by (Signature and Printed Name)	Date/Time
Kevin Ashley	5/23/22 1530	Leonel Arciniega	5/24/22 1530
Leonel Arciniega	5/24/22 1825	Yoandra Rodriguez	5/24/22 1825

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Plnt
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/24/2022	Workorder:	N050916
Rep sample Temp (Deg C):	3.8	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/25/2022

Reviewed By: MBC 5/26/2022

ASSET Laboratories

WORK ORDER Summary

26-May-22

WorkOrder: N050916

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 5/24/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050916-001A	Backwash Pre-filter-052322	5/23/2022 12:00:00 PM	6/8/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050916-001B			6/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/8/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050916-001C			6/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/8/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N050916-002A	Backwash Post-filter-052322	5/23/2022 12:15:00 PM	6/8/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N050916-002B			6/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/8/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N050916-002C			6/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/8/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N050916-003A	FOLDER	6/8/2022	6/8/2022		Folder	Folder	☐	☐	☐	LAB
			6/8/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/8/2022		Folder	Folder	☐	☐	☐	LAB

June 07, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N050917

RE: PG&E Topock - OMM Baseline, 30106892

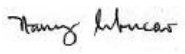
Attention: Brian Prowd

Enclosed are the results for sample(s) received on May 24, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N050917

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

TOC by SM 5310B was subcontracted to Enthalpy Analytical- Orange, CA.

ASSET Laboratories

Date: *07-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N050917
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N050917-001A	CAB_MIXER_606-052422	Water	5/24/2022 2:00:00 PM	5/24/2022	6/7/2022
N050917-001B	CAB_MIXER_606-052422	Water	5/24/2022 2:00:00 PM	5/24/2022	6/7/2022
N050917-001C	CAB_MIXER_606-052422	Water	5/24/2022 2:00:00 PM	5/24/2022	6/7/2022
N050917-002A	CAB_MIXER_607-052422	Water	5/24/2022 2:15:00 PM	5/24/2022	6/7/2022
N050917-002B	CAB_MIXER_607-052422	Water	5/24/2022 2:15:00 PM	5/24/2022	6/7/2022
N050917-002C	CAB_MIXER_607-052422	Water	5/24/2022 2:15:00 PM	5/24/2022	6/7/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-052422
Lab Order:	N050917	**Collection Date:**	5/24/2022 2:00:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050917-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220526A**	QC Batch: **R162818**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	860	27	200		mg/L	200	5/26/2022 10:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-052422
Lab Order:	N050917	**Collection Date:**	5/24/2022 2:15:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050917-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220526A**	QC Batch: **R162818**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	700	27	200		mg/L	200	5/26/2022 10:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050917
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R162818**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162818**
Client ID: **PBW**	Batch ID: **R162818**	TestNo: **SM 5310C**		Analysis Date: **5/26/2022**	SeqNo: **4663157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R162818**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162818**
Client ID: **LCSW**	Batch ID: **R162818**	TestNo: **SM 5310C**		Analysis Date: **5/26/2022**	SeqNo: **4663158**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.049	1.0	5.000	0	101	85	115				

Sample ID **N050917-002AMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162818**
Client ID: **ZZZZZZ**	Batch ID: **R162818**	TestNo: **SM 5310C**		Analysis Date: **5/26/2022**	SeqNo: **4663164**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1631.060	200	1000	703.2	92.8	75	125				

Sample ID **N050917-002AMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162818**
Client ID: **ZZZZZZ**	Batch ID: **R162818**	TestNo: **SM 5310C**		Analysis Date: **5/26/2022**	SeqNo: **4663165**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1651.680	200	1000	703.2	94.8	75	125	1631	1.26	20	

Sample ID **N050917-001AMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **162818**
Client ID: **ZZZZZZ**	Batch ID: **R162818**	TestNo: **SM 5310C**		Analysis Date: **5/26/2022**	SeqNo: **4663166**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1762.060	200	1000	855.0	90.7	75	125				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-052422
Lab Order:	N050917	**Collection Date:**	5/24/2022 2:00:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050917-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS10_220602A**	QC Batch: **C22VW023**			PrepDate:			Analyst: **AW**
Ethanol	2200000	200000	200000		µg/L	2000	6/2/2022 02:48 PM
Surr: 1,2-Dichloroethane-d4	109	0	77-138		%REC	2000	6/2/2022 02:48 PM
Surr: 4-Bromofluorobenzene	115	0	80-120		%REC	2000	6/2/2022 02:48 PM
Surr: Dibromofluoromethane	109	0	80-132		%REC	2000	6/2/2022 02:48 PM
Surr: Toluene-d8	104	0	80-120		%REC	2000	6/2/2022 02:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-052422
Lab Order:	N050917	**Collection Date:**	5/24/2022 2:15:00 PM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N050917-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS10_220602A**	QC Batch: **C22VW023**			PrepDate:			Analyst: **AW**
Ethanol	1500000	200000	200000		µg/L	2000	6/2/2022 03:11 PM
Surr: 1,2-Dichloroethane-d4	102	0	77-138		%REC	2000	6/2/2022 03:11 PM
Surr: 4-Bromofluorobenzene	109	0	80-120		%REC	2000	6/2/2022 03:11 PM
Surr: Dibromofluoromethane	102	0	80-132		%REC	2000	6/2/2022 03:11 PM
Surr: Toluene-d8	99.0	0	80-120		%REC	2000	6/2/2022 03:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050917
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID **C220602-LCS** SampType: **LCS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162916**
Client ID: **LCSW** Batch ID: **C22VW023** TestNo: **EPA 8260B** Analysis Date: **6/2/2022** SeqNo: **4667251**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	468.860	100	400.0	0	117	42	159				
Surr: 1,2-Dichloroethane-d4	25.090		25.00		100	77	138				
Surr: 4-Bromofluorobenzene	29.980		25.00		120	80	120				
Surr: Dibromofluoromethane	26.250		25.00		105	80	132				
Surr: Toluene-d8	26.380		25.00		106	80	120				

Sample ID **N050991-003A-MS** SampType: **MS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162916**
Client ID: **ZZZZZZ** Batch ID: **C22VW023** TestNo: **EPA 8260B** Analysis Date: **6/2/2022** SeqNo: **4667252**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	453.320	100	400.0	0	113	38	170				
Surr: 1,2-Dichloroethane-d4	23.430		25.00		93.7	77	138				
Surr: 4-Bromofluorobenzene	29.350		25.00		117	80	120				
Surr: Dibromofluoromethane	25.450		25.00		102	80	132				
Surr: Toluene-d8	26.050		25.00		104	80	120				

Sample ID **N050991-003A-MSD** SampType: **MSD** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162916**
Client ID: **ZZZZZZ** Batch ID: **C22VW023** TestNo: **EPA 8260B** Analysis Date: **6/2/2022** SeqNo: **4667253**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	505.070	100	400.0	0	126	38	170	453.3	10.8	20	
Surr: 1,2-Dichloroethane-d4	24.150		25.00		96.6	77	138		0		
Surr: 4-Bromofluorobenzene	28.350		25.00		113	80	120		0		
Surr: Dibromofluoromethane	25.110		25.00		100	80	132		0		
Surr: Toluene-d8	25.540		25.00		102	80	120		0		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N050917
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID **C220602-MB3** SampType: **MBLK** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **162916**
Client ID: **PBW** Batch ID: **C22VW023** TestNo: **EPA 8260B** Analysis Date: **6/2/2022** SeqNo: **4667254**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	25.530		25.00		102	77	138				
Surr: 4-Bromofluorobenzene	27.800		25.00		111	80	120				
Surr: Dibromofluoromethane	25.830		25.00		103	80	132				
Surr: Toluene-d8	25.360		25.00		101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2651
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95661	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: Y / N; 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#: SWA-ASSET-C9817-051	Global ID: Specify State:
Submitted By: Kaim A.	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	6. Method of Cooling: ICE
Title: Op Operator			Sample Temp: 3.8°C
Signature: Date: 5/24/22	Sampled By: Gary Smith		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - OMM Baseline	Signature: Date: 5/24/22		
Project Number: 30106892			

Matrix: Ground; Sediment; Potable; Soil; NPDES; Other Solid; Surface; Water X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	3x40 mL VOA: Ethanol (EPA 8260); HCl	8x40 mL VOA wrapped in foil: Total Organic Carbon (SM5310B); H2SO4	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N050917-01	CAB_MIXER_606-052422	5/24/2022	1400		X	X	X	E	3	PV	BNS	
2	-02	CAB_MIXER_607-052422	5/24/2022	1458		X	X	X	E	3	PV	BNS	
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													

Courier:

Tracking No.:

Relinquished by (Signature and Printed Name): Kevin Fisher	Date/Time: 5/24/22 1530	Received by (Signature and Printed Name):	Date/Time: 5/24/22 1530
Relinquished by (Signature and Printed Name):	Date/Time: 5/24/22 1825	Received by (Signature and Printed Name): Yoandra Rodriguez	Date/Time: 5/24/22 1825
Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	5/24/2022	Workorder:	N050917
Rep sample Temp (Deg C):	3.8	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 5/25/2022

Reviewed By: MBC 5/26/2022

ASSET Laboratories

WORK ORDER Summary

26-May-22

WorkOrder: N050917

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 5/24/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N050917-001A	CAB_MIXER_606-052422	5/24/2022 2:00:00 PM	6/8/2022	Water	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050917-001B			6/8/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW-CA
N050917-001C			6/8/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☑	SUB
N050917-002A	CAB_MIXER_607-052422	5/24/2022 2:15:00 PM	6/8/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N050917-002B			6/8/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW-CA
N050917-002C			6/8/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☑	SUB
N050917-003A	FOLDER	6/8/2022	6/8/2022		Folder	Folder	☐	☐	☐	LAB
			6/8/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/8/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

Enthalpy Analytical
931 W. Barkley Ave.
Orange, CA 92868

TEL: (714) 771-6900
FAX: (714) 538-1209
Acct #:

Field Sampler: Gary Smith

25-May-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM ~~5310C~~ 5310B**		
N050917-001C / CAB_MIXER_606-052422	Water	5/24/2022 2:00:00 PM	8OZA	1		
N050917-002C / CAB_MIXER_607-052422	Water	5/24/2022 2:15:00 PM	8OZA	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N50917A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for TOC by SM5310B. EDD requirement Labspec7 edata.

GSO #: 556937303

		Date/Time			Date/Time
Relinquished by:	YRJ	5/25/2022 1630	**Received by:**		
Relinquished by:			**Received by:**		

June 23, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051071

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 06, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N051071-006 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (3.0 ug/L) and hexavalent chromium (2.1 ug/L) for sample N051071-004 (MW-84-095-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (4.7 ug/L) and hexavalent chromium (3.9 ug/L) for sample N051071-006 (MW-84-193-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (3.0 ug/L) and hexavalent chromium (2.1 ug/L) for sample N051071-004 (MW-84-095-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.8 and 2.1 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (4.7 ug/L) and hexavalent chromium (3.9 ug/L) for sample N051071-006 (MW-84-193-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 4.4 and 4.0 ug/L, respectively. Since these

data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike Duplicate (MSD) is outside recovery criteria for Chromium in QC sample N051099-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Dilution was necessary for sample N051071-002 due to matrix. Digestate is colored.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051071
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051071-001A	MW-66-165-Q222	Groundwater	6/6/2022 1:00:00 PM	6/6/2022	6/23/2022
N051071-001B	MW-66-165-Q222	Groundwater	6/6/2022 1:00:00 PM	6/6/2022	6/23/2022
N051071-001C	MW-66-165-Q222	Groundwater	6/6/2022 1:00:00 PM	6/6/2022	6/23/2022
N051071-002A	MW-66-230-Q222	Groundwater	6/6/2022 2:25:00 PM	6/6/2022	6/23/2022
N051071-002B	MW-66-230-Q222	Groundwater	6/6/2022 2:25:00 PM	6/6/2022	6/23/2022
N051071-002C	MW-66-230-Q222	Groundwater	6/6/2022 2:25:00 PM	6/6/2022	6/23/2022
N051071-003A	MW-84-057-Q222	Groundwater	6/6/2022 2:54:00 PM	6/6/2022	6/23/2022
N051071-003B	MW-84-057-Q222	Groundwater	6/6/2022 2:54:00 PM	6/6/2022	6/23/2022
N051071-004A	MW-84-095-Q222	Groundwater	6/6/2022 2:22:00 PM	6/6/2022	6/23/2022
N051071-004B	MW-84-095-Q222	Groundwater	6/6/2022 2:22:00 PM	6/6/2022	6/23/2022
N051071-005A	MW-84-132-Q222	Groundwater	6/6/2022 1:48:00 PM	6/6/2022	6/23/2022
N051071-005B	MW-84-132-Q222	Groundwater	6/6/2022 1:48:00 PM	6/6/2022	6/23/2022
N051071-006A	MW-84-193-Q222	Groundwater	6/6/2022 1:13:00 PM	6/6/2022	6/23/2022
N051071-006B	MW-84-193-Q222	Groundwater	6/6/2022 1:13:00 PM	6/6/2022	6/23/2022
N051071-007A	EB-724-Q222	Groundwater	6/6/2022 3:08:00 PM	6/6/2022	6/23/2022
N051071-008A	EB-725-Q222	Groundwater	6/6/2022 3:05:00 PM	6/6/2022	6/23/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-165-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 1:00:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A**	QC Batch: **R163011**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	380	1.3	10		µg/L	50	6/7/2022 10:05 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220622B**	QC Batch: **93460**			PrepDate:	**6/22/2022**		Analyst: **DJ**
Chromium	410	0.18	5.0		µg/L	5	6/22/2022 04:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 2:25:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A**	QC Batch: **R163011**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	6100	25	200		µg/L	1000	6/7/2022 10:14 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614D**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	5600	4.4	120		µg/L	125	6/15/2022 12:33 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-057-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 2:54:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A** QC Batch: **R163011**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	24	0.13	1.0		µg/L	5	6/7/2022 10:24 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614D** QC Batch: **93299**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	25	0.035	1.0		µg/L	1	6/15/2022 12:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-095-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 2:22:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A**	QC Batch: **R163011**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2.1	0.025	0.20		µg/L	1	6/7/2022 09:36 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614D**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	3.0	0.035	1.0		µg/L	1	6/15/2022 12:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-132-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 1:48:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A**	QC Batch: **R163011**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.8	0.025	0.20		µg/L	1	6/7/2022 09:46 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614D**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	2.0	0.035	1.0		µg/L	1	6/15/2022 01:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-84-193-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 1:13:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A**	QC Batch: **R163011**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3.9	0.13	1.0		µg/L	5	6/7/2022 02:49 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614D**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	4.7	0.035	1.0		µg/L	1	6/15/2022 01:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-724-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 3:08:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A**	QC Batch: **R163011**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/7/2022 11:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-725-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 3:05:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220607A**	QC Batch: **R163011**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/7/2022 12:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163011	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163011		
Client ID:	PBW	Batch ID:	R163011	TestNo:	EPA 218.6			Analysis Date:	6/7/2022	SeqNo:	4671889		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R163011	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163011		
Client ID:	LCSW	Batch ID:	R163011	TestNo:	EPA 218.6			Analysis Date:	6/7/2022	SeqNo:	4671890		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.957	0.20	5.000	0	99.1	90	110						

Sample ID	N051071-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163011		
Client ID:	ZZZZZZ	Batch ID:	R163011	TestNo:	EPA 218.6			Analysis Date:	6/7/2022	SeqNo:	4671896		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	2.793	0.20	1.000	1.768	103	90	110						

Sample ID	N051071-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163011		
Client ID:	ZZZZZZ	Batch ID:	R163011	TestNo:	EPA 218.6			Analysis Date:	6/7/2022	SeqNo:	4671897		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	2.856	0.20	1.000	1.768	109	90	110	2.793	2.23	20			

Sample ID	N051071-004ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163011		
Client ID:	ZZZZZZ	Batch ID:	R163011	TestNo:	EPA 218.6			Analysis Date:	6/7/2022	SeqNo:	4671900		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	2.138	0.20						2.121	0.784	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051071-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163011**
Client ID: **ZZZZZZ** Batch ID: **R163011** TestNo: **EPA 218.6** Analysis Date: **6/7/2022** SeqNo: **4671901**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.183	0.20	1.000	2.121	106	90	110				

Sample ID **N051071-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163011**
Client ID: **ZZZZZZ** Batch ID: **R163011** TestNo: **EPA 218.6** Analysis Date: **6/7/2022** SeqNo: **4671902**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	612.330	10	250.0	378.9	93.4	90	110				

Sample ID **N051071-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163011**
Client ID: **ZZZZZZ** Batch ID: **R163011** TestNo: **EPA 218.6** Analysis Date: **6/7/2022** SeqNo: **4671903**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11046.100	200	5000	6125	98.4	90	110				

Sample ID **N051071-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163011**
Client ID: **ZZZZZZ** Batch ID: **R163011** TestNo: **EPA 218.6** Analysis Date: **6/7/2022** SeqNo: **4671904**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.453	1.0	25.00	24.30	101	90	110				

Sample ID **N051071-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163011**
Client ID: **ZZZZZZ** Batch ID: **R163011** TestNo: **EPA 218.6** Analysis Date: **6/7/2022** SeqNo: **4671906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.976	0.20	1.000	0	97.6	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051071-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163011**
Client ID: **ZZZZZZ**	Batch ID: **R163011**	TestNo: **EPA 218.6**		Analysis Date: **6/7/2022**	SeqNo: **4671908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.029	0.20	1.000	0	103	90	110				

Sample ID **N051072-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163011**
Client ID: **ZZZZZZ**	Batch ID: **R163011**	TestNo: **EPA 218.6**		Analysis Date: **6/7/2022**	SeqNo: **4671912**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	21.490	0.40	10.00	11.55	99.4	90	110				

Sample ID **N051071-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163011**
Client ID: **ZZZZZZ**	Batch ID: **R163011**	TestNo: **EPA 218.6**		Analysis Date: **6/7/2022**	SeqNo: **4671916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.817	1.0	5.000	3.921	97.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93299	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	PBW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4681608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.066	1.0									

Sample ID	LCS-93299	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	LCSW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681609

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.647	1.0	10.00	0	96.5	85	115				

Sample ID	N051071-005BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681622

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.390	1.0	10.00	1.988	84.0	75	125				

Sample ID	N051071-005BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681623

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.837	1.0	10.00	1.988	78.5	75	125	10.39	5.47	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93460	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	PBW	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692412

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93460	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	LCSW	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692413

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.494	1.0	10.00	0	94.9	85	115				

Sample ID	N051099-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	ZZZZZZ	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692427

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	531.558	5.0	10.00	521.3	103	75	125				

Sample ID	N051099-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	ZZZZZZ	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	522.260	5.0	10.00	521.3	9.54	75	125	531.6	1.76	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N051071-005B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681621

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.906	1.0	10.00	1.988	89.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N051099-001B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	163409
Client ID:	ZZZZZZ	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692425

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	514.633	5.0	10.00	521.3	-66.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-165-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 1:00:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220607A**	QC Batch: **R163012**			PrepDate:			Analyst: **RAB**
Nitrate as N	21	0.48	2.5		mg/L	50	6/7/2022 10:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 2:25:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220607A**	QC Batch: **R163012**			PrepDate:			Analyst: **RAB**
Nitrate as N	13	0.095	0.50		mg/L	10	6/7/2022 10:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163012_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163012
Client ID:	PBW	Batch ID:	R163012	TestNo:	EPA 300.0			Analysis Date:	6/7/2022	SeqNo:	4671925

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163012_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163012
Client ID:	LCSW	Batch ID:	R163012	TestNo:	EPA 300.0			Analysis Date:	6/7/2022	SeqNo:	4671926

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.247	0.050	1.250	0	99.8	90	110				

Sample ID	N051071-001BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163012
Client ID:	ZZZZZZ	Batch ID:	R163012	TestNo:	EPA 300.0			Analysis Date:	6/7/2022	SeqNo:	4671929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	80.720	2.5	62.50	21.00	95.6	80	120				

Sample ID	N051071-001BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163012
Client ID:	ZZZZZZ	Batch ID:	R163012	TestNo:	EPA 300.0			Analysis Date:	6/7/2022	SeqNo:	4671930

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	80.700	2.5	62.50	21.00	95.5	80	120	80.72	0.0248	20	

Sample ID	N051071-002BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163012
Client ID:	ZZZZZZ	Batch ID:	R163012	TestNo:	EPA 300.0			Analysis Date:	6/7/2022	SeqNo:	4671931

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.255	0.50						13.21	0.317	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-165-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 1:00:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220617C**	QC Batch: **93299**			PrepDate:		**6/14/2022**	Analyst: **DJ**
Molybdenum	5.8	0.12	0.50		µg/L	1	6/17/2022 03:41 PM
Selenium	17	0.044	0.50		µg/L	1	6/15/2022 12:09 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66-230-Q222
Lab Order:	N051071	**Collection Date:**	6/6/2022 2:25:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051071-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220617C**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Molybdenum	89	0.60	2.5		µg/L	5	6/17/2022 03:47 PM
Selenium	12	0.22	2.5		µg/L	5	6/15/2022 12:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051071
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93299	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	PBW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4681724

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									
Selenium	0.051	0.50									

Sample ID	LCS-93299	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	LCSW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681725

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.424	0.50	10.00	0	94.2	85	115				
Selenium	9.595	0.50	10.00	0	96.0	85	115				

Sample ID	N051071-005BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681738

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	26.616	0.50	10.00	17.40	92.1	75	125				
Selenium	9.271	0.50	10.00	1.074	82.0	75	125				

Sample ID	N051071-005BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681739

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	24.978	0.50	10.00	17.40	75.7	75	125	26.62	6.35	20	
Selenium	9.251	0.50	10.00	1.074	81.8	75	125	9.271	0.217	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

N051071

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: [redacted]	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	
Submitted By: Reggie Tap		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 6/6/22	Sampled By: Reggie Tap		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: Date: 6/6/22		
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid

Sample Receipt Condition

	Y	N
1. Chilled	X	
2. Headspace		
3. Container Intact	X	
4. Seal Present		
5. IR number 3		
6. Method of Cooling: ICE		

Sample Temp: 4.2

Courier: ASSET

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051071-01	MW-66-165-Q222	6/6/2022	13:00		X	X		X	X	E	3	P	BNS	
2	-02	MW-66-230-Q222	6/6/2022	14:25		X	X		X	X	E	3	P	BNS	
3	-03	MW-84-057-Q222	6/6/2022	14:54		X			X		E	2	P	BNS	
4	-04	MW-84-095-Q222	6/6/2022	14:22		X			X		E	2	P	BNS	
5	-05	MW-84-132-Q222	6/6/2022	13:48		X			X		E	2	P	BNS	
	-06	MW-84-193-Q222	6/6/2022	13:13		X			X		E	2	P	BNS	MS/MSD
7	-07	EB-724-Q222	6/6/2022	15:08		X					E	1	P	BNS	
8	-08	EB-725-Q222	6/6/2022	15:05		X					E	1	P	BNS	
9															
10															
11															
12															
13															
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Reggie Tap	6/6/22 1550	MACHOTKIN	6/6/22 @ 1550
REL/REC:			
			6/6/22 @ 1750

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Plnt
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/6/2022	Workorder:	N051071
Rep sample Temp (Deg C):	4.2	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 6/7/2022

Reviewed By: MBC 6/9/2022

ASSET Laboratories

WORK ORDER Summary

07-Jun-22

WorkOrder: N051071

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/6/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051071-001A	MW-66-165-Q222	6/6/2022 1:00:00 PM	6/20/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051071-001B			6/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051071-001C			6/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051071-002A	MW-66-230-Q222	6/6/2022 2:25:00 PM	6/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051071-002B			6/20/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051071-002C			6/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051071-003A	MW-84-057-Q222	6/6/2022 2:54:00 PM	6/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051071-003B			6/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051071-004A	MW-84-095-Q222	6/6/2022 2:22:00 PM	6/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051071-004B			6/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051071-005A	MW-84-132-Q222	6/6/2022 1:48:00 PM	6/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N051071-005B			6/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N051071-006A	MW-84-193-Q222	6/6/2022 1:13:00 PM	6/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051071-006B			6/20/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/20/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

07-Jun-22

WorkOrder: N051071

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/6/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051071-007A	EB-724-Q222	6/6/2022 3:08:00 PM	6/20/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051071-008A	EB-725-Q222	6/6/2022 3:05:00 PM	6/20/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051071-009A	FOLDER	6/20/2022	6/20/2022		Folder	Folder	☐	☐	☐	LAB
			6/20/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/20/2022		Folder	Folder	☐	☐	☐	LAB

June 23, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051099

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 07, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N051099-002 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Chromium in QC sample N051099-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *23-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051099
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051099-001A	MW-57-070-Q222	Groundwater	6/7/2022 1:14:00 PM	6/7/2022	6/23/2022
N051099-001B	MW-57-070-Q222	Groundwater	6/7/2022 1:14:00 PM	6/7/2022	6/23/2022
N051099-002A	MW-57-185-Q222	Groundwater	6/7/2022 2:03:00 PM	6/7/2022	6/23/2022
N051099-002B	MW-57-185-Q222	Groundwater	6/7/2022 2:03:00 PM	6/7/2022	6/23/2022
N051099-003A	EB-727-Q222	Groundwater	6/7/2022 2:15:00 PM	6/7/2022	6/23/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-070-Q222
Lab Order:	N051099	**Collection Date:**	6/7/2022 1:14:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051099-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	570	1.3	10		µg/L	50	6/8/2022 10:09 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220622B**	QC Batch: **93460**			PrepDate:	**6/22/2022**		Analyst: **DJ**
Chromium	520	0.18	5.0		µg/L	5	6/22/2022 05:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-57-185-Q222
Lab Order:	N051099	**Collection Date:**	6/7/2022 2:03:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051099-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/8/2022 02:00 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220616B**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/16/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-727-Q222
Lab Order:	N051099	**Collection Date:**	6/7/2022 2:15:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051099-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/8/2022 04:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163064	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	PBW	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674123		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R163064	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	LCSW	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674124		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		4.948	0.20	5.000	0	99.0	90	110					

Sample ID	N051097-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674127		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		738.780	10	250.0	491.2	99.0	90	110					

Sample ID	N051099-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674128		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		551.680	10						568.0	2.92	20		

Sample ID	N051099-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674129		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		797.200	10	250.0	568.0	91.7	90	110					

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051100-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674133**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.925	1.0	25.00	26.64	97.1	90	110				

Sample ID **N051100-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.046	1.0	25.00	15.76	101	90	110				

Sample ID **N051100-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674137**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.441	1.0	25.00	22.05	102	90	110				

Sample ID **N051100-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674139**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	33.448	1.0	25.00	8.077	101	90	110				

Sample ID **N051100-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674141**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	45.062	1.0	25.00	19.87	101	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051100-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674145**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.891	1.0	25.00	26.74	101	90	110				

Sample ID **N051099-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674147**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.018	1.0	5.000	0	100	90	110				

Sample ID **N051100-001AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674148**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	52.136	1.0	25.00	26.64	102	90	110	50.92	2.35	20	

Sample ID **N051099-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674153**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID **N051100-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163064**
Client ID: **ZZZZZZ**	Batch ID: **R163064**	TestNo: **EPA 218.6**		Analysis Date: **6/8/2022**	SeqNo: **4674159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.994	1.0	5.000	0	99.9	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051100-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674161

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.772	1.0	5.000	0	95.4	90	110				

Sample ID	N051100-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674163

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.168	1.0	5.000	0	103	90	110				

Sample ID	N051100-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674167

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.405	1.0	5.000	0	108	90	110				

Sample ID	N051100-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674168

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.189	0.20	5.000	7.370	96.4	90	110				

Sample ID	N051100-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674170

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.507	1.0	25.00	19.93	98.3	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93299	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	PBW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4681608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.066	1.0									

Sample ID	LCS-93299	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	LCSW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681609

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.647	1.0	10.00	0	96.5	85	115				

Sample ID	N051071-005BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681622

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.390	1.0	10.00	1.988	84.0	75	125				

Sample ID	N051071-005BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681623

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.837	1.0	10.00	1.988	78.5	75	125	10.39	5.47	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93460	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	PBW	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692412

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93460	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	LCSW	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692413

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.494	1.0	10.00	0	94.9	85	115				

Sample ID	N051099-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	ZZZZZZ	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692427

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	531.558	5.0	10.00	521.3	103	75	125				

Sample ID	N051099-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/22/2022	RunNo:	163409
Client ID:	ZZZZZZ	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692429

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	522.260	5.0	10.00	521.3	9.54	75	125	531.6	1.76	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N051071-005B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681621

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.906	1.0	10.00	1.988	89.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051099
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N051099-001B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	163409
Client ID:	ZZZZZZ	Batch ID:	93460	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/22/2022	SeqNo:	4692425

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	514.633	5.0	10.00	521.3	-66.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N051099

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/7/2022	Workorder:	N051099
Rep sample Temp (Deg C):	3.6	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 6/8/2022

Reviewed By: MBC 6/9/2022

Subject: RE: PG&E Topock - RCM, 30121866.2Q22GW (ASSET Labs No. N051099)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 6/8/2022, 11:57 AM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>, "giselle@assetlaboratories.com" <giselle@assetlaboratories.com>

Hi,
Correct no MS/MSD for this COC.

Thanks,
Laura

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Wednesday, June 8, 2022 2:01 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com; giselle@assetlaboratories.com
Subject: PG&E Topock - RCM, 30121866.2Q22GW (ASSET Labs No. N051099)

Hi Laura,

I just want to confirm if no MS/MSD is needed for the attached COC.

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

ASSET LABORATORIES - Serving Clients with Passion and Professionalism

This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

ASSET Laboratories

WORK ORDER Summary

08-Jun-22

WorkOrder: N051099

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/7/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051099-001A	MW-57-070-Q222	6/7/2022 1:14:00 PM	6/21/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051099-001B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051099-002A	MW-57-185-Q222	6/7/2022 2:03:00 PM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051099-002B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051099-003A	EB-727-Q222	6/7/2022 2:15:00 PM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051099-004A	FOLDER	6/21/2022	6/21/2022		Folder	Folder	☐	☐	☐	LAB
			6/21/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/21/2022		Folder	Folder	☐	☐	☐	LAB

June 22, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051100

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 07, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (3.8 ug/L) and hexavalent chromium (0 ug/L) for sample N051100-013 (MW-97-202-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (3.8 ug/L) and hexavalent chromium (0 ug/L) for sample N051100-013 (MW-97-202-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 3.5 and 1.0 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

ASSET Laboratories

Date: *22-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051100
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051100-001A	MW-75-033-Q222	Groundwater	6/7/2022 11:11:00 AM	6/7/2022	6/22/2022
N051100-001B	MW-75-033-Q222	Groundwater	6/7/2022 11:11:00 AM	6/7/2022	6/22/2022
N051100-002A	MW-75-117-Q222	Groundwater	6/7/2022 11:41:00 AM	6/7/2022	6/22/2022
N051100-002B	MW-75-117-Q222	Groundwater	6/7/2022 11:41:00 AM	6/7/2022	6/22/2022
N051100-003A	MW-75-202-Q222	Groundwater	6/7/2022 1:38:00 PM	6/7/2022	6/22/2022
N051100-003B	MW-75-202-Q222	Groundwater	6/7/2022 1:38:00 PM	6/7/2022	6/22/2022
N051100-004A	MW-75-267-Q222	Groundwater	6/7/2022 1:01:00 PM	6/7/2022	6/22/2022
N051100-004B	MW-75-267-Q222	Groundwater	6/7/2022 1:01:00 PM	6/7/2022	6/22/2022
N051100-005A	MW-75-337-Q222	Groundwater	6/7/2022 12:21:00 PM	6/7/2022	6/22/2022
N051100-005B	MW-75-337-Q222	Groundwater	6/7/2022 12:21:00 PM	6/7/2022	6/22/2022
N051100-006A	MW-47-055-Q222	Groundwater	6/7/2022 9:01:00 AM	6/7/2022	6/22/2022
N051100-006B	MW-47-055-Q222	Groundwater	6/7/2022 9:01:00 AM	6/7/2022	6/22/2022
N051100-007A	MW-47-115-Q222	Groundwater	6/7/2022 9:36:00 AM	6/7/2022	6/22/2022
N051100-007B	MW-47-115-Q222	Groundwater	6/7/2022 9:36:00 AM	6/7/2022	6/22/2022
N051100-008A	TW-04-Q222	Groundwater	6/7/2022 10:19:00 AM	6/7/2022	6/22/2022
N051100-008B	TW-04-Q222	Groundwater	6/7/2022 10:19:00 AM	6/7/2022	6/22/2022
N051100-009A	EB-726-Q222	Groundwater	6/7/2022 2:00:00 PM	6/7/2022	6/22/2022
N051100-010A	MW-35-060-Q222	Groundwater	6/7/2022 10:00:00 AM	6/7/2022	6/22/2022
N051100-010B	MW-35-060-Q222	Groundwater	6/7/2022 10:00:00 AM	6/7/2022	6/22/2022
N051100-011A	MW-35-135-Q222	Groundwater	6/7/2022 9:14:00 AM	6/7/2022	6/22/2022
N051100-011B	MW-35-135-Q222	Groundwater	6/7/2022 9:14:00 AM	6/7/2022	6/22/2022
N051100-012A	MW-97-042-Q222	Groundwater	6/7/2022 11:47:00 AM	6/7/2022	6/22/2022
N051100-012B	MW-97-042-Q222	Groundwater	6/7/2022 11:47:00 AM	6/7/2022	6/22/2022
N051100-013A	MW-97-202-Q222	Groundwater	6/7/2022 11:08:00 AM	6/7/2022	6/22/2022
N051100-013B	MW-97-202-Q222	Groundwater	6/7/2022 11:08:00 AM	6/7/2022	6/22/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-033-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 11:11:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A** QC Batch: **R163064**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	27	0.13	1.0		µg/L	5	6/8/2022 11:35 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220616B** QC Batch: **93299**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	26	0.035	1.0		µg/L	1	6/16/2022 08:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-117-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 11:41:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A** QC Batch: **R163064**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	7.4	0.025	0.20		µg/L	1	6/8/2022 02:47 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220616B** QC Batch: **93299**				PrepDate: **6/14/2022**			Analyst: **DJ**
Chromium	6.7	0.035	1.0		µg/L	1	6/16/2022 09:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-202-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 1:38:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/8/2022 06:13 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220616B**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/16/2022 09:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-267-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 1:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/8/2022 06:32 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220616B**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/16/2022 09:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-75-337-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 12:21:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/8/2022 06:51 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220616B**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/16/2022 09:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-055-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 9:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A** QC Batch: **R163064**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	16	0.13	1.0		µg/L	5	6/8/2022 11:54 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220616B** QC Batch: **93299**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	16	0.035	1.0		µg/L	1	6/16/2022 09:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-47-115-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 9:36:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A** QC Batch: **R163064**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	22	0.13	1.0		µg/L	5	6/8/2022 12:12 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220616B** QC Batch: **93299**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	24	0.035	1.0		µg/L	1	6/16/2022 09:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-04-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 10:19:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.1	0.13	1.0		µg/L	5	6/8/2022 12:44 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220616B**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	8.4	0.035	1.0		µg/L	1	6/16/2022 09:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-726-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 2:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/9/2022 06:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-060-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 10:00:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A** QC Batch: **R163064**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	20	0.13	1.0		µg/L	5	6/8/2022 01:03 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220616B** QC Batch: **93299**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	21	0.035	1.0		µg/L	1	6/16/2022 09:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-35-135-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 9:14:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A** QC Batch: **R163064**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	27	0.13	1.0		µg/L	5	6/8/2022 01:41 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220616B** QC Batch: **93299**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	29	0.035	1.0		µg/L	1	6/16/2022 10:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051100-012

Client Sample ID: MW-97-042-Q222
Collection Date: 6/7/2022 11:47:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220608A** QC Batch: **R163064**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	20	0.13	1.0		µg/L	5	6/8/2022 08:16 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220616B** QC Batch: **93299**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	19	0.035	1.0		µg/L	1	6/16/2022 10:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-97-202-Q222
Lab Order:	N051100	**Collection Date:**	6/7/2022 11:08:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051100-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220608A**	QC Batch: **R163064**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/8/2022 07:29 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220616B**	QC Batch: **93299**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	3.8	0.035	1.0		µg/L	1	6/16/2022 10:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163064	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	PBW	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674123		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R163064	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	LCSW	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674124		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.948	0.20	5.000	0	99.0	90	110						

Sample ID	N051097-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674127		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	738.780	10	250.0	491.2	99.0	90	110						

Sample ID	N051099-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674128		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	551.680	10						568.0	2.92	20			

Sample ID	N051099-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064		
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674129		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	797.200	10	250.0	568.0	91.7	90	110						

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051100-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674133

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.925	1.0	25.00	26.64	97.1	90	110				

Sample ID	N051100-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674135

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	41.046	1.0	25.00	15.76	101	90	110				

Sample ID	N051100-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674137

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	47.441	1.0	25.00	22.05	102	90	110				

Sample ID	N051100-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674139

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	33.448	1.0	25.00	8.077	101	90	110				

Sample ID	N051100-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674141

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	45.062	1.0	25.00	19.87	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051100-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674145

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.891	1.0	25.00	26.74	101	90	110				

Sample ID	N051099-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674147

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.018	1.0	5.000	0	100	90	110				

Sample ID	N051100-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674148

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	52.136	1.0	25.00	26.64	102	90	110	50.92	2.35	20	

Sample ID	N051099-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674153

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID	N051100-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674159

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.994	1.0	5.000	0	99.9	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051100-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674161

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.772	1.0	5.000	0	95.4	90	110				

Sample ID	N051100-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674163

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.168	1.0	5.000	0	103	90	110				

Sample ID	N051100-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674167

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.405	1.0	5.000	0	108	90	110				

Sample ID	N051100-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674168

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.189	0.20	5.000	7.370	96.4	90	110				

Sample ID	N051100-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163064
Client ID:	ZZZZZZ	Batch ID:	R163064	TestNo:	EPA 218.6			Analysis Date:	6/8/2022	SeqNo:	4674170

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.507	1.0	25.00	19.93	98.3	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163098	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	PBW	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675705

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R163098	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	LCSW	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675706

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.853	0.20	5.000	0	97.1	90	110				

Sample ID	N051118-017AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675719

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	19.752	4.0	20.00	0	98.8	90	110				

Sample ID	N051118-018AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675721

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	19.964	4.0	20.00	0	99.8	90	110				

Sample ID	N051118-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675723

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	148.054	2.0	50.00	98.00	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051118-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675727

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	147.420	2.0	50.00	99.12	96.6	90	110				

Sample ID	N051118-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675729

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	259.104	4.0	100.0	160.7	98.4	90	110				

Sample ID	N051118-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675731

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3246.280	40	1000	2270	97.7	90	110				

Sample ID	N051118-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675733

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3244.940	40	1000	2244	100	90	110				

Sample ID	N051118-011ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	98.810	2.0						98.00	0.827	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051118-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675735

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.973	0.20	1.000	0.8995	107	90	110				

Sample ID	N051118-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675738

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.269	1.0	25.00	16.78	102	90	110				

Sample ID	N051118-007AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675739

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.836	1.0	25.00	16.78	104	90	110	42.27	1.33	20	

Sample ID	N051118-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675740

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.934	0.20	5.000	8.690	105	90	110				

Sample ID	N051118-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	70.572	1.0	25.00	44.94	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051118-015AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163098**
Client ID: **ZZZZZZ**	Batch ID: **R163098**	TestNo: **EPA 218.6**		Analysis Date: **6/9/2022**	SeqNo: **4675743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	473.575	10	250.0	218.0	102	90	110				

Sample ID **N051118-016AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163098**
Client ID: **ZZZZZZ**	Batch ID: **R163098**	TestNo: **EPA 218.6**		Analysis Date: **6/9/2022**	SeqNo: **4675744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	196.490	4.0	100.0	93.73	103	90	110				

Sample ID **N051118-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163098**
Client ID: **ZZZZZZ**	Batch ID: **R163098**	TestNo: **EPA 218.6**		Analysis Date: **6/9/2022**	SeqNo: **4675745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.243	0.20	1.000	1.165	108	90	110				

Sample ID **N051118-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163098**
Client ID: **ZZZZZZ**	Batch ID: **R163098**	TestNo: **EPA 218.6**		Analysis Date: **6/9/2022**	SeqNo: **4675746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	52.355	1.0	25.00	26.46	104	90	110				

Sample ID **N051118-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163098**
Client ID: **ZZZZZZ**	Batch ID: **R163098**	TestNo: **EPA 218.6**		Analysis Date: **6/9/2022**	SeqNo: **4675750**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.142	0.20	1.000	1.144	99.8	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051118-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675752

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	105	90	110				

Sample ID	N051118-019AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.072	0.20	1.000	0	107	90	110				

Sample ID	N051118-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675756

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.778	1.0	5.000	0.9480	96.6	90	110				

Sample ID	N051100-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675758

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.096	0.20	1.000	0	110	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051100
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93299	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	PBW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4681608

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.066	1.0									

Sample ID	LCS-93299	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	LCSW	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681609

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.647	1.0	10.00	0	96.5	85	115				

Sample ID	N051071-005BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681622

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.390	1.0	10.00	1.988	84.0	75	125				

Sample ID	N051071-005BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/14/2022	RunNo:	163224
Client ID:	ZZZZZZ	Batch ID:	93299	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/15/2022	SeqNo:	4681623

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.837	1.0	10.00	1.988	78.5	75	125	10.39	5.47	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N051100

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tep			Others	✓	LEVEL III		3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present ✓
Signature: 6/7/22 Date:	Sampled By: Riggie Tep		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 6/7/22						Sample Temp: 3.6 °C
Project Number: 30121866.2Q22GW							Courier: ASSET
							Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Nitrate (EPA 300.0) 1 L poly	Nitrate/nitrite as Nitrogen (SM 4500-NO3); H2SO4 125 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051100-01	MW-75-033-Q222	6/7/2022	11:11		X			X							E	2	P	BNS	
2	-02	MW-75-117-Q222	6/7/2022	11:41		X			X							E	2	P	BNS	
3	-03	MW-75-202-Q222	6/7/2022	13:38		X			X							E	2	P	BNS	
4	-04	MW-75-267-Q222	6/7/2022	13:01		X			X							E	2	P	BNS	
5	-05	MW-75-337-Q222	6/7/2022	12:21		X			X							E	2	P	BNS	
6	-06	MW-47-055-Q222	6/7/2022	9:01		X			X							E	2	P	BNS	
7	-07	MW-47-115-Q222	6/7/2022	9:36		X			X							E	2	P	BNS	
8	-08	TW-04-Q222	6/7/2022	10:19		X			X							E	2	P	BNS	
9	-09	EB-726-Q222	6/7/2022	14:00		X										E	1	P	BNS	
10	-10	MW-35-060-Q222	6/7/2022	10:00		X			X							E	2	P	BNS	
11	-11	MW-35-135-Q222	6/7/2022	9:14		X			X							E	2	P	BNS	
12	-12	MW-97-042-Q222	6/7/2022	11:47		X			X							E	2	P	BNS	
13	-13	MW-97-202-Q222	6/7/2022	11:08		X			X							E	2	P	BNS	
14																				

Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	6/7/22 1500	ROMEO MACANTAAN	6/7/22 1500
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:
ROMEO MACANTAAN	6/7/22 1810	ROMEO MACANTAAN	6/7/22 1810
Reliquished by (Signature and Printed Name):	Date/Time:	Reliquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 5% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/7/2022	Workorder:	N051100
Rep sample Temp (Deg C):	3.6	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 6/8/2022

Reviewed By: MBC 6/10/2022

ASSET Laboratories

WORK ORDER Summary

08-Jun-22

WorkOrder: N051100

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/7/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051100-001A	MW-75-033-Q222	6/7/2022 11:11:00 AM	6/21/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-001B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-002A	MW-75-117-Q222	6/7/2022 11:41:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-002B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-003A	MW-75-202-Q222	6/7/2022 1:38:00 PM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-003B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-004A	MW-75-267-Q222	6/7/2022 1:01:00 PM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-004B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-005A	MW-75-337-Q222	6/7/2022 12:21:00 PM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-005B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-006A	MW-47-055-Q222	6/7/2022 9:01:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-006B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-007A	MW-47-115-Q222	6/7/2022 9:36:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-007B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-008A	TW-04-Q222	6/7/2022 10:19:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

08-Jun-22

WorkOrder: N051100

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/7/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051100-008B	TW-04-Q222	6/7/2022 10:19:00 AM	6/21/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-009A	EB-726-Q222	6/7/2022 2:00:00 PM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-010A	MW-35-060-Q222	6/7/2022 10:00:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-010B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-011A	MW-35-135-Q222	6/7/2022 9:14:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-011B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-012A	MW-97-042-Q222	6/7/2022 11:47:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-012B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-013A	MW-97-202-Q222	6/7/2022 11:08:00 AM	6/21/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051100-013B			6/21/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/21/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051100-014A	FOLDER	6/21/2022	6/21/2022		Folder	Folder	☐	☐	☐	LAB
			6/21/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/21/2022			QA Review	☐	☐	☐	LAB
			6/21/2022		Folder	Folder	☐	☐	☐	LAB

June 22, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051117

RE: PG&E Topock - OMM Baseline, 30106892

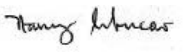
Attention: Brian Prowd

Enclosed are the results for sample(s) received on June 08, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N051117
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051117-001A	CAB_MIXER_606-060722	Water	6/7/2022 10:45:00 AM	6/8/2022	6/20/2022
N051117-001B	CAB_MIXER_606-060722	Water	6/7/2022 10:45:00 AM	6/8/2022	6/20/2022
N051117-002A	CAB_MIXER_607-060722	Water	6/7/2022 11:00:00 AM	6/8/2022	6/20/2022
N051117-002B	CAB_MIXER_607-060722	Water	6/7/2022 11:00:00 AM	6/8/2022	6/20/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-060722
Lab Order:	N051117	**Collection Date:**	6/7/2022 10:45:00 AM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N051117-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220614A**	QC Batch: **R163174**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	640	27	200		mg/L	200	6/14/2022 10:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-060722
Lab Order:	N051117	**Collection Date:**	6/7/2022 11:00:00 AM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N051117-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220614A**	QC Batch: **R163174**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	450	27	200		mg/L	200	6/14/2022 10:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051117
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R163174**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **PBW**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R163174**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **LCSW**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.631	1.0	5.000	0	92.6	85	115				

Sample ID **N051171-010DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **ZZZZZZ**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	217.020	50	250.0	0	86.8	75	125				

Sample ID **N051171-010DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **ZZZZZZ**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680054**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	220.495	50	250.0	0	88.2	75	125	217.0	1.59	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-060722
Lab Order:	N051117	**Collection Date:**	6/7/2022 10:45:00 AM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N051117-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS10_220613B**	QC Batch: **C22VW028**			PrepDate:			Analyst: **AW**
Ethanol	1100000	200000	200000		µg/L	2000	6/13/2022 01:50 PM
Surr: 1,2-Dichloroethane-d4	97.3	0	77-138		%REC	2000	6/13/2022 01:50 PM
Surr: 4-Bromofluorobenzene	98.6	0	80-120		%REC	2000	6/13/2022 01:50 PM
Surr: Dibromofluoromethane	97.2	0	80-132		%REC	2000	6/13/2022 01:50 PM
Surr: Toluene-d8	107	0	80-120		%REC	2000	6/13/2022 01:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051117
Project: PG&E Topock - OMM Baseline, 30106892
Lab ID: N051117-002

Client Sample ID: CAB_MIXER_607-060722
Collection Date: 6/7/2022 11:00:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS10_220613B**	QC Batch: **C22VW028**			PrepDate:			Analyst: **AW**
Ethanol	670000	200000	200000		µg/L	2000	6/13/2022 02:14 PM
Surr: 1,2-Dichloroethane-d4	102	0	77-138		%REC	2000	6/13/2022 02:14 PM
Surr: 4-Bromofluorobenzene	103	0	80-120		%REC	2000	6/13/2022 02:14 PM
Surr: Dibromofluoromethane	100	0	80-132		%REC	2000	6/13/2022 02:14 PM
Surr: Toluene-d8	111	0	80-120		%REC	2000	6/13/2022 02:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051117
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID **C220613-LCS** SampType: **LCS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **163151**
Client ID: **LCSW** Batch ID: **C22VW028** TestNo: **EPA 8260B** Analysis Date: **6/13/2022** SeqNo: **4679891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	425.280	100	400.0	0	106	42	159				
Surr: 1,2-Dichloroethane-d4	22.390		25.00		89.6	77	138				
Surr: 4-Bromofluorobenzene	28.310		25.00		113	80	120				
Surr: Dibromofluoromethane	24.210		25.00		96.8	80	132				
Surr: Toluene-d8	26.500		25.00		106	80	120				

Sample ID **N051064-001A-MS** SampType: **MS** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **163151**
Client ID: **ZZZZZZ** Batch ID: **C22VW028** TestNo: **EPA 8260B** Analysis Date: **6/13/2022** SeqNo: **4679892**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	394.450	100	400.0	0	98.6	38	170				
Surr: 1,2-Dichloroethane-d4	22.930		25.00		91.7	77	138				
Surr: 4-Bromofluorobenzene	27.290		25.00		109	80	120				
Surr: Dibromofluoromethane	23.780		25.00		95.1	80	132				
Surr: Toluene-d8	26.130		25.00		105	80	120				

Sample ID **N051064-001A-MSD** SampType: **MSD** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **163151**
Client ID: **ZZZZZZ** Batch ID: **C22VW028** TestNo: **EPA 8260B** Analysis Date: **6/13/2022** SeqNo: **4679893**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	373.410	100	400.0	0	93.4	38	170	394.4	5.48	20	
Surr: 1,2-Dichloroethane-d4	22.030		25.00		88.1	77	138		0		
Surr: 4-Bromofluorobenzene	26.620		25.00		106	80	120		0		
Surr: Dibromofluoromethane	22.290		25.00		89.2	80	132		0		
Surr: Toluene-d8	25.170		25.00		101	80	120		0		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051117
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID **C220613-MB3** SampType: **MBLK** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **163151**
Client ID: **PBW** Batch ID: **C22VW028** TestNo: **EPA 8260B** Analysis Date: **6/13/2022** SeqNo: **4679896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	26.620		25.00		106	77	138				
Surr: 4-Bromofluorobenzene	27.370		25.00		109	80	120				
Surr: Dibromofluoromethane	26.310		25.00		105	80	132				
Surr: Toluene-d8	27.660		25.00		111	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

N051117

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition (Y / N)
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	1. Chilled: Y
Address: Roseville, CA 95661	Email: brian.prowd@arcadis.com; daniel.moore@arcadis.com	Address:	Geotracker	RWQCB ✓	2. Headspace
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com P.O.# SWA-ASSET-C9817-051	Labspec	CalTrans	3. Container Intact: Y
Submitted By: Kevin Astley	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present: Y
Title: atm operator			Specify: RWQCB	LEVEL IV	5. IR number: 3
Signature: Date: 6/7/22	Sampled By: Kevin Astley		Global ID:	Regulatory	6. Method of Cooling: ICE
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may			Specify State:	Sample Temp: 3, 3°C
Project Name: PG&E Topock - OMM Baseline	Signature: Date: 6-7-22				Courier: ASSET
Project Number: 30108892					Tracking No.:

Matrix: Ground | Sediment | Potable | Soil | NPDES | Other Solid | Surface | Water (X)

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	3x40 mL VOA: Ethanol (EPA 8260); HCl	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051117-01	CAB_MIXER_606-060722	6/7/22	1045		X	X	E	3	PV	BNS	6
2	-02	CAB_MIXER_607-060722	6/7/22	1140		X	X	E	3	PV	BNS	6
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Kevin Astley	6/7/22	Regie Top	6/8/22 1523
Regie Top	6/8/22 1524	Romeo Ricantara	6/8/22 1524
Romeo Ricantara	6/8/22 1830	Romeo Ricantara	6/8/22 1830

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years Upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price
4. Trip Blanks and Equipment Blanks are billable sample
5. Asset Laboratories is not responsible for samples collected using incorrect methodology.
6. Terms are net 30 days.
7. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
8. For subcontract analysis, TAT and surcharges will vary

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/8/2022	Workorder:	N051117
Rep sample Temp (Deg C):	3.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: GGJ YRJ 6/09/2022

Reviewed By: MBC 6/9/2022

ASSET Laboratories

WORK ORDER Summary

09-Jun-22

WorkOrder: N051117

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 6/8/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051117-001A	CAB_MIXER_606-060722	6/7/2022 10:45:00 AM	6/22/2022	Water	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051117-001B			6/22/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N051117-002A	CAB_MIXER_607-060722	6/7/2022 11:00:00 AM	6/22/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051117-002B			6/22/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW
N051117-003A	FOLDER	6/22/2022	6/22/2022		Folder	Folder	☐	☐	☐	LAB
			6/22/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/22/2022		Folder	Folder	☐	☐	☐	LAB

June 22, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051118

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 08, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (1.2 ug/L) and hexavalent chromium (0 ug/L) for sample N051118-006 (MW-87-275-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (4.0 ug/L) and hexavalent chromium (0.9 ug/L) for sample N051118-009 (MW-09-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (4.1 ug/L) and hexavalent chromium (1.1 ug/L) for sample N051118-010 (MW-918-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Dilution was necessary for sample N051118-006 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Dilution was necessary for samples N051118-017 and -018 due to matrix interference. Samples have bright yellow color.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Samples N051118-017 and -018 required initial dilution due to matrix. Digestate is colored.

Because the results for total dissolved chromium (1.2 ug/L) and hexavalent chromium (0 ug/L) for sample N051118-006 (MW-87-275-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.2 and 1.1 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (4.0 ug/L) and hexavalent chromium (0.9 ug/L) for sample N051118-009 (MW-09-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 4.2 and 1.3 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (4.1 ug/L) and hexavalent chromium (1.1 ug/L) for sample N051118-010 (MW-918-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 4.3 and 1.9 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051118
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051118-001A	MW-12-Q222	Groundwater	6/8/2022 9:01:00 AM	6/8/2022	6/22/2022
N051118-001B	MW-12-Q222	Groundwater	6/8/2022 9:01:00 AM	6/8/2022	6/22/2022
N051118-001C	MW-12-Q222	Groundwater	6/8/2022 9:01:00 AM	6/8/2022	6/22/2022
N051118-002A	MW-920-Q222	Groundwater	6/8/2022 9:11:00 AM	6/8/2022	6/22/2022
N051118-002B	MW-920-Q222	Groundwater	6/8/2022 9:11:00 AM	6/8/2022	6/22/2022
N051118-002C	MW-920-Q222	Groundwater	6/8/2022 9:11:00 AM	6/8/2022	6/22/2022
N051118-003A	MW-87-109-Q222	Groundwater	6/8/2022 12:01:00 PM	6/8/2022	6/22/2022
N051118-003B	MW-87-109-Q222	Groundwater	6/8/2022 12:01:00 PM	6/8/2022	6/22/2022
N051118-004A	MW-87-139-Q222	Groundwater	6/8/2022 12:40:00 PM	6/8/2022	6/22/2022
N051118-004B	MW-87-139-Q222	Groundwater	6/8/2022 12:40:00 PM	6/8/2022	6/22/2022
N051118-005A	MW-87-192-Q222	Groundwater	6/8/2022 10:20:00 AM	6/8/2022	6/22/2022
N051118-005B	MW-87-192-Q222	Groundwater	6/8/2022 10:20:00 AM	6/8/2022	6/22/2022
N051118-006A	MW-87-275-Q222	Groundwater	6/8/2022 11:10:00 AM	6/8/2022	6/22/2022
N051118-006B	MW-87-275-Q222	Groundwater	6/8/2022 11:10:00 AM	6/8/2022	6/22/2022
N051118-007A	MW-38S-Q222	Groundwater	6/8/2022 1:52:00 PM	6/8/2022	6/22/2022
N051118-007B	MW-38S-Q222	Groundwater	6/8/2022 1:52:00 PM	6/8/2022	6/22/2022
N051118-007C	MW-38S-Q222	Groundwater	6/8/2022 1:52:00 PM	6/8/2022	6/22/2022
N051118-008A	EB-728-Q222	Groundwater	6/8/2022 2:10:00 PM	6/8/2022	6/22/2022
N051118-009A	MW-09-Q222	Groundwater	6/8/2022 9:29:00 AM	6/8/2022	6/22/2022
N051118-009B	MW-09-Q222	Groundwater	6/8/2022 9:29:00 AM	6/8/2022	6/22/2022
N051118-009C	MW-09-Q222	Groundwater	6/8/2022 9:29:00 AM	6/8/2022	6/22/2022
N051118-010A	MW-918-Q222	Groundwater	6/8/2022 9:39:00 AM	6/8/2022	6/22/2022
N051118-010B	MW-918-Q222	Groundwater	6/8/2022 9:39:00 AM	6/8/2022	6/22/2022
N051118-010C	MW-918-Q222	Groundwater	6/8/2022 9:39:00 AM	6/8/2022	6/22/2022
N051118-011A	MW-10-Q222	Groundwater	6/8/2022 10:24:00 AM	6/8/2022	6/22/2022
N051118-011B	MW-10-Q222	Groundwater	6/8/2022 10:24:00 AM	6/8/2022	6/22/2022
N051118-011C	MW-10-Q222	Groundwater	6/8/2022 10:24:00 AM	6/8/2022	6/22/2022
N051118-012A	MW-919-Q222	Groundwater	6/8/2022 10:34:00 AM	6/8/2022	6/22/2022
N051118-012B	MW-919-Q222	Groundwater	6/8/2022 10:34:00 AM	6/8/2022	6/22/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051118
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051118-012C	MW-919-Q222	Groundwater	6/8/2022 10:34:00 AM	6/8/2022	6/22/2022
N051118-013A	MW-10D-Q222	Groundwater	6/8/2022 11:06:00 AM	6/8/2022	6/22/2022
N051118-013B	MW-10D-Q222	Groundwater	6/8/2022 11:06:00 AM	6/8/2022	6/22/2022
N051118-013C	MW-10D-Q222	Groundwater	6/8/2022 11:06:00 AM	6/8/2022	6/22/2022
N051118-014A	MW-11-Q222	Groundwater	6/8/2022 1:17:00 PM	6/8/2022	6/22/2022
N051118-014B	MW-11-Q222	Groundwater	6/8/2022 1:17:00 PM	6/8/2022	6/22/2022
N051118-015A	MW-11D-Q222	Groundwater	6/8/2022 1:55:00 PM	6/8/2022	6/22/2022
N051118-015B	MW-11D-Q222	Groundwater	6/8/2022 1:55:00 PM	6/8/2022	6/22/2022
N051118-016A	MW-88-107-Q222	Groundwater	6/8/2022 8:40:00 AM	6/8/2022	6/22/2022
N051118-016B	MW-88-107-Q222	Groundwater	6/8/2022 8:40:00 AM	6/8/2022	6/22/2022
N051118-017A	MW-38D-Q222	Groundwater	6/8/2022 12:13:00 PM	6/8/2022	6/22/2022
N051118-017B	MW-38D-Q222	Groundwater	6/8/2022 12:13:00 PM	6/8/2022	6/22/2022
N051118-017C	MW-38D-Q222	Groundwater	6/8/2022 12:13:00 PM	6/8/2022	6/22/2022
N051118-018A	MW-922-Q222	Groundwater	6/8/2022 12:23:00 PM	6/8/2022	6/22/2022
N051118-018B	MW-922-Q222	Groundwater	6/8/2022 12:23:00 PM	6/8/2022	6/22/2022
N051118-018C	MW-922-Q222	Groundwater	6/8/2022 12:23:00 PM	6/8/2022	6/22/2022
N051118-019A	EB-729-Q222	Groundwater	6/8/2022 2:05:00 PM	6/8/2022	6/22/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051118-001

Client Sample ID: MW-12-Q222
Collection Date: 6/8/2022 9:01:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2300	5.0	40		µg/L	200	6/9/2022 02:12 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220613B**	QC Batch: **93253**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	2400	0.88	25		µg/L	25	6/13/2022 05:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-920-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:11:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2200	5.0	40		µg/L	200	6/9/2022 02:31 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220613B**	QC Batch: **93253**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	2400	0.88	25		µg/L	25	6/13/2022 05:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-109-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 12:01:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	26	0.13	1.0		µg/L	5	6/9/2022 12:00 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	26	0.035	1.0		µg/L	1	6/9/2022 10:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-139-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 12:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.7	0.025	0.20		µg/L	1	6/9/2022 11:11 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	8.5	0.035	1.0		µg/L	1	6/9/2022 10:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-192-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 10:20:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.2	0.025	0.20		µg/L	1	6/9/2022 11:41 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	1.3	0.035	1.0		µg/L	1	6/9/2022 10:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-87-275-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 11:10:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/9/2022 06:18 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	1.2	0.035	1.0		µg/L	1	6/9/2022 10:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 1:52:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	17	0.13	1.0		µg/L	5	6/9/2022 11:50 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	16	0.035	1.0		µg/L	1	6/9/2022 11:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-728-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 2:10:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/9/2022 05:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:29:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.90	0.025	0.20		µg/L	1	6/9/2022 12:57 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	4.0	0.035	1.0		µg/L	1	6/10/2022 12:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:39:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.1	0.025	0.20		µg/L	1	6/9/2022 05:03 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	4.1	0.035	1.0		µg/L	1	6/10/2022 12:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 10:24:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	98	0.25	2.0		µg/L	10	6/9/2022 10:08 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	96	0.035	1.0		µg/L	1	6/10/2022 12:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-919-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 10:34:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	99	0.25	2.0		µg/L	10	6/9/2022 01:34 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	95	0.035	1.0		µg/L	1	6/10/2022 01:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10D-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 11:06:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	160	0.50	4.0		µg/L	20	6/9/2022 01:53 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	150	0.035	1.0		µg/L	1	6/10/2022 01:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-11-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 1:17:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	45	0.13	1.0		µg/L	5	6/9/2022 04:06 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	44	0.035	1.0		µg/L	1	6/10/2022 01:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-11D-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 1:55:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	220	1.3	10		µg/L	50	6/9/2022 10:36 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	230	0.18	5.0		µg/L	5	6/10/2022 02:04 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-88-107-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 8:40:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	94	0.50	4.0		µg/L	20	6/9/2022 10:46 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	92	0.035	1.0		µg/L	1	6/10/2022 02:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 12:13:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.50	4.0		µg/L	20	6/9/2022 09:47 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	6/10/2022 02:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051118-018

Client Sample ID: MW-922-Q222
Collection Date: 6/8/2022 12:23:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A** QC Batch: **R163098**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.50	4.0		µg/L	20	6/9/2022 12:38 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:	**6/9/2022**		Analyst: **DJ**
Chromium	ND	0.18	5.0		µg/L	5	6/10/2022 02:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-729-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 2:05:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220609A**	QC Batch: **R163098**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/9/2022 05:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163098	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	PBW	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675705

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R163098	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	LCSW	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675706

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.853	0.20	5.000	0	97.1	90	110				

Sample ID	N051118-017AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675719

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	19.752	4.0	20.00	0	98.8	90	110				

Sample ID	N051118-018AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675721

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	19.964	4.0	20.00	0	99.8	90	110				

Sample ID	N051118-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675723

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	148.054	2.0	50.00	98.00	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051118-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098		
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675727		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	147.420	2.0	50.00	99.12	96.6	90	110						

Sample ID	N051118-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098		
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675729		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	259.104	4.0	100.0	160.7	98.4	90	110						

Sample ID	N051118-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098		
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675731		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	3246.280	40	1000	2270	97.7	90	110						

Sample ID	N051118-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098		
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675733		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	3244.940	40	1000	2244	100	90	110						

Sample ID	N051118-011ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098		
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675734		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	98.810	2.0						98.00	0.827	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051118-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675735

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.973	0.20	1.000	0.8995	107	90	110				

Sample ID	N051118-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675738

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.269	1.0	25.00	16.78	102	90	110				

Sample ID	N051118-007AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675739

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	42.836	1.0	25.00	16.78	104	90	110	42.27	1.33	20	

Sample ID	N051118-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675740

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.934	0.20	5.000	8.690	105	90	110				

Sample ID	N051118-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	70.572	1.0	25.00	44.94	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051118-015AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675743

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	473.575	10	250.0	218.0	102	90	110				

Sample ID	N051118-016AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675744

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	196.490	4.0	100.0	93.73	103	90	110				

Sample ID	N051118-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675745

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.243	0.20	1.000	1.165	108	90	110				

Sample ID	N051118-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675746

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	52.355	1.0	25.00	26.46	104	90	110				

Sample ID	N051118-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675750

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.142	0.20	1.000	1.144	99.8	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051118-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675752

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	105	90	110				

Sample ID	N051118-019AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.072	0.20	1.000	0	107	90	110				

Sample ID	N051118-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675756

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.778	1.0	5.000	0.9480	96.6	90	110				

Sample ID	N051100-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163098
Client ID:	ZZZZZZ	Batch ID:	R163098	TestNo:	EPA 218.6			Analysis Date:	6/9/2022	SeqNo:	4675758

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.096	0.20	1.000	0	110	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93253	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	PBW	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4676867

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.060	1.0									

Sample ID	LCS-93253	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	LCSW	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4676868

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.937	1.0	10.00	0	99.4	85	115				

Sample ID	N051118-007CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	ZZZZZZ	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4676893

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	26.227	1.0	10.00	15.93	103	75	125				

Sample ID	N051118-007CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	ZZZZZZ	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/10/2022	SeqNo:	4676895

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	25.676	1.0	10.00	15.93	97.5	75	125	26.23	2.12	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-12-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:01:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	14	0.095	0.50		mg/L	10	6/9/2022 10:59 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-920-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:11:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	15	0.095	0.50		mg/L	10	6/9/2022 12:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 1:52:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	5.2	0.095	0.50		mg/L	10	6/9/2022 10:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-09-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:29:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.1	0.095	0.50		mg/L	10	6/9/2022 11:14 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:39:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	2.9	0.095	0.50		mg/L	10	6/9/2022 12:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 10:24:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	9.6	0.095	0.50		mg/L	10	6/9/2022 11:29 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-919-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 10:34:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	9.6	0.095	0.50		mg/L	10	6/9/2022 01:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10D-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 11:06:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	8.9	0.095	0.50		mg/L	10	6/9/2022 11:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 12:13:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.19	1.0		mg/L	20	6/9/2022 10:05 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-922-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 12:23:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220609A**	QC Batch: **R163080**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.19	1.0		mg/L	20	6/9/2022 10:20 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163080_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163080
Client ID:	PBW	Batch ID:	R163080	TestNo:	EPA 300.0			Analysis Date:	6/9/2022	SeqNo:	4674999

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163080_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163080
Client ID:	LCSW	Batch ID:	R163080	TestNo:	EPA 300.0			Analysis Date:	6/9/2022	SeqNo:	4675000

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.373	0.050	1.250	0	110	90	110				

Sample ID	N051118-007BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163080
Client ID:	ZZZZZZ	Batch ID:	R163080	TestNo:	EPA 300.0			Analysis Date:	6/9/2022	SeqNo:	4675013

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.252	0.50	12.50	5.209	96.3	80	120				

Sample ID	N051118-007BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163080
Client ID:	ZZZZZZ	Batch ID:	R163080	TestNo:	EPA 300.0			Analysis Date:	6/9/2022	SeqNo:	4675014

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	17.503	0.50	12.50	5.209	98.4	80	120	17.25	1.44	20	

Sample ID	N051118-001BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163080
Client ID:	ZZZZZZ	Batch ID:	R163080	TestNo:	EPA 300.0			Analysis Date:	6/9/2022	SeqNo:	4675015

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.258	0.50						14.48	1.58	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051118-001

Client Sample ID: MW-12-Q222
Collection Date: 6/8/2022 9:01:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	12	0.12	0.50		µg/L	1	6/9/2022 09:37 PM
Selenium	15	0.044	0.50		µg/L	1	6/9/2022 09:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-920-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:11:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220609E** QC Batch: **93253**				PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	13	0.12	0.50		µg/L	1	6/9/2022 09:48 PM
Selenium	16	0.044	0.50		µg/L	1	6/9/2022 09:48 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38S-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 1:52:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**				PrepDate:	**6/9/2022**	Analyst: **DJ**
Molybdenum	7.0	0.12	0.50		µg/L	1	6/9/2022 11:00 PM
Selenium	4.5	0.044	0.50		µg/L	1	6/9/2022 11:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051118-009

Client Sample ID: MW-09-Q222
Collection Date: 6/8/2022 9:29:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	10	0.12	0.50		µg/L	1	6/10/2022 12:23 AM
Selenium	2.2	0.044	0.50		µg/L	1	6/10/2022 12:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-918-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 9:39:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	11	0.12	0.50		µg/L	1	6/10/2022 12:46 AM
Selenium	2.3	0.044	0.50		µg/L	1	6/10/2022 12:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 10:24:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	16	0.12	0.50		µg/L	1	6/10/2022 12:58 AM
Selenium	5.8	0.044	0.50		µg/L	1	6/10/2022 12:58 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051118-012

Client Sample ID: MW-919-Q222
Collection Date: 6/8/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	16	0.12	0.50		µg/L	1	6/10/2022 01:10 AM
Selenium	6.1	0.044	0.50		µg/L	1	6/10/2022 01:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-10D-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 11:06:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	1.5	0.12	0.50		µg/L	1	6/10/2022 01:22 AM
Selenium	5.7	0.044	0.50		µg/L	1	6/10/2022 01:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-38D-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 12:13:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	28	0.60	2.5		µg/L	5	6/10/2022 02:21 AM
Selenium	ND	0.22	2.5		µg/L	5	6/10/2022 02:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-922-Q222
Lab Order:	N051118	**Collection Date:**	6/8/2022 12:23:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051118-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220609E**	QC Batch: **93253**			PrepDate:		**6/9/2022**	Analyst: **DJ**
Molybdenum	34	0.60	2.5		µg/L	5	6/10/2022 02:39 AM
Selenium	ND	0.22	2.5		µg/L	5	6/10/2022 02:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051118
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93253	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	PBW	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4676996

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									
Selenium	0.045	0.50									

Sample ID	LCS-93253	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	LCSW	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4676997

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.621	0.50	10.00	0	96.2	85	115				
Selenium	9.510	0.50	10.00	0	95.1	85	115				

Sample ID	N051118-007CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	ZZZZZZ	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/9/2022	SeqNo:	4677022

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	17.598	0.50	10.00	7.005	106	75	125				
Selenium	13.987	0.50	10.00	4.547	94.4	75	125				

Sample ID	N051118-007CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/9/2022	RunNo:	163117
Client ID:	ZZZZZZ	Batch ID:	93253	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/10/2022	SeqNo:	4677024

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	17.604	0.50	10.00	7.005	106	75	125	17.60	0.0351	20	
Selenium	13.907	0.50	10.00	4.547	93.6	75	125	13.99	0.575	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ARCUS02 C: 6/22/2022 12:00 AM
FOLDER R: 6/8/2022
N051118-020A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD / RTNE
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker / RWQCB ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec / CalTrans
Submitted By: Rissie Top		Phone: 949-727-1400, ext 200 Fax:	Others ✓ / LEVEL III
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB / LEVEL IV
Signature: Date: 6/8/22	Sampled By: Rissie Top		Global ID: / Regulatory / Specify State:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
Project Name: PG&E Topock - RCM	Signature: Date: 6/8/22		
Project Number: 30121866.2Q22GW			

Matrix			
Ground	X	Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface			

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		✓
5. IR number	3	

6. Method of Cooling: ICE

Sample Temp: 3.3 °C / 2.9°C

Courier: ASSET

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1															
2	N051118-01	MW-12-Q222	6/8/2022	9:01		X	X		X	X	E	3	P	BNS	
3	-02	MW-920-Q222	6/8/2022	9:11		X	X		X	X	E	3	P	BNS	
4	-03	MW-87-109-Q222	6/8/2022	12:01		X			X		E	2	P	BNS	
5	-04	MW-87-139-Q222	6/8/2022	12:40		X			X		E	2	P	BNS	
	-05	MW-87-192-Q222	6/8/2022	10:20		X			X		E	2	P	BNS	
7	-06	MW-87-275-Q222	6/8/2022	11:11		X			X		E	2	P	BNS	
8	-07	MW-38S-Q222	6/8/2022	13:52		X	X		X	X	E	3	P	BNS	MS/MSD
9	-08	EB-728-Q222	6/8/2022	14:10		X					E	1	P	BNS	
10	-09	MW-09-Q222	6/8/2022	9:29		X	X		X	X	E	3	P	BNS	
11	-10	MW-918-Q222	6/8/2022	9:39		X	X		X	X	E	3	P	BNS	
12	-11	MW-10-Q222	6/8/2022	10:24		X	X		X	X	E	3	P	BNS	
13	-12	MW-919-Q222	6/8/2022	10:34		X	X		X	X	E	3	P	BNS	
14	-13	MW-10D-Q222	6/8/2022	11:06		X	X		X	X	E	3	P	BNS	

Relinquished by (Signature and Printed Name): Rissie Top 6/8/22 1524 Date/Time:

Relinquished by (Signature and Printed Name): Romeo Ancheta 6/8/22 1524 Date/Time:

Relinquished by (Signature and Printed Name): Romeo Ancheta 6/8/22 1830 Date/Time:

Relinquished by (Signature and Printed Name): Romeo Ancheta 6/8/22 1830 Date/Time:

Relinquished by (Signature and Printed Name): Date/Time:

Relinquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace
Submitted By: Riggie Tep			Others ✓	LEVEL III	3. Container Intact ✓
Title: Field Tech	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB	LEVEL IV	4. Seal Present ✓
Signature: Date: 6/8/22	Sampled By: Riggie Tep		Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	6. Method of Cooling:
Project Name: PG&E Topock - RCM	Signature: Date: 6/8/22				Sample Temp: 3.3°C/2.9°C
Project Number: 30121866.2Q22GW					Courier: ASSET
					Tracking No.:

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051118-14	MW-11-Q222	6/8/2022	13:17		X			X		E	2	P	BNS	
2	-15	MW-11D-Q222	6/8/2022	13:55		X			X		E	2	P	BNS	
3	-16	MW-88-107-Q222	6/8/2022	8:40		X			X		E	2	P	BNS	
4	-17	MW-38D-Q222	6/8/2022	12:13		X	X		X	X	E	3	P	BNS	
5	-18	MW-922-Q222	6/8/2022	12:23		X	X		X	X	E	3	P	BNS	
	-19	EB-729-Q222	6/8/2022	14:05		X					E	1	P	BNS	
7															
8															
9															
10															
11															
12															
13															
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	6/8/22 1524	ROMEO ANCANTELA	6/8/22 1524
ROMEO ANCANTELA	6/8/22 1830	ROMEO ANCANTELA	6/8/22 1830

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/8/2022	Workorder:	N051118
Rep sample Temp (Deg C):	3.3/2.9	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☐	No ☑	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☑	No ☐	NA ☐

Comments: See Correspondence.

Checklist Completed By: GGJ GGarcia 6/9/2022

Reviewed By: MBC 6/10/2022

Subject: RE: PG&E Topock - RCM, 30121866.2Q22GW (ASSET Labs No. N051118)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 6/9/2022, 12:48 PM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>, "giselle@assetlaboratories.com" <giselle@assetlaboratories.com>

Hi Yoandra,
Sample time should be 11:10

Thanks!
Laura

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Thursday, June 9, 2022 2:44 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; rustico.aquino@assetlaboratoriesph.com; giselle@assetlaboratories.com
Subject: PG&E Topock - RCM, 30121866.2Q22GW (ASSET Labs No. N051118)

Hi Laura,

Please confirm collection time for sample 6 on the attached COC:

- COC: 11:11

- Label: 11:10

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

ASSET LABORATORIES - Serving Clients with Passion and Professionalism

This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

ASSET Laboratories

WORK ORDER Summary

09-Jun-22

WorkOrder: N051118

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/8/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051118-001A	MW-12-Q222	6/8/2022 9:01:00 AM	6/22/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-001B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-001C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-002A	MW-920-Q222	6/8/2022 9:11:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-002B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-002C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-003A	MW-87-109-Q222	6/8/2022 12:01:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-003B			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-004A	MW-87-139-Q222	6/8/2022 12:40:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-004B			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-005A	MW-87-192-Q222	6/8/2022 10:20:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-005B			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-006A	MW-87-275-Q222	6/8/2022 11:10:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-006B			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

09-Jun-22

WorkOrder: N051118

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/8/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051118-007A	MW-38S-Q222	6/8/2022 1:52:00 PM	6/22/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N051118-007B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N051118-007C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N051118-008A	EB-728-Q222	6/8/2022 2:10:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-009A	MW-09-Q222	6/8/2022 9:29:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-009B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-009C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-010A	MW-918-Q222	6/8/2022 9:39:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-010B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-010C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-011A	MW-10-Q222	6/8/2022 10:24:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-011B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-011C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-012A	MW-919-Q222	6/8/2022 10:34:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

09-Jun-22

WorkOrder: N051118

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/8/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051118-012B	MW-919-Q222	6/8/2022 10:34:00 AM	6/22/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-012C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-013A	MW-10D-Q222	6/8/2022 11:06:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-013B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-013C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-014A	MW-11-Q222	6/8/2022 1:17:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-014B			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-015A	MW-11D-Q222	6/8/2022 1:55:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-015B			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-016A	MW-88-107-Q222	6/8/2022 8:40:00 AM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-016B			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-017A	MW-38D-Q222	6/8/2022 12:13:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-017B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-017C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

09-Jun-22

WorkOrder: N051118

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/8/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051118-017C	MW-38D-Q222	6/8/2022 12:13:00 PM	6/22/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-018A	MW-922-Q222	6/8/2022 12:23:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-018B			6/22/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051118-018C			6/22/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/22/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051118-019A	EB-729-Q222	6/8/2022 2:05:00 PM	6/22/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051118-020A	FOLDER	6/22/2022	6/22/2022		Folder	Folder	☐	☐	☐	LAB
			6/22/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/22/2022		Folder	Folder	☐	☐	☐	LAB

June 22, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051131

RE: PG&E Topock - RCM, 30121866.2Q22GW

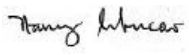
Attention: Dan Bush

Enclosed are the results for sample(s) received on June 09, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N051131-002 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2.2 ug/L) and hexavalent chromium (1.1 ug/L) for sample N051131-003 (MW-63-065-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2.2 ug/L) and hexavalent chromium (1.1 ug/L) for sample N051131-003 (MW-63-065-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2.2 and 1.5 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051131
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051131-001A	MW-23-060-Q222	Groundwater	6/9/2022 9:15:00 AM	6/9/2022	6/22/2022
N051131-001B	MW-23-060-Q222	Groundwater	6/9/2022 9:15:00 AM	6/9/2022	6/22/2022
N051131-002A	MW-23-080-Q222	Groundwater	6/9/2022 10:01:00 AM	6/9/2022	6/22/2022
N051131-002B	MW-23-080-Q222	Groundwater	6/9/2022 10:01:00 AM	6/9/2022	6/22/2022
N051131-003A	MW-63-065-Q222	Groundwater	6/9/2022 11:47:00 AM	6/9/2022	6/22/2022
N051131-003B	MW-63-065-Q222	Groundwater	6/9/2022 11:47:00 AM	6/9/2022	6/22/2022
N051131-004A	MW-98-055-Q222	Groundwater	6/9/2022 1:38:00 PM	6/9/2022	6/22/2022
N051131-004B	MW-98-055-Q222	Groundwater	6/9/2022 1:38:00 PM	6/9/2022	6/22/2022
N051131-005A	MW-98-077-Q222	Groundwater	6/9/2022 2:07:00 PM	6/9/2022	6/22/2022
N051131-005B	MW-98-077-Q222	Groundwater	6/9/2022 2:07:00 PM	6/9/2022	6/22/2022
N051131-006A	MW-62-065-Q222	Groundwater	6/9/2022 11:05:00 AM	6/9/2022	6/22/2022
N051131-006B	MW-62-065-Q222	Groundwater	6/9/2022 11:05:00 AM	6/9/2022	6/22/2022
N051131-007A	MW-59-100-Q222	Groundwater	6/9/2022 12:42:00 PM	6/9/2022	6/22/2022
N051131-007B	MW-59-100-Q222	Groundwater	6/9/2022 12:42:00 PM	6/9/2022	6/22/2022
N051131-008A	EB-731-Q222	Groundwater	6/9/2022 2:17:00 PM	6/9/2022	6/22/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-060-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 9:15:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A** QC Batch: **R163136**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	43	0.13	1.0		µg/L	5	6/10/2022 10:01 AM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220614A** QC Batch: **93281**				PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	38	0.035	1.0		µg/L	1	6/14/2022 12:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-23-080-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 10:01:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220610A** QC Batch: **R163136**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/10/2022 02:45 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614A** QC Batch: **93281**				PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/14/2022 01:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-63-065-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 11:47:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.1	0.025	0.20		µg/L	1	6/10/2022 10:11 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614A**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	2.2	0.035	1.0		µg/L	1	6/14/2022 01:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-98-055-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 1:38:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	130	0.50	4.0		µg/L	20	6/10/2022 05:40 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614A**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	120	0.035	1.0		µg/L	1	6/14/2022 01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-98-077-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 2:07:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	440	1.3	10		µg/L	50	6/10/2022 10:29 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614A**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	430	0.18	5.0		µg/L	5	6/14/2022 01:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-065-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 11:05:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	650	2.5	20		µg/L	100	6/10/2022 10:39 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614A**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	660	0.18	5.0		µg/L	5	6/14/2022 01:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-59-100-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 12:42:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1700	5.0	40		µg/L	200	6/10/2022 10:48 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614A**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	1700	0.88	25		µg/L	25	6/14/2022 01:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-731-Q222
Lab Order:	N051131	**Collection Date:**	6/9/2022 2:17:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051131-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/10/2022 04:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051131
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163136	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	PBW	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677650		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R163136	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	LCSW	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677651		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		5.136	0.20	5.000	0	103	90	110					

Sample ID	N051131-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677659		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		2.143	0.20	1.000	1.091	105	90	110					

Sample ID	N051131-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677662		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		67.647	1.0	25.00	42.76	99.6	90	110					

Sample ID	N051131-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677663		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		67.752	1.0	25.00	42.76	100	90	110	67.65	0.155	20		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051131
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051132-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677664

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.996	0.20	5.000	2.669	107	90	110				

Sample ID	N051131-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677665

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	691.160	10	250.0	437.8	101	90	110				

Sample ID	N051131-007ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677668

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1715.960	40						1685	1.81	20	

Sample ID	N051131-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677669

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2681.920	40	1000	1685	99.7	90	110				

Sample ID	N051131-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677670

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1136.180	20	500.0	646.3	98.0	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051131
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051132-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677672

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110				

Sample ID	N051131-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677676

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.163	1.0	5.000	0	103	90	110				

Sample ID	N051132-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677678

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.112	1.0	5.000	3.266	96.9	90	110				

Sample ID	N051132-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677680

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.719	1.0	5.000	9.863	97.1	90	110				

Sample ID	N051132-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677682

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.818	1.0	5.000	0	96.4	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051131
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051131-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677684

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID	N051132-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID	N051132-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677690

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID	N051131-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677692

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	229.900	4.0	100.0	132.7	97.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051131
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93281	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	PBW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.092	1.0									

Sample ID	LCS-93281	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	LCSW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679826

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.455	1.0	10.00	0	94.5	85	115				

Sample ID	N051131-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	46.913	1.0	10.00	37.84	90.7	75	125				

Sample ID	N051131-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679831

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	48.463	1.0	10.00	37.84	106	75	125	46.91	3.25	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

N051131

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Others ✓; Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RWQCB ✓
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 6/9/22	Sampled By: Riggie Tep		
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - RCM	Signature: Date: 6/9/22		
Project Number: 30121868.2022GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Global ID:

Specify State:

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present	✓	
5. IR number	3	

6. Method of Cooling: ICE

Sample Temp: 3.3°C

Courier: ASSET

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051131-01	MW-23-060-Q222	6/9/2022	9:15		X			X		E	2	P	BNS	
2	-02	MW-23-080-Q222	6/9/2022	10:01		X			X		E	2	P	BNS	
3	-03	MW-63-065-Q222	6/9/2022	11:47		X			X		E	2	P	BNS	
4	-04	MW-98-055-Q222	6/9/2022	13:38		X			X		E	2	P	BNS	
5	-05	MW-98-077-Q222	6/9/2022	14:07		X			X		E	2	P	BNS	
	-06	MW-62-065-Q222	6/9/2022	11:05		X			X		E	2	P	BNS	
7	-07	MW-59-100-Q222	6/9/2022	12:42		X			X		E	2	P	BNS	
8	-08	EB-731-Q222	6/9/2022	14:17		X					E	1	P	BNS	
9															
10															
11															
12															
13															
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	6/9/22	Romeo Alcantara	6/9/22 1530
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Romeo Alcantara	6/9/22 1825	Romeo Alcantara	6/9/22 1825
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/9/2022	Workorder:	N051131
Rep sample Temp (Deg C):	3.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/10/2022

Reviewed By: MBC 6/10/2022

ASSET Laboratories

WORK ORDER Summary

10-Jun-22

WorkOrder: N051131

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/9/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051131-001A	MW-23-060-Q222	6/9/2022 9:15:00 AM	6/23/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051131-001B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051131-002A	MW-23-080-Q222	6/9/2022 10:01:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051131-002B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051131-003A	MW-63-065-Q222	6/9/2022 11:47:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051131-003B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051131-004A	MW-98-055-Q222	6/9/2022 1:38:00 PM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051131-004B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051131-005A	MW-98-077-Q222	6/9/2022 2:07:00 PM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051131-005B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051131-006A	MW-62-065-Q222	6/9/2022 11:05:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051131-006B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051131-007A	MW-59-100-Q222	6/9/2022 12:42:00 PM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051131-007B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051131-008A	EB-731-Q222	6/9/2022 2:17:00 PM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

10-Jun-22

WorkOrder: N051131

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/9/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051131-009A	FOLDER	6/23/2022	6/23/2022		Folder	Folder	☐	☐	☐	LAB
			6/23/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/23/2022		Folder	Folder	☐	☐	☐	LAB

June 22, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051132

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 09, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (5.1 ug/L) and hexavalent chromium (3.3 ug/L) for sample N051132-004 (MW-33-150-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Method Blank (MB-R163157) has detection greater than 0.02ug/L. However, affected sample result was none detect (ND) therefore reanalysis of the sample was not necessary.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (5.1 ug/L) and hexavalent chromium (3.3 ug/L) for sample N051132-004 (MW-33-150-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 4.7 and 4.7 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

ASSET Laboratories

Date: *22-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051132
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051132-001A	MW-33-040-Q222	Groundwater	6/9/2022 10:16:00 AM	6/9/2022	6/22/2022
N051132-001B	MW-33-040-Q222	Groundwater	6/9/2022 10:16:00 AM	6/9/2022	6/22/2022
N051132-002A	MW-33-040-EB-Q222	Groundwater	6/9/2022 9:53:00 AM	6/9/2022	6/22/2022
N051132-003A	MW-33-090-Q222	Groundwater	6/9/2022 10:51:00 AM	6/9/2022	6/22/2022
N051132-003B	MW-33-090-Q222	Groundwater	6/9/2022 10:51:00 AM	6/9/2022	6/22/2022
N051132-004A	MW-33-150-Q222	Groundwater	6/9/2022 11:31:00 AM	6/9/2022	6/22/2022
N051132-004B	MW-33-150-Q222	Groundwater	6/9/2022 11:31:00 AM	6/9/2022	6/22/2022
N051132-005A	MW-33-210-Q222	Groundwater	6/9/2022 12:22:00 PM	6/9/2022	6/22/2022
N051132-005B	MW-33-210-Q222	Groundwater	6/9/2022 12:22:00 PM	6/9/2022	6/22/2022
N051132-006A	MW-96-045-Q222	Groundwater	6/9/2022 8:42:00 AM	6/9/2022	6/22/2022
N051132-006B	MW-96-045-Q222	Groundwater	6/9/2022 8:42:00 AM	6/9/2022	6/22/2022
N051132-007A	MW-96-217-Q222	Groundwater	6/9/2022 9:25:00 AM	6/9/2022	6/22/2022
N051132-007B	MW-96-217-Q222	Groundwater	6/9/2022 9:25:00 AM	6/9/2022	6/22/2022
N051132-008A	EB-730-Q222	Groundwater	6/9/2022 1:37:00 PM	6/9/2022	6/22/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220613A** QC Batch: **R163157**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/13/2022 04:38 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614A** QC Batch: **93281**				PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/14/2022 01:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-040-EB-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 9:53:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/10/2022 04:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-090-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 10:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2.7	0.025	0.20		µg/L	1	6/10/2022 09:52 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614A**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	3.2	0.035	1.0		µg/L	1	6/14/2022 01:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-150-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 11:31:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3.3	0.13	1.0		µg/L	5	6/10/2022 03:23 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614A**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	5.1	0.035	1.0		µg/L	1	6/14/2022 02:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-33-210-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 12:22:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	9.9	0.13	1.0		µg/L	5	6/10/2022 03:42 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614D**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	10	0.035	1.0		µg/L	1	6/14/2022 10:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-96-045-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 8:42:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/10/2022 02:07 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614D**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/14/2022 10:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-96-217-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 9:25:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220610A** QC Batch: **R163136**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/10/2022 04:01 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220617C** QC Batch: **93281**				PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/17/2022 03:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-730-Q222
Lab Order:	N051132	**Collection Date:**	6/9/2022 1:37:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051132-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220610A**	QC Batch: **R163136**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/10/2022 05:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163136	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	PBW	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677650		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R163136	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	LCSW	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677651		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		5.136	0.20	5.000	0	103	90	110					

Sample ID	N051131-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677659		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		2.143	0.20	1.000	1.091	105	90	110					

Sample ID	N051131-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677662		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		67.647	1.0	25.00	42.76	99.6	90	110					

Sample ID	N051131-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136		
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677663		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		67.752	1.0	25.00	42.76	100	90	110	67.65	0.155	20		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051132-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677664

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.996	0.20	5.000	2.669	107	90	110				

Sample ID	N051131-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677665

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	691.160	10	250.0	437.8	101	90	110				

Sample ID	N051131-007ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677668

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1715.960	40						1685	1.81	20	

Sample ID	N051131-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677669

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2681.920	40	1000	1685	99.7	90	110				

Sample ID	N051131-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677670

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1136.180	20	500.0	646.3	98.0	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051132-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677672

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.063	0.20	1.000	0	106	90	110				

Sample ID	N051131-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677676

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.163	1.0	5.000	0	103	90	110				

Sample ID	N051132-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677678

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.112	1.0	5.000	3.266	96.9	90	110				

Sample ID	N051132-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677680

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.719	1.0	5.000	9.863	97.1	90	110				

Sample ID	N051132-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677682

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.818	1.0	5.000	0	96.4	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051131-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677684

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.021	0.20	1.000	0	102	90	110				

Sample ID	N051132-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID	N051132-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677690

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.988	0.20	1.000	0	98.8	90	110				

Sample ID	N051131-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163136
Client ID:	ZZZZZZ	Batch ID:	R163136	TestNo:	EPA 218.6			Analysis Date:	6/10/2022	SeqNo:	4677692

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	229.900	4.0	100.0	132.7	97.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163157	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157		
Client ID:	PBW	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678447		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	0.084	0.20											

Sample ID	LCS-R163157	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157		
Client ID:	LCSW	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678448		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	4.903	0.20	5.000	0	98.1	90	110						

Sample ID	N051137-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157		
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678452		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	2689.580	40	1000	1708	98.1	90	110						

Sample ID	N051137-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157		
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678455		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	207.568	4.0	100.0	108.4	99.2	90	110						

Sample ID	N051137-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157		
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678456		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	206.914	4.0	100.0	108.4	98.5	90	110	207.6	0.316	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051137-006ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678457

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	520.690	20						524.3	0.695	20	

Sample ID	N051137-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678458

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1039.780	20	500.0	524.3	103	90	110				

Sample ID	N051137-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678460

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.976	0.20	1.000	0	97.6	90	110				

Sample ID	N051137-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678462

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.002	0.20	1.000	0	100	90	110				

Sample ID	N051137-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678466

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.045	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051137-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163157**
Client ID: **ZZZZZZ**	Batch ID: **R163157**	TestNo: **EPA 218.6**		Analysis Date: **6/13/2022**	SeqNo: **4678468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.004	1.0	5.000	0	100	90	110				

Sample ID **N051137-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163157**
Client ID: **ZZZZZZ**	Batch ID: **R163157**	TestNo: **EPA 218.6**		Analysis Date: **6/13/2022**	SeqNo: **4678470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	1.0	5.000	0	100	90	110				

Sample ID **N051132-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163157**
Client ID: **ZZZZZZ**	Batch ID: **R163157**	TestNo: **EPA 218.6**		Analysis Date: **6/13/2022**	SeqNo: **4678472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.150	1.0	5.000	0	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051132
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93281	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	PBW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.092	1.0									

Sample ID	LCS-93281	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	LCSW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679826

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.455	1.0	10.00	0	94.5	85	115				

Sample ID	N051131-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	46.913	1.0	10.00	37.84	90.7	75	125				

Sample ID	N051131-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679831

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	48.463	1.0	10.00	37.84	106	75	125	46.91	3.25	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N051132

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3; 6. Method of Cooling:
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Global ID: Specify State:
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Sample Temp: 3 °C
Title: Field Tech	Phone: 916-786-3302 Fax:		Courier: ASSET
Signature: Date: 6/9/22	Sampled By: Riggie Tep		Tracking No.:
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - PCM	Signature:	Date: 6/9/22	
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate (EPA 300.0) (1 L poly)	Nitrate/nitrite as Nitrogen (SM 4500-NO3); H2SO4 (125 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051132-01	MW-33-040-Q222	6/9/2022	10:16		X			X							E	2	P	BNS	
2	-02	MW-33-040-EB-Q222	6/9/2022	9:53		X			X							E	2	P	BNS	
3	-03	MW-33-090-Q222	6/9/2022	10:51		X			X							E	2	P	BNS	
4	-04	MW-33-150-Q222	6/9/2022	11:31		X			X							E	2	P	BNS	
5	-05	MW-33-210-Q222	6/9/2022	12:22		X			X							E	2	P	BNS	
6	-06	MW-96-045-Q222	6/9/2022	8:42		X			X							E	2	P	BNS	
7	-07	MW-96-217-Q222	6/9/2022	9:25		X			X							E	2	P	BNS	
8	-08	EB-730-Q222	6/9/2022	13:37		X										E	2	P	BNS	
9																E	1	P	BNS	
10																E	2	P	BNS	
11																E	2	P	BNS	
12																E	2	P	BNS	
13																E	2	P	BNS	
14																				

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	6/9/22 1530	Romeo Acamara	6/9/22 1530
Romeo Acamara	6/9/22 1825	Romeo Acamara	6/9/22 1825

Turn Around Time (TAT)

- A = < 24 Hrs or Same Day TAT
- B = Next Workday
- C = 2 Workdays
- D = 3 Workdays
- X E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Plnt
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/9/2022	Workorder:	N051132
Rep sample Temp (Deg C):	3.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/10/2022

Reviewed By: MBC 6/10/2022

ASSET Laboratories

WORK ORDER Summary

10-Jun-22

WorkOrder: N051132

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/9/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051132-001A	MW-33-040-Q222	6/9/2022 10:16:00 AM	6/23/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-001B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051132-002A	MW-33-040-EB-Q222	6/9/2022 9:53:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-003A	MW-33-090-Q222	6/9/2022 10:51:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-003B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051132-004A	MW-33-150-Q222	6/9/2022 11:31:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-004B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051132-005A	MW-33-210-Q222	6/9/2022 12:22:00 PM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-005B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051132-006A	MW-96-045-Q222	6/9/2022 8:42:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-006B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051132-007A	MW-96-217-Q222	6/9/2022 9:25:00 AM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-007B			6/23/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/23/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051132-008A	EB-730-Q222	6/9/2022 1:37:00 PM	6/23/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051132-009A	FOLDER	6/23/2022	6/23/2022		Folder	Folder	☐	☐	☐	LAB
			6/23/2022		Folder	Level IV Report	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

10-Jun-22

WorkOrder: N051132

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/9/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051132-009A	FOLDER	6/23/2022	6/23/2022		Folder	Folder	☐	☐	☐	LAB

June 24, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051137

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 10, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2200 ug/L) and hexavalent chromium (1700 ug/L) for sample N051137-007 (MW-85-237-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Method Blank (MB-R163157) has detection greater than 0.02ug/L. However, sample results were either none detect (ND) or 10xgreater than the Method Blank detection therefore reanalysis of the samples was not necessary.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2200 ug/L) and hexavalent chromium (1700 ug/L) for sample N051137-007 (MW-85-237-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2180 and 1770 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051137
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051137-001A	MW-48-Q222	Groundwater	6/10/2022 7:30:00 AM	6/10/2022	6/24/2022
N051137-001B	MW-48-Q222	Groundwater	6/10/2022 7:30:00 AM	6/10/2022	6/24/2022
N051137-001C	MW-48-Q222	Groundwater	6/10/2022 7:30:00 AM	6/10/2022	6/24/2022
N051137-002A	MW-923-Q222	Groundwater	6/10/2022 7:40:00 AM	6/10/2022	6/24/2022
N051137-002B	MW-923-Q222	Groundwater	6/10/2022 7:40:00 AM	6/10/2022	6/24/2022
N051137-002C	MW-923-Q222	Groundwater	6/10/2022 7:40:00 AM	6/10/2022	6/24/2022
N051137-003A	PGE-08-Q222	Groundwater	6/10/2022 11:11:00 AM	6/10/2022	6/24/2022
N051137-003B	PGE-08-Q222	Groundwater	6/10/2022 11:11:00 AM	6/10/2022	6/24/2022
N051137-004A	EB-732-Q222	Groundwater	6/10/2022 11:17:00 AM	6/10/2022	6/24/2022
N051137-005A	MW-85-129-Q222	Groundwater	6/10/2022 8:21:00 AM	6/10/2022	6/24/2022
N051137-005B	MW-85-129-Q222	Groundwater	6/10/2022 8:21:00 AM	6/10/2022	6/24/2022
N051137-006A	MW-85-217-Q222	Groundwater	6/10/2022 9:03:00 AM	6/10/2022	6/24/2022
N051137-006B	MW-85-217-Q222	Groundwater	6/10/2022 9:03:00 AM	6/10/2022	6/24/2022
N051137-007A	MW-85-237-Q222	Groundwater	6/10/2022 9:47:00 AM	6/10/2022	6/24/2022
N051137-007B	MW-85-237-Q222	Groundwater	6/10/2022 9:47:00 AM	6/10/2022	6/24/2022
N051137-008A	EB-733-Q222	Groundwater	6/10/2022 10:00:00 AM	6/10/2022	6/24/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 7:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220613A** QC Batch: **R163157**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/13/2022 03:37 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614D** QC Batch: **93281**				PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/14/2022 10:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-923-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 7:40:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220613A** QC Batch: **R163157**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/13/2022 03:56 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614D** QC Batch: **93281**				PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/14/2022 11:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PGE-08-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 11:11:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220613A**	QC Batch: **R163157**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/13/2022 04:15 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220614D**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/14/2022 11:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-732-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 11:17:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220613A**	QC Batch: **R163157**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/13/2022 02:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-129-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 8:21:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220613A**	QC Batch: **R163157**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	110	0.50	4.0		µg/L	20	6/13/2022 12:07 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220614D**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	110	0.035	1.0		µg/L	1	6/14/2022 11:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-217-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 9:03:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220613A** QC Batch: **R163157**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	520	2.5	20		µg/L	100	6/13/2022 12:18 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220616B** QC Batch: **93281**				PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	590	0.18	5.0		µg/L	5	6/16/2022 08:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-85-237-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 9:47:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220613A**	QC Batch: **R163157**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1700	5.0	40		µg/L	200	6/13/2022 12:28 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617C**	QC Batch: **93281**			PrepDate:	**6/12/2022**		Analyst: **DJ**
Chromium	2200	0.88	25		µg/L	25	6/17/2022 03:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-733-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 10:00:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220613A**	QC Batch: **R163157**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/13/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051137
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163157	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	PBW	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678447

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.084	0.20									

Sample ID	LCS-R163157	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	LCSW	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678448

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.903	0.20	5.000	0	98.1	90	110				

Sample ID	N051137-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678452

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2689.580	40	1000	1708	98.1	90	110				

Sample ID	N051137-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678455

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	207.568	4.0	100.0	108.4	99.2	90	110				

Sample ID	N051137-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678456

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	206.914	4.0	100.0	108.4	98.5	90	110	207.6	0.316	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051137
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051137-006ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678457

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	520.690	20						524.3	0.695	20	

Sample ID	N051137-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678458

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1039.780	20	500.0	524.3	103	90	110				

Sample ID	N051137-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678460

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.976	0.20	1.000	0	97.6	90	110				

Sample ID	N051137-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678462

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.002	0.20	1.000	0	100	90	110				

Sample ID	N051137-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678466

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.045	1.0	5.000	0	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051137
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051137-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678468

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.004	1.0	5.000	0	100	90	110				

Sample ID	N051137-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678470

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.007	1.0	5.000	0	100	90	110				

Sample ID	N051132-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163157
Client ID:	ZZZZZZ	Batch ID:	R163157	TestNo:	EPA 218.6			Analysis Date:	6/13/2022	SeqNo:	4678472

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.150	1.0	5.000	0	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051137
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93281	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	PBW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.092	1.0									

Sample ID	LCS-93281	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	LCSW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679826

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.455	1.0	10.00	0	94.5	85	115				

Sample ID	N051131-001B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679830

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	46.913	1.0	10.00	37.84	90.7	75	125				

Sample ID	N051131-001B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163171
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/14/2022	SeqNo:	4679831

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	48.463	1.0	10.00	37.84	106	75	125	46.91	3.25	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 7:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220610A**	QC Batch: **R163116**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/10/2022 05:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-923-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 7:40:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220610A**	QC Batch: **R163116**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/10/2022 06:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051137
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163116_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163116
Client ID:	PBW	Batch ID:	R163116	TestNo:	EPA 300.0			Analysis Date:	6/10/2022	SeqNo:	4676931

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163116_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163116
Client ID:	LCSW	Batch ID:	R163116	TestNo:	EPA 300.0			Analysis Date:	6/10/2022	SeqNo:	4676932

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.219	0.050	1.250	0	97.5	90	110				

Sample ID	N051137-001BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163116
Client ID:	ZZZZZZ	Batch ID:	R163116	TestNo:	EPA 300.0			Analysis Date:	6/10/2022	SeqNo:	4676934

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.641	0.50	12.50	0	93.1	80	120				

Sample ID	N051137-001BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163116
Client ID:	ZZZZZZ	Batch ID:	R163116	TestNo:	EPA 300.0			Analysis Date:	6/10/2022	SeqNo:	4676935

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.800	0.50	12.50	0	94.4	80	120	11.64	1.36	20	

Sample ID	N051137-002BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163116
Client ID:	ZZZZZZ	Batch ID:	R163116	TestNo:	EPA 300.0			Analysis Date:	6/10/2022	SeqNo:	4676937

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.50						0	0	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-48-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 7:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220617C**	QC Batch: **93281**			PrepDate:		**6/12/2022**	Analyst: **DJ**
Molybdenum	9.6	0.12	0.50		µg/L	1	6/17/2022 05:25 PM
Selenium	ND	0.044	0.50		µg/L	1	6/17/2022 05:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-923-Q222
Lab Order:	N051137	**Collection Date:**	6/10/2022 7:40:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051137-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220617C**	QC Batch: **93281**			PrepDate:		**6/12/2022**	Analyst: **DJ**
Molybdenum	9.8	0.12	0.50		µg/L	1	6/17/2022 05:31 PM
Selenium	ND	0.044	0.50		µg/L	1	6/17/2022 05:31 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051137
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93281	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163292
Client ID:	PBW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/17/2022	SeqNo:	4684489

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-93281	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163292
Client ID:	LCSW	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/17/2022	SeqNo:	4684490

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.891	0.50	10.00	0	98.9	85	115				
Selenium	9.492	0.50	10.00	0	94.9	85	115				

Sample ID	N051131-001B-MS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163292
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/17/2022	SeqNo:	4684494

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	34.751	0.50	10.00	22.39	124	75	125				
Selenium	13.721	0.50	10.00	4.805	89.2	75	125				

Sample ID	N051131-001B-MSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/12/2022	RunNo:	163292
Client ID:	ZZZZZZ	Batch ID:	93281	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/17/2022	SeqNo:	4684498

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	34.253	0.50	10.00	22.39	119	75	125	34.75	1.44	20	
Selenium	14.223	0.50	10.00	4.805	94.2	75	125	13.72	3.59	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	
Submitted By: Riggie Tap		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: 6/10/22	Sampled By: Riggie Tap		
Project Name: PG&E Topock - RCM	Signature: Date: 6/10/22		
Project Number: 30121866.2Q22GW			

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact; 4. Seal Present; 5. IR number 3; 6. Method of Cooling: Ice; Sample Temp: 5.4°C

Courier: Asset; Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051137-01	MW-48-Q222	6/10/2022	7:30		X	X		X	X	E	3	P	BNS	
2	-02	MW-923-Q222	6/10/2022	7:40		X	X		X	X	E	3	P	BNS	
3	-03	PGE-08-Q222	6/10/2022	11:11		X			X		E	2	P	BNS	
4	-04	EB-732-Q222	6/10/2022	11:17		X					E	1	P	BNS	
5	-05	MW-85-129-Q222	6/10/2022	8:21		X			X		E	2	P	BNS	
	-06	MW-85-217-Q222	6/10/2022	9:03		X			X		E	2	P	BNS	
7	-07	MW-85-237-Q222	6/10/2022	9:47		X			X		E	2	P	BNS	
8	-08	EB-733-Q222	6/10/2022	10:00		X					E	1	P	BNS	
9															
10															
11															
12															
13															
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tap	6/10/22 1152	Ramon Arcantara	6/10/22 1152
Ramon Arcantara	6/10/22	Sandra Rodriguez	6/10/22
	1504		1504

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=60% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
6. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
8. For subcontract analysis, TAT and Surcharges will vary.

Preservatives: H=HCL; N=HNO_3; S=H_2SO_4; C=4°C; Z=$Zn(AC)_2$; O=NaOH; T=$Na_2S_2O_3$; Others/Specify: B (NH4)2SO4/NH4OH

Container Type: T=Tube; V=VOA; P=Plnt; J=Jar; B=Tedlar; G=Glass; M=Metal; M=Metal; C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/10/2022	Workorder:	N051137
Rep sample Temp (Deg C):	5.4	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/10/2022

Reviewed By: MBC 6/10/2022

ASSET Laboratories

WORK ORDER Summary

10-Jun-22

WorkOrder: N051137

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/10/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051137-001A	MW-48-Q222	6/10/2022 7:30:00 AM	6/24/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-001B			6/24/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051137-001C			6/24/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/24/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/24/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051137-002A	MW-923-Q222	6/10/2022 7:40:00 AM	6/24/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-002B			6/24/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051137-002C			6/24/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/24/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/24/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051137-003A	PGE-08-Q222	6/10/2022 11:11:00 AM	6/24/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-003B			6/24/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/24/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051137-004A	EB-732-Q222	6/10/2022 11:17:00 AM	6/24/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-005A	MW-85-129-Q222	6/10/2022 8:21:00 AM	6/24/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-005B			6/24/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/24/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051137-006A	MW-85-217-Q222	6/10/2022 9:03:00 AM	6/24/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-006B			6/24/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/24/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051137-007A	MW-85-237-Q222	6/10/2022 9:47:00 AM	6/24/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-007B			6/24/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

10-Jun-22

WorkOrder: N051137

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/10/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051137-007B	MW-85-237-Q222	6/10/2022 9:47:00 AM	6/24/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051137-008A	EB-733-Q222	6/10/2022 10:00:00 AM	6/24/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051137-009A	FOLDER	6/24/2022	6/24/2022		Folder	Folder	☐	☐	☐	LAB
			6/24/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/24/2022		Folder	Folder	☐	☐	☐	LAB

July 05, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051171

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 13, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs - Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC sample N051171-010CMS and N051171-010CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N051171-010CMS, N051171-010CMSD, N051171-021CMS and N051171-021CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Chromium in QC sample N051171-018C-MS possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N051171-010DMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051171-010 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N051171-021DMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051171-021 and MS/MSD were reported at 100x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051171
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051171-001A	MW-29-Q222	Groundwater	6/13/2022 2:36:00 PM	6/13/2022	7/5/2022
N051171-001B	MW-29-Q222	Groundwater	6/13/2022 2:36:00 PM	6/13/2022	7/5/2022
N051171-002A	MW-29-EB-Q222	Groundwater	6/13/2022 2:10:00 PM	6/13/2022	7/5/2022
N051171-003A	MW-49-135-Q222	Groundwater	6/13/2022 1:54:00 PM	6/13/2022	7/5/2022
N051171-003B	MW-49-135-Q222	Groundwater	6/13/2022 1:54:00 PM	6/13/2022	7/5/2022
N051171-004A	MW-49-135-EB-Q222	Groundwater	6/13/2022 1:25:00 PM	6/13/2022	7/5/2022
N051171-005A	MW-49-275-Q222	Groundwater	6/13/2022 1:08:00 PM	6/13/2022	7/5/2022
N051171-005B	MW-49-275-Q222	Groundwater	6/13/2022 1:08:00 PM	6/13/2022	7/5/2022
N051171-006A	MW-49-275-EB-Q222	Groundwater	6/13/2022 12:40:00 PM	6/13/2022	7/5/2022
N051171-007A	MW-49-365-Q222	Groundwater	6/13/2022 12:08:00 PM	6/13/2022	7/5/2022
N051171-007B	MW-49-365-Q222	Groundwater	6/13/2022 12:08:00 PM	6/13/2022	7/5/2022
N051171-008A	MW-49-365-EB-Q222	Groundwater	6/13/2022 11:30:00 AM	6/13/2022	7/5/2022
N051171-009A	EB-736-Q222	Groundwater	6/13/2022 2:50:00 PM	6/13/2022	7/5/2022
N051171-010A	MW-31-060-Q222	Groundwater	6/13/2022 12:01:00 PM	6/13/2022	7/5/2022
N051171-010B	MW-31-060-Q222	Groundwater	6/13/2022 12:01:00 PM	6/13/2022	7/5/2022
N051171-010C	MW-31-060-Q222	Groundwater	6/13/2022 12:01:00 PM	6/13/2022	7/5/2022
N051171-010D	MW-31-060-Q222	Groundwater	6/13/2022 12:01:00 PM	6/13/2022	7/5/2022
N051171-010E	MW-31-060-Q222	Groundwater	6/13/2022 12:01:00 PM	6/13/2022	7/5/2022
N051171-011A	MW-31-135-Q222	Groundwater	6/13/2022 11:20:00 AM	6/13/2022	7/5/2022
N051171-011B	MW-31-135-Q222	Groundwater	6/13/2022 11:20:00 AM	6/13/2022	7/5/2022
N051171-011C	MW-31-135-Q222	Groundwater	6/13/2022 11:20:00 AM	6/13/2022	7/5/2022
N051171-011D	MW-31-135-Q222	Groundwater	6/13/2022 11:20:00 AM	6/13/2022	7/5/2022
N051171-011E	MW-31-135-Q222	Groundwater	6/13/2022 11:20:00 AM	6/13/2022	7/5/2022
N051171-012A	MW-20-070-Q222	Groundwater	6/13/2022 12:46:00 PM	6/13/2022	7/5/2022
N051171-012B	MW-20-070-Q222	Groundwater	6/13/2022 12:46:00 PM	6/13/2022	7/5/2022
N051171-012C	MW-20-070-Q222	Groundwater	6/13/2022 12:46:00 PM	6/13/2022	7/5/2022
N051171-012D	MW-20-070-Q222	Groundwater	6/13/2022 12:46:00 PM	6/13/2022	7/5/2022
N051171-012E	MW-20-070-Q222	Groundwater	6/13/2022 12:46:00 PM	6/13/2022	7/5/2022
N051171-013A	MW-20-100-Q222	Groundwater	6/13/2022 2:12:00 PM	6/13/2022	7/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051171
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051171-013B	MW-20-100-Q222	Groundwater	6/13/2022 2:12:00 PM	6/13/2022	7/5/2022
N051171-013C	MW-20-100-Q222	Groundwater	6/13/2022 2:12:00 PM	6/13/2022	7/5/2022
N051171-013D	MW-20-100-Q222	Groundwater	6/13/2022 2:12:00 PM	6/13/2022	7/5/2022
N051171-013E	MW-20-100-Q222	Groundwater	6/13/2022 2:12:00 PM	6/13/2022	7/5/2022
N051171-014A	MW-20-130-Q222	Groundwater	6/13/2022 1:25:00 PM	6/13/2022	7/5/2022
N051171-014B	MW-20-130-Q222	Groundwater	6/13/2022 1:25:00 PM	6/13/2022	7/5/2022
N051171-014C	MW-20-130-Q222	Groundwater	6/13/2022 1:25:00 PM	6/13/2022	7/5/2022
N051171-014D	MW-20-130-Q222	Groundwater	6/13/2022 1:25:00 PM	6/13/2022	7/5/2022
N051171-014E	MW-20-130-Q222	Groundwater	6/13/2022 1:25:00 PM	6/13/2022	7/5/2022
N051171-015A	MW-903-Q222	Groundwater	6/13/2022 1:35:00 PM	6/13/2022	7/5/2022
N051171-015B	MW-903-Q222	Groundwater	6/13/2022 1:35:00 PM	6/13/2022	7/5/2022
N051171-015C	MW-903-Q222	Groundwater	6/13/2022 1:35:00 PM	6/13/2022	7/5/2022
N051171-015D	MW-903-Q222	Groundwater	6/13/2022 1:35:00 PM	6/13/2022	7/5/2022
N051171-015E	MW-903-Q222	Groundwater	6/13/2022 1:35:00 PM	6/13/2022	7/5/2022
N051171-016A	EB-734-Q222	Groundwater	6/13/2022 2:20:00 PM	6/13/2022	7/5/2022
N051171-017A	MW-76-039-Q222	Groundwater	6/13/2022 3:17:00 PM	6/13/2022	7/5/2022
N051171-017B	MW-76-039-Q222	Groundwater	6/13/2022 3:17:00 PM	6/13/2022	7/5/2022
N051171-017C	MW-76-039-Q222	Groundwater	6/13/2022 3:17:00 PM	6/13/2022	7/5/2022
N051171-017D	MW-76-039-Q222	Groundwater	6/13/2022 3:17:00 PM	6/13/2022	7/5/2022
N051171-017E	MW-76-039-Q222	Groundwater	6/13/2022 3:17:00 PM	6/13/2022	7/5/2022
N051171-018A	MW-907-Q222	Groundwater	6/13/2022 3:27:00 PM	6/13/2022	7/5/2022
N051171-018B	MW-907-Q222	Groundwater	6/13/2022 3:27:00 PM	6/13/2022	7/5/2022
N051171-018C	MW-907-Q222	Groundwater	6/13/2022 3:27:00 PM	6/13/2022	7/5/2022
N051171-018D	MW-907-Q222	Groundwater	6/13/2022 3:27:00 PM	6/13/2022	7/5/2022
N051171-018E	MW-907-Q222	Groundwater	6/13/2022 3:27:00 PM	6/13/2022	7/5/2022
N051171-019A	MW-76-156-Q222	Groundwater	6/13/2022 2:39:00 PM	6/13/2022	7/5/2022
N051171-019B	MW-76-156-Q222	Groundwater	6/13/2022 2:39:00 PM	6/13/2022	7/5/2022
N051171-019C	MW-76-156-Q222	Groundwater	6/13/2022 2:39:00 PM	6/13/2022	7/5/2022
N051171-019D	MW-76-156-Q222	Groundwater	6/13/2022 2:39:00 PM	6/13/2022	7/5/2022
N051171-019E	MW-76-156-Q222	Groundwater	6/13/2022 2:39:00 PM	6/13/2022	7/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051171
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051171-020A	MW-76-181-Q222	Groundwater	6/13/2022 1:53:00 PM	6/13/2022	7/5/2022
N051171-020B	MW-76-181-Q222	Groundwater	6/13/2022 1:53:00 PM	6/13/2022	7/5/2022
N051171-020C	MW-76-181-Q222	Groundwater	6/13/2022 1:53:00 PM	6/13/2022	7/5/2022
N051171-020D	MW-76-181-Q222	Groundwater	6/13/2022 1:53:00 PM	6/13/2022	7/5/2022
N051171-020E	MW-76-181-Q222	Groundwater	6/13/2022 1:53:00 PM	6/13/2022	7/5/2022
N051171-021A	MW-76-218-Q222	Groundwater	6/13/2022 1:06:00 PM	6/13/2022	7/5/2022
N051171-021B	MW-76-218-Q222	Groundwater	6/13/2022 1:06:00 PM	6/13/2022	7/5/2022
N051171-021C	MW-76-218-Q222	Groundwater	6/13/2022 1:06:00 PM	6/13/2022	7/5/2022
N051171-021D	MW-76-218-Q222	Groundwater	6/13/2022 1:06:00 PM	6/13/2022	7/5/2022
N051171-021E	MW-76-218-Q222	Groundwater	6/13/2022 1:06:00 PM	6/13/2022	7/5/2022
N051171-022A	EB-735-Q222	Groundwater	6/13/2022 3:40:00 PM	6/13/2022	7/5/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:36:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/14/2022 04:00 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/17/2022 06:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-29-EB-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/14/2022 09:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-135-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:54:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5.0	0.13	1.0		µg/L	5	6/14/2022 06:03 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	4.9	0.035	1.0		µg/L	1	6/17/2022 06:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-135-EB-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/14/2022 07:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-275-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:08:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/14/2022 06:39 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/17/2022 06:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-275-EB-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/14/2022 08:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-365-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:08:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/14/2022 07:18 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/17/2022 06:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-49-365-EB-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 11:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/14/2022 08:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-736-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:50:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/14/2022 09:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	340	1.3	10		µg/L	50	6/14/2022 03:06 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	340	0.18	5.0		µg/L	5	6/17/2022 07:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A** QC Batch: **R163193**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	23	0.13	1.0		µg/L	5	6/14/2022 11:21 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220617D** QC Batch: **93300**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	21	0.035	1.0		µg/L	1	6/17/2022 08:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:46:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	610	1.3	10		µg/L	50	6/14/2022 11:31 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	610	0.18	5.0		µg/L	5	6/17/2022 08:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:12:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	910	2.5	20		µg/L	100	6/14/2022 11:40 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	980	0.88	25		µg/L	25	6/20/2022 05:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1700	5.0	40		µg/L	200	6/14/2022 11:50 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	1600	0.88	25		µg/L	25	6/17/2022 09:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-015

Client Sample ID: MW-903-Q222
Collection Date: 6/13/2022 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1700	5.0	40		µg/L	200	6/14/2022 11:59 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	1700	0.88	25		µg/L	25	6/17/2022 09:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-734-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/15/2022 04:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 3:17:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220614A** QC Batch: **R163193**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	88	0.25	2.0		µg/L	10	6/14/2022 05:25 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D** QC Batch: **93300**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	77	0.035	1.0		µg/L	1	6/17/2022 09:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 3:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A** QC Batch: **R163193**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	86	0.25	2.0		µg/L	10	6/14/2022 05:44 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220630C** QC Batch: **93580**				PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	76	0.035	1.0		µg/L	1	6/30/2022 06:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A** QC Batch: **R163193**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	13	0.13	1.0		µg/L	5	6/14/2022 07:37 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220617D** QC Batch: **93300**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	6/17/2022 10:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A**	QC Batch: **R163193**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2000	5.0	40		µg/L	200	6/14/2022 12:28 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	2200	0.88	25		µg/L	25	6/17/2022 10:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220614A** QC Batch: **R163193**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	60	0.50	4.0		µg/L	20	6/14/2022 11:12 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220617D** QC Batch: **93300**				PrepDate:	**6/14/2022**		Analyst: **DJ**
Chromium	53	0.035	1.0		µg/L	1	6/17/2022 10:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-735-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 3:40:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-022		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/15/2022 05:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R163193**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **PBW**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R163193**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **LCSW**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.846	0.20	5.000	0	96.9	90	110				

Sample ID: **N051171-021AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680735**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	159.300	4.0	100.0	60.32	99.0	90	110				

Sample ID: **N051171-021AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680736**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	158.086	4.0	100.0	60.32	97.8	90	110	159.3	0.765	20	

Sample ID: **N051171-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680740**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	591.925	10	250.0	338.3	101	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051171-010AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163193**
Client ID: **ZZZZZZ** Batch ID: **R163193** TestNo: **EPA 218.6** Analysis Date: **6/14/2022** SeqNo: **4680741**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	590.400	10	250.0	338.3	101	90	110	591.9	0.258	20	

Sample ID: **N051171-013ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163193**
Client ID: **ZZZZZZ** Batch ID: **R163193** TestNo: **EPA 218.6** Analysis Date: **6/14/2022** SeqNo: **4680742**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	928.780	20						909.8	2.07	20	

Sample ID: **N051171-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163193**
Client ID: **ZZZZZZ** Batch ID: **R163193** TestNo: **EPA 218.6** Analysis Date: **6/14/2022** SeqNo: **4680743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1435.380	20	500.0	909.8	105	90	110				

Sample ID: **N051171-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163193**
Client ID: **ZZZZZZ** Batch ID: **R163193** TestNo: **EPA 218.6** Analysis Date: **6/14/2022** SeqNo: **4680745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.030	0.20	1.000	0	103	90	110				

Sample ID: **N051171-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163193**
Client ID: **ZZZZZZ** Batch ID: **R163193** TestNo: **EPA 218.6** Analysis Date: **6/14/2022** SeqNo: **4680746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	49.044	1.0	25.00	22.98	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051171-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	876.660	10	250.0	612.5	106	90	110				

Sample ID: **N051171-020AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3012.560	40	1000	1975	104	90	110				

Sample ID: **N051171-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680751**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2714.060	40	1000	1684	103	90	110				

Sample ID: **N051171-015AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2718.420	40	1000	1668	105	90	110				

Sample ID: **N051171-017AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	136.937	2.0	50.00	87.98	97.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051171-018AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	138.318	2.0	50.00	86.38	104	90	110				

Sample ID: **N051171-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.670	1.0	5.000	4.988	93.6	90	110				

Sample ID: **N051171-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680760**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.037	1.0	5.000	0	101	90	110				

Sample ID: **N051171-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680764**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.782	1.0	5.000	0	95.6	90	110				

Sample ID: **N051171-019AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680766**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	18.020	1.0	5.000	13.07	98.9	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051171-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680768**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.986	0.20	1.000	0	98.6	90	110				

Sample ID: **N051171-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680770**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.020	0.20	1.000	0	102	90	110				

Sample ID: **N051171-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680772**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.993	0.20	1.000	0	99.3	90	110				

Sample ID: **N051171-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N051171-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163193**
Client ID: **ZZZZZZ**	Batch ID: **R163193**	TestNo: **EPA 218.6**		Analysis Date: **6/14/2022**	SeqNo: **4680778**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.005	0.20	1.000	0	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R163221**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **LCSW**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.107	0.20	5.000	0	102	90	110				

Sample ID: **MB-R163221**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **PBW**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N051183-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID: **N051183-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10801.100	200	5000	5543	105	90	110				

Sample ID: **N051183-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5427.950	100	2500	2837	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-006AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5441.750	100	2500	2837	104	90	110	5428	0.254	20	

Sample ID: **N051183-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5505.250	100	2500	2868	105	90	110				

Sample ID: **N051183-008ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2284.850	100						2250	1.56	20	

Sample ID: **N051183-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4856.100	100	2500	2250	104	90	110				

Sample ID: **N051171-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051171-022AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681342**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N051184-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681343**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.822	1.0	25.00	17.77	104	90	110				

Sample ID: **N051183-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID: **N051183-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0	104	90	110				

Sample ID: **N051184-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	770.895	10	250.0	500.4	108	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051184-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.247	1.0	25.00	23.34	108	90	110				

Sample ID: **N051184-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1189.090	20	500.0	658.4	106	90	110				

Sample ID: **N051183-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1330.450	20	500.0	790.2	108	90	110				

Sample ID: **N051183-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681354**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1343.720	20	500.0	809.6	107	90	110				

Sample ID: **N051183-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681355**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2003.480	40	1000	975.4	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681358**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1464.740	20	500.0	955.0	102	90	110				

Sample ID: **N051183-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1479.780	20	500.0	948.2	106	90	110				

Sample ID: **N051183-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	240.794	4.0	100.0	137.9	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-93300**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **PBW**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684645**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-93300**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **LCSW**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684646**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.327	1.0	10.00	0	93.3	85	115				

Sample ID: **N051171-010CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **ZZZZZZ**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684663**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	351.705	5.0	10.00	344.1	76.0	75	125				

Sample ID: **N051171-010CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **ZZZZZZ**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684665**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	341.450	5.0	10.00	344.1	-26.5	75	125	351.7	2.96	20	S

Sample ID: **N051171-021CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **ZZZZZZ**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684695**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	59.946	1.0	10.00	53.05	68.9	75	125				S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N051171-021CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**				
Client ID: **ZZZZZZ**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684696**				

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	62.378	1.0	10.00	53.05	93.2	75	125	59.95	3.98	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-93580**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **PBW**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-93580**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **LCSW**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.643	1.0	10.00	0	96.4	85	115				

Sample ID: **N051171-018C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **ZZZZZZ**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	81.682	1.0	10.00	75.67	60.1	75	125				S

Sample ID: **N051171-018C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **ZZZZZZ**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	86.459	1.0	10.00	75.67	108	75	125	81.68	5.68	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N051171-010C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **163296**
Client ID: **ZZZZZZ** Batch ID: **93300** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/17/2022** SeqNo: **4684661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	356.281	5.0	10.00	344.1	122	80	120				S

Sample ID: **N051171-021C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **163296**
Client ID: **ZZZZZZ** Batch ID: **93300** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/17/2022** SeqNo: **4684694**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	60.905	1.0	10.00	53.05	78.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N051171-018C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **163612**
Client ID: **ZZZZZZ**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	83.863	1.0	10.00	75.67	81.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-010

Client Sample ID: MW-31-060-Q222
Collection Date: 6/13/2022 12:01:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.15	25		mg/L	50	6/14/2022 06:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	570	6.1	50		mg/L	100	6/14/2022 08:14 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.6	0.095	0.50		mg/L	10	6/14/2022 09:46 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-011

Client Sample ID: MW-31-135-Q222
Collection Date: 6/13/2022 11:20:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/14/2022 10:17 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	700	6.1	50		mg/L	100	6/14/2022 10:47 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.4	0.095	0.50		mg/L	10	6/14/2022 10:17 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-012

Client Sample ID: MW-20-070-Q222
Collection Date: 6/13/2022 12:46:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/14/2022 10:32 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	410	3.0	25		mg/L	50	6/14/2022 11:02 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	24	0.19	1.0		mg/L	20	6/14/2022 02:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-013

Client Sample ID: MW-20-100-Q222
Collection Date: 6/13/2022 2:12:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/14/2022 10:48 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	700	6.1	50		mg/L	100	6/14/2022 11:18 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	5.1	0.095	0.50		mg/L	10	6/14/2022 10:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-014

Client Sample ID: MW-20-130-Q222
Collection Date: 6/13/2022 1:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/14/2022 11:03 AM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	1400	12	100		mg/L	200	6/14/2022 11:33 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	4.3	0.095	0.50		mg/L	10	6/14/2022 11:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-015

Client Sample ID: MW-903-Q222
Collection Date: 6/13/2022 1:35:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/14/2022 11:18 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	1400	12	100		mg/L	200	6/14/2022 11:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	4.3	0.095	0.50		mg/L	10	6/14/2022 11:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-017

Client Sample ID: MW-76-039-Q222
Collection Date: 6/13/2022 3:17:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.015	2.5		mg/L	5	6/14/2022 11:34 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	230	1.2	10		mg/L	20	6/15/2022 12:49 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.5	0.048	0.25		mg/L	5	6/14/2022 11:34 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-018

Client Sample ID: MW-907-Q222
Collection Date: 6/13/2022 3:27:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.015	2.5		mg/L	5	6/14/2022 12:20 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	230	1.2	10		mg/L	20	6/15/2022 01:05 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	2.5	0.048	0.25		mg/L	5	6/14/2022 12:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-019

Client Sample ID: MW-76-156-Q222
Collection Date: 6/13/2022 2:39:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/14/2022 12:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	740	6.1	50		mg/L	100	6/15/2022 12:03 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.9	0.095	0.50		mg/L	10	6/14/2022 12:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-020

Client Sample ID: MW-76-181-Q222
Collection Date: 6/13/2022 1:53:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/14/2022 12:50 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	970	6.1	50		mg/L	100	6/15/2022 01:20 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.0	0.095	0.50		mg/L	10	6/14/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-021

Client Sample ID: MW-76-218-Q222
Collection Date: 6/13/2022 1:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.29	50		mg/L	100	6/14/2022 07:28 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Sulfate	940	6.1	50		mg/L	100	6/14/2022 07:28 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220614A** QC Batch: **R163186**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	6/14/2022 10:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R163186_NO2**	SampType: **MBLK**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **PBW**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4680554**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R163186_NO2**	SampType: **LCS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **LCSW**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4680555**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.197	0.50	1.250	0	95.8	90	110				

Sample ID: **N051171-013BDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4680567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Sample ID: **N051171-010BMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4680573**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	100.960	25	62.50	0	162	80	120				S

Sample ID: **N051171-010BMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4680574**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	100.165	25	62.50	0	160	80	120	101.0	0.791	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **N051171-021BMS**	SampType: **MS**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4680576**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	225.210	50	125.0	0	180	80	120				S

Sample ID: **N051171-021BMSD**	SampType: **MSD**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4680577**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	222.890	50	125.0	0	178	80	120	225.2	1.04	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R163186_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **PBW**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687227**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R163186_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **LCSW**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.023	0.50	4.000	0	101	90	110				

Sample ID: **N051171-021BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1350.330	50	400.0	939.4	103	80	120				

Sample ID: **N051171-021BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687237**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1350.410	50	400.0	939.4	103	80	120	1350	0.00592	20	

Sample ID: **N051171-010BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	961.300	50	400.0	571.0	97.6	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N051171-010BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	956.770	50	400.0	571.0	96.4	80	120	961.3	0.472	20	

Sample ID: **N051154-001HDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687244**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	228.315	25						233.9	2.43	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R163186_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **PBW**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687329**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R163186_NO3**	SampType: **LCS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **LCSW**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687330**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.139	0.050	1.250	0	91.1	90	110				

Sample ID: **N051171-021BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687343**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.714	0.50	12.50	1.206	92.1	80	120				

Sample ID: **N051171-021BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687344**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.814	0.50	12.50	1.206	92.9	80	120	12.71	0.783	20	

Sample ID: **N051171-010BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687345**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.301	0.50	12.50	2.619	93.5	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N051171-010BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687346**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.352	0.50	12.50	2.619	93.9	80	120	14.30	0.356	20	

Sample ID: **N051171-013BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163186**
Client ID: **ZZZZZZ**	Batch ID: **R163186**	TestNo: **EPA 300.0**		Analysis Date: **6/14/2022**	SeqNo: **4687347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	6.051	0.50						5.116	16.7	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220614A**	QC Batch: **R163174**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	6.8	50		mg/L	50	6/14/2022 11:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220614A**	QC Batch: **R163174**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/14/2022 04:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:46:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220614A**	QC Batch: **R163174**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/14/2022 05:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:12:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220614A**	QC Batch: **R163174**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/14/2022 05:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-130-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220614A**	QC Batch: **R163174**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/14/2022 05:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-903-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 11:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 3:17:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 11:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 3:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 02:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 06:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 07:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	14	100		mg/L	100	6/15/2022 02:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R163174**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **PBW**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R163174**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **LCSW**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680042**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.631	1.0	5.000	0	92.6	85	115				

Sample ID: **N051171-010DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **ZZZZZZ**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680050**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	217.020	50	250.0	0	86.8	75	125				

Sample ID: **N051171-010DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163174**
Client ID: **ZZZZZZ**	Batch ID: **R163174**	TestNo: **SM 5310C**		Analysis Date: **6/14/2022**	SeqNo: **4680054**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	220.495	50	250.0	0	88.2	75	125	217.0	1.59	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R163321**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **PBW**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R163321**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **LCSW**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.896	1.0	5.000	0	97.9	85	115				

Sample ID: **N051171-021DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **ZZZZZZ**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	439.680	100	500.0	0	87.9	75	125				

Sample ID: **N051171-021DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **ZZZZZZ**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	442.730	100	500.0	0	88.5	75	125	439.7	0.691	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	44	13	20		µg/L	1	6/17/2022 12:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Iron	48	13	20		µg/L	1	6/17/2022 01:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-070-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:46:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	21	13	20		µg/L	1	6/17/2022 01:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-20-100-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:12:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 01:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-014

Client Sample ID: MW-20-130-Q222
Collection Date: 6/13/2022 1:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	23	13	20		µg/L	1	6/17/2022 01:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-903-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:35:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Iron	40	13	20		µg/L	1	6/17/2022 01:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-039-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 3:17:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 01:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-907-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 3:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**			PrepDate:	**6/14/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 01:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-156-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 2:39:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 01:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-181-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:53:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-020		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	25	13	20		µg/L	1	6/17/2022 02:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-76-218-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 1:06:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-021		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93304**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 02:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-93304**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163285**
Client ID: **PBW**	Batch ID: **93304**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-93304**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163285**
Client ID: **LCSW**	Batch ID: **93304**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683701**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.384	20	100.0	0	95.4	85	115				

Sample ID: **N051171-010CMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93304**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683705**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.972	20	100.0	44.31	56.7	75	125				S

Sample ID: **N051171-010CMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93304**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	111.529	20	100.0	44.31	67.2	75	125	101.0	9.94	20	S

Sample ID: **N051171-021CMS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93304**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	80.732	20	100.0	0	80.7	75	125				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N051171-021CMSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93304**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	75.331	20	100.0	0	75.3	75	125	80.73	6.92	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N051171-010C-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **163285**
Client ID: **ZZZZZZ** Batch ID: **93304** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **6/17/2022** SeqNo: **4683704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	106.655	20	100.0	44.31	62.3	80	120				S

Sample ID: **N051171-021C-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **163285**
Client ID: **ZZZZZZ** Batch ID: **93304** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **6/17/2022** SeqNo: **4683720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	77.390	20	100.0	0	77.4	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-060-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 12:01:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 07:18 PM
Barium	67	0.083	1.0		µg/L	1	6/17/2022 07:18 PM
Manganese	24	0.026	0.50		µg/L	1	6/17/2022 07:18 PM
Molybdenum	17	0.12	0.50		µg/L	1	6/17/2022 07:18 PM
Selenium	3.8	0.044	0.50		µg/L	1	6/17/2022 07:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-31-135-Q222
Lab Order:	N051171	**Collection Date:**	6/13/2022 11:20:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051171-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 08:36 PM
Barium	49	0.083	1.0		µg/L	1	6/17/2022 08:36 PM
Manganese	3.6	0.026	0.50		µg/L	1	6/17/2022 08:36 PM
Molybdenum	29	0.12	0.50		µg/L	1	6/17/2022 08:36 PM
Selenium	0.79	0.044	0.50		µg/L	1	6/24/2022 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-012

Client Sample ID: MW-20-070-Q222
Collection Date: 6/13/2022 12:46:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220620B**	QC Batch: **93300**			PrepDate:		**6/14/2022**	Analyst: **DJ**
Arsenic	0.62	0.050	0.10		µg/L	1	6/20/2022 06:11 PM
Barium	35	0.083	1.0		µg/L	1	6/17/2022 08:48 PM
Manganese	ND	0.026	0.50		µg/L	1	6/17/2022 08:48 PM
Molybdenum	19	0.12	0.50		µg/L	1	6/17/2022 08:48 PM
Selenium	22	0.044	0.50		µg/L	1	6/17/2022 08:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-013

Client Sample ID: MW-20-100-Q222
Collection Date: 6/13/2022 2:12:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_220617D** QC Batch: **93300** PrepDate: **6/14/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 09:00 PM
Barium	66	0.083	1.0		µg/L	1	6/17/2022 09:00 PM
Manganese	ND	0.026	0.50		µg/L	1	6/17/2022 09:00 PM
Molybdenum	2.1	0.12	0.50		µg/L	1	6/17/2022 09:00 PM
Selenium	11	0.044	0.50		µg/L	1	6/17/2022 09:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-014

Client Sample ID: MW-20-130-Q222
Collection Date: 6/13/2022 1:25:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:		**6/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 09:12 PM
Barium	32	0.083	1.0		µg/L	1	6/17/2022 09:12 PM
Manganese	2.2	0.026	0.50		µg/L	1	6/17/2022 09:12 PM
Molybdenum	8.5	0.12	0.50		µg/L	1	6/17/2022 09:12 PM
Selenium	13	0.044	0.50		µg/L	1	6/17/2022 09:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-015

Client Sample ID: MW-903-Q222
Collection Date: 6/13/2022 1:35:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_220617D** QC Batch: **93300** PrepDate: **6/14/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 09:24 PM
Barium	34	0.083	1.0		µg/L	1	6/17/2022 09:24 PM
Manganese	2.4	0.026	0.50		µg/L	1	6/17/2022 09:24 PM
Molybdenum	9.0	0.12	0.50		µg/L	1	6/17/2022 09:24 PM
Selenium	14	0.044	0.50		µg/L	1	6/17/2022 09:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-017

Client Sample ID: MW-76-039-Q222
Collection Date: 6/13/2022 3:17:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 09:47 PM
Barium	66	0.083	1.0		µg/L	1	6/17/2022 09:47 PM
Manganese	ND	0.026	0.50		µg/L	1	6/17/2022 09:47 PM
Molybdenum	20	0.12	0.50		µg/L	1	6/17/2022 09:47 PM
Selenium	3.0	0.044	0.50		µg/L	1	6/17/2022 09:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-018

Client Sample ID: MW-907-Q222
Collection Date: 6/13/2022 3:27:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:		**6/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 09:59 PM
Barium	63	0.083	1.0		µg/L	1	6/17/2022 09:59 PM
Manganese	0.70	0.026	0.50		µg/L	1	6/17/2022 09:59 PM
Molybdenum	19	0.12	0.50		µg/L	1	6/17/2022 09:59 PM
Selenium	2.7	0.044	0.50		µg/L	1	6/17/2022 09:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-019

Client Sample ID: MW-76-156-Q222
Collection Date: 6/13/2022 2:39:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**			PrepDate:		**6/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 10:11 PM
Barium	43	0.083	1.0		µg/L	1	6/17/2022 10:11 PM
Manganese	33	0.026	0.50		µg/L	1	6/17/2022 10:11 PM
Molybdenum	28	0.12	0.50		µg/L	1	6/17/2022 10:11 PM
Selenium	0.80	0.044	0.50		µg/L	1	6/20/2022 06:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-020

Client Sample ID: MW-76-181-Q222
Collection Date: 6/13/2022 1:53:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220617D**	QC Batch: **93300**				PrepDate:	**6/14/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/17/2022 10:23 PM
Barium	58	0.083	1.0		µg/L	1	6/17/2022 10:23 PM
Manganese	29	0.026	0.50		µg/L	1	6/17/2022 10:23 PM
Molybdenum	29	0.12	0.50		µg/L	1	6/17/2022 10:23 PM
Selenium	2.4	0.044	0.50		µg/L	1	6/17/2022 10:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051171-021

Client Sample ID: MW-76-218-Q222
Collection Date: 6/13/2022 1:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220620B**	QC Batch: **93420**			PrepDate:		**6/20/2022**	Analyst: **DJ**
Arsenic	ND	0.25	0.50		µg/L	1	6/20/2022 11:19 PM
Barium	46	0.083	1.0		µg/L	1	6/20/2022 10:50 PM
Manganese	98	0.13	2.5		µg/L	1	6/20/2022 11:19 PM
Molybdenum	77	0.12	0.50		µg/L	1	6/20/2022 10:50 PM
Selenium	0.98	0.044	0.50		µg/L	1	6/20/2022 10:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93300**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **PBW**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.055	0.50									
Molybdenum	ND	0.50									

Sample ID: **LCS-93300**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **LCSW**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.874	0.10	10.00	0	88.7	85	115				
Barium	9.395	1.0	10.00	0	93.9	85	115				
Manganese	91.388	0.50	100.0	0	91.4	85	115				
Molybdenum	9.162	0.50	10.00	0	91.6	85	115				
Selenium	8.877	0.50	10.00	0	88.8	85	115				

Sample ID: **N051171-010CMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **ZZZZZZ**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684925**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.645	0.10	10.00	0	46.4	75	125				S
Barium	73.885	1.0	10.00	67.37	65.1	75	125				S
Manganese	106.818	0.50	100.0	24.36	82.5	75	125				
Molybdenum	27.181	0.50	10.00	17.20	99.8	75	125				
Selenium	11.997	0.50	10.00	3.776	82.2	75	125				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051171-010CMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163296**
Client ID: **ZZZZZZ**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4684927**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.823	0.10	10.00	0	48.2	75	125	4.645	3.77	20	S
Barium	72.015	1.0	10.00	67.37	46.4	75	125	73.89	2.56	20	S
Manganese	106.913	0.50	100.0	24.36	82.6	75	125	106.8	0.0889	20	
Molybdenum	26.784	0.50	10.00	17.20	95.8	75	125	27.18	1.47	20	
Selenium	12.320	0.50	10.00	3.776	85.4	75	125	12.00	2.66	20	

Sample ID: **MB-93300**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/14/2022**	RunNo: **163360**
Client ID: **PBW**	Batch ID: **93300**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689292**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93420**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/20/2022**	RunNo: **163360**
Client ID: **PBW**	Batch ID: **93420**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689304**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.182	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-93420**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/20/2022**	RunNo: **163360**
Client ID: **LCSW**	Batch ID: **93420**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.154	0.10	10.00	0	91.5	85	115				
Barium	9.551	1.0	10.00	0	95.5	85	115				
Manganese	99.437	0.50	100.0	0	99.4	85	115				
Molybdenum	9.448	0.50	10.00	0	94.5	85	115				
Selenium	9.163	0.50	10.00	0	91.6	85	115				

Sample ID: **N051171-021C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/20/2022**	RunNo: **163360**
Client ID: **ZZZZZZ**	Batch ID: **93420**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	55.236	1.0	10.00	46.12	91.1	75	125				
Molybdenum	88.103	0.50	10.00	76.57	115	75	125				
Selenium	9.099	0.50	10.00	0.9778	81.2	75	125				

Sample ID: **N051171-021C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/20/2022**	RunNo: **163360**
Client ID: **ZZZZZZ**	Batch ID: **93420**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	57.378	1.0	10.00	46.12	113	75	125	55.24	3.80	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051171-021C-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/20/2022** RunNo: **163360**
Client ID: **ZZZZZZ** Batch ID: **93420** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2022** SeqNo: **4689350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	90.971	0.50	10.00	76.57	144	75	125	88.10	3.20	20	S
Selenium	9.509	0.50	10.00	0.9778	85.3	75	125	9.099	4.41	20	

Sample ID: **N051171-021C-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/20/2022** RunNo: **163360**
Client ID: **ZZZZZZ** Batch ID: **93420** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2022** SeqNo: **4689356**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.656	0.50	50.00	0	77.3	75	125				
Manganese	558.064	2.5	500.0	98.45	91.9	75	125				

Sample ID: **N051171-021C-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/20/2022** RunNo: **163360**
Client ID: **ZZZZZZ** Batch ID: **93420** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2022** SeqNo: **4689357**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	39.195	0.50	50.00	0	78.4	75	125	38.66	1.38	20	
Manganese	560.512	2.5	500.0	98.45	92.4	75	125	558.1	0.438	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051171-010C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **163296**
Client ID: **ZZZZZZ** Batch ID: **93300** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/17/2022** SeqNo: **4684923**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.841	0.10	10.00	0	48.4	80	120				S
Barium	72.853	1.0	10.00	67.37	54.8	80	120				S
Manganese	107.689	0.50	100.0	24.36	83.3	80	120				
Molybdenum	26.999	0.50	10.00	17.20	98.0	80	120				
Selenium	12.330	0.50	10.00	3.776	85.5	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051171
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051171-021C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **163360**
Client ID: **ZZZZZZ**	Batch ID: **93420**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689348**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	55.980	1.0	10.00	46.12	98.6	80	120				
Molybdenum	89.481	0.50	10.00	76.57	129	80	120				S
Selenium	9.341	0.50	10.00	0.9778	83.6	80	120				

Sample ID: **N051171-021C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **163360**
Client ID: **ZZZZZZ**	Batch ID: **93420**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	38.580	0.50	50.00	0	77.2	80	120				S
Manganese	561.573	2.5	500.0	98.45	92.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition	Y N
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD	RTNE	1. Chilled	✓
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	2. Headspace	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	3. Container Intact	✓
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	4. Seal Present	✓
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB	LEVEL IV	5. IR number	3
Signature: Date: 6/13/22	Sampled By: Riggie Tep		Global ID:	Regulatory	6. Method of Cooling: ICE	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	Sample Temp: 5.2 C / 4.7 °C	
Project Name: PG&E Topock - PCM	Signature: Date: 6/13/22				Courier: ASSET	
Project Number: 30121866.2Q22GW					Tracking No.:	

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, Nitrite, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051171-01	MW-29-Q222	6/13/2022	14:36		X			X					E	2	P	BNS	
2	-02	MW-29-EB-Q222	6/13/2022	14:10		X								E	1	P	BNS	
3	-03	MW-49-135-Q222	6/13/2022	1354		X			X					E	2	P	BNS	
4	-04	MW-49-135-EB-Q222	6/13/2022	13:25		X								E	1	P	BNS	
5	-05	MW-49-275-Q222	6/13/2022	13:08		X			X					E	2	P	BNS	
6	-06	MW-49-275-EB-Q222	6/13/2022	12:40		X								E	1	P	BNS	
7	-07	MW-49-365-Q222	6/13/2022	12:08		X			X					E	2	P	BNS	
8	-08	MW-49-365-EB-Q222	6/13/2022	11:30		X								E	1	P	BNS	
9	-09	EB-736-Q222	6/13/2022	14:50		X								E	1	P	BNS	
10																		
11																		
12																		
13																		
14																		

Reliquished by (Signature and Printed Name): Riggie Tep Date/Time: 6/13/22 1616
Reliquished by (Signature and Printed Name): Romeo Recamara Date/Time: 6/13/22 1900
Reliquished by (Signature and Printed Name): Date/Time:

Reliquished by (Signature and Printed Name): Romeo Recamara Date/Time: 6/13/22 1616
Reliquished by (Signature and Printed Name): Romeo Recamara Date/Time: 6/13/22 1900
Reliquished by (Signature and Printed Name): Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: Y N; 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	6. Method of Cooling: ICE
Submitted By: Rissie Tep		Phone: 949-727-1400, ext 200 Fax:	Sample Temp: 5.2°C / 4.7°C
Title: Field Tech	Phone: 916-786-3302 Fax:	Global ID:	Specify State:
Signature: Date: 6/13/22	Sampled By: Rissie Tep		Courier: ASSET
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Tracking No.:
Project Name: PG&E Topock - PCM	Signature: Date: 6/13/22		
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, Nitrite, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051171-10	MW-31-060-Q222	6/13/2022	12:01		X	X	X	X	X	X		X	E	10	P	BNS	MS/MSD
2	-11	MW-31-135-Q222	6/13/2022	11:20		X	X	X	X	X	X		X	E	7	P	BNS	
3	-12	MW-20-070-Q222	6/13/2022	~~12:20~~ (5)	1246	X	X	X	X	X	X		X	E	7	P	BNS	
4	-13	MW-20-100-Q222	6/13/2022	14:12		X	X	X	X	X	X		X	E	7	P	BNS	
5	-14	MW-20-130-Q222	6/13/2022	13:25		X	X	X	X	X	X		X	E	7	P	BNS	
6	-15	MW-903-Q222	6/13/2022	13:35		X	X	X	X	X	X		X	E	7	P	BNS	
7	-16	EB-734-Q222	6/13/2022	14:20		X								E	1	P	BNS	
8	-17	MW-76-039-Q222	6/13/2022	15:17		X	X	X	X	X	X		X	E	8	P	BNS	
9	-18	MW-907-Q222	6/13/2022	15:27		X	X	X	X	X	X		X	E	8	P	BNS	
10	-19	MW-76-156-Q222	6/13/2022	14:39		X	X	X	X	X	X		X	E	8	P	BNS	
11	-20	MW-76-181-Q222	6/13/2022	13:53		X	X	X	X	X	X		X	E	8	P	BNS	
12	-21	MW-76-218-Q222	6/13/2022	13:06		X	X	X	X	X	X		X	11 ~~10~~	~~7~~	P	BNS	MS/MSD
13	-22	EB-735-Q222	6/13/2022	15:40		X								E	1	P	BNS	
14																		

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Rissie Tep	6/13/22 1616	Dan ROMO KUCAMARA	6/13/22 1616
Dan ROMO KUCAMARA	6/13/22 1900	Dan ROMO KUCAMARA	6/13/22 1900

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Plnt
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/13/2022	Workorder:	N051171
Rep sample Temp (Deg C):	5.2/4.7	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 6/14/2022

Reviewed By: MBC 6/17/2022

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051171

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051171-001A	MW-29-Q222	6/13/2022 2:36:00 PM	6/27/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-001B			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-002A	MW-29-EB-Q222	6/13/2022 2:10:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-003A	MW-49-135-Q222	6/13/2022 1:54:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-003B			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-004A	MW-49-135-EB-Q222	6/13/2022 1:25:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-005A	MW-49-275-Q222	6/13/2022 1:08:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-005B			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-006A	MW-49-275-EB-Q222	6/13/2022 12:40:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-007A	MW-49-365-Q222	6/13/2022 12:08:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-007B			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-008A	MW-49-365-EB-Q222	6/13/2022 11:30:00 AM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-009A	EB-736-Q222	6/13/2022 2:50:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-010A	MW-31-060-Q222	6/13/2022 12:01:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N051171-010B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N051171-010C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051171

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051171-010C	MW-31-060-Q222	6/13/2022 12:01:00 PM	6/27/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N051171-010D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N051171-010E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☑	☑	SUB
N051171-011A	MW-31-135-Q222	6/13/2022 11:20:00 AM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-011B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-011C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-011D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-011E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-012A	MW-20-070-Q222	6/13/2022 12:46:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-012B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051171

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051171-012C	MW-20-070-Q222	6/13/2022 12:46:00 PM	6/27/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-012D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-012E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-013A	MW-20-100-Q222	6/13/2022 2:12:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-013B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-013C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-013D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-013E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-014A	MW-20-130-Q222	6/13/2022 1:25:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-014B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051171

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051171-014B	MW-20-130-Q222	6/13/2022 1:25:00 PM	6/27/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-014C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-014D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-014E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-015A	MW-903-Q222	6/13/2022 1:35:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-015B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-015C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-015D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-015E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-016A	EB-734-Q222	6/13/2022 2:20:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-017A	MW-76-039-Q222	6/13/2022 3:17:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051171

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051171-017B	MW-76-039-Q222	6/13/2022 3:17:00 PM	6/27/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-017C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-017D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-017E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-018A	MW-907-Q222	6/13/2022 3:27:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-018B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-018C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-018D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-018E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051171

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051171-019A	MW-76-156-Q222	6/13/2022 2:39:00 PM	6/27/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-019B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-019C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-019D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051171-019E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-020A	MW-76-181-Q222	6/13/2022 1:53:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-020B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051171-020C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051171-020D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051171

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/13/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051171-020E	MW-76-181-Q222	6/13/2022 1:53:00 PM	6/27/2022	Groundwater	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051171-021A	MW-76-218-Q222	6/13/2022 1:06:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N051171-021B			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			6/27/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N051171-021C			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/27/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/27/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			6/27/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N051171-021D			6/27/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N051171-021E			6/27/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☑	☑	SUB
N051171-022A	EB-735-Q222	6/13/2022 3:40:00 PM	6/27/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051171-023A	FOLDER	6/27/2022	6/27/2022		Folder	Folder	☐	☐	☐	LAB
			6/27/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/27/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

14-Jun-22

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N051171-010E / MW-31-060-Q222	Groundwater	6/13/2022 12:01:00 PM	16OZP	1	**MS/MSD**	
N051171-011E / MW-31-135-Q222	Groundwater	6/13/2022 11:20:00 AM	16OZP	1		
N051171-012E / MW-20-070-Q222	Groundwater	6/13/2022 12:46:00 PM	16OZP	1		
N051171-013E / MW-20-100-Q222	Groundwater	6/13/2022 2:12:00 PM	16OZP	1		
N051171-014E / MW-20-130-Q222	Groundwater	6/13/2022 1:25:00 PM	16OZP	1		
N051171-015E / MW-903-Q222	Groundwater	6/13/2022 1:35:00 PM	16OZP	1		
N051171-017E / MW-76-039-Q222	Groundwater	6/13/2022 3:17:00 PM	16OZP	1		
N051171-018E / MW-907-Q222	Groundwater	6/13/2022 3:27:00 PM	16OZP	1		
N051171-019E / MW-76-156-Q222	Groundwater	6/13/2022 2:39:00 PM	16OZP	1		
N051171-020E / MW-76-181-Q222	Groundwater	6/13/2022 1:53:00 PM	16OZP	1		
N051171-021E / MW-76-218-Q222	Groundwater	6/13/2022 1:06:00 PM	16OZP	1	**MS/MSD**	

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N51171A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT

Please analyze for Ammonia as Nitrogen (SM4500NH3). EDD requirement Labspec7 edata.

GSO #: 557087404

		Date/Time		Date/Time
Relinquished by:	GGarcia	6/14/2022 16:30	**Received by:**	
Relinquished by:			**Received by:**	

June 30, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051172

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 14, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N051172-006 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N051172-003C-MS and N051172-003C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051172
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051172-001A	MW-25-Q222	Groundwater	6/14/2022 9:36:00 AM	6/14/2022	6/30/2022
N051172-001B	MW-25-Q222	Groundwater	6/14/2022 9:36:00 AM	6/14/2022	6/30/2022
N051172-002A	MW-15-Q222	Groundwater	6/14/2022 8:28:00 AM	6/14/2022	6/30/2022
N051172-002B	MW-15-Q222	Groundwater	6/14/2022 8:28:00 AM	6/14/2022	6/30/2022
N051172-003A	MW-68-180-Q222	Groundwater	6/14/2022 1:56:00 PM	6/14/2022	6/30/2022
N051172-003B	MW-68-180-Q222	Groundwater	6/14/2022 1:56:00 PM	6/14/2022	6/30/2022
N051172-003C	MW-68-180-Q222	Groundwater	6/14/2022 1:56:00 PM	6/14/2022	6/30/2022
N051172-004A	MW-926-Q222	Groundwater	6/14/2022 2:06:00 PM	6/14/2022	6/30/2022
N051172-004B	MW-926-Q222	Groundwater	6/14/2022 2:06:00 PM	6/14/2022	6/30/2022
N051172-004C	MW-926-Q222	Groundwater	6/14/2022 2:06:00 PM	6/14/2022	6/30/2022
N051172-005A	MW-68-240-Q222	Groundwater	6/14/2022 12:58:00 PM	6/14/2022	6/30/2022
N051172-005B	MW-68-240-Q222	Groundwater	6/14/2022 12:58:00 PM	6/14/2022	6/30/2022
N051172-005C	MW-68-240-Q222	Groundwater	6/14/2022 12:58:00 PM	6/14/2022	6/30/2022
N051172-006A	MW-68BR-280-Q222	Groundwater	6/14/2022 11:22:00 AM	6/14/2022	6/30/2022
N051172-006B	MW-68BR-280-Q222	Groundwater	6/14/2022 11:22:00 AM	6/14/2022	6/30/2022
N051172-007A	EB-739-Q222	Groundwater	6/14/2022 2:30:00 PM	6/14/2022	6/30/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-25-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 9:36:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A** QC Batch: **R163249**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	58	0.25	2.0		µg/L	10	6/16/2022 09:51 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220619A** QC Batch: **93349**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	53	0.035	1.0		µg/L	1	6/19/2022 03:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051172-002

Client Sample ID: MW-15-Q222
Collection Date: 6/14/2022 8:28:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A** QC Batch: **R163249**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	12	0.050	0.40		µg/L	2	6/16/2022 10:02 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220619A** QC Batch: **93349**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	11	0.035	1.0		µg/L	1	6/19/2022 03:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 1:56:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3300	25	200		µg/L	1000	6/16/2022 10:12 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	4000	0.88	25		µg/L	25	6/20/2022 11:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-926-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 2:06:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3300	25	200		µg/L	1000	6/16/2022 12:05 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	3800	0.88	25		µg/L	25	6/20/2022 11:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 12:58:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2100	5.0	40		µg/L	200	6/16/2022 10:40 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	2400	0.88	25		µg/L	25	6/20/2022 12:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68BR-280-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 11:22:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/16/2022 01:01 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220619A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/19/2022 05:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-739-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 2:30:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/16/2022 12:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R163249**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **PBW**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R163249**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **LCSW**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682850**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.142	0.20	5.000	0	103	90	110				

Sample ID: **N051172-003ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3318.300	200						3282	1.10	20	

Sample ID: **N051172-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8645.100	200	5000	3282	107	90	110				

Sample ID: **N051172-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3137.140	40	1000	2073	106	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051172-005AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3157.760	40	1000	2073	108	90	110	3137	0.655	20	

Sample ID: **N051172-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8433.000	200	5000	3276	103	90	110				

Sample ID: **N051172-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID: **N051172-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	110.924	2.0	50.00	58.21	105	90	110				

Sample ID: **N051172-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.854	0.40	10.00	12.07	108	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051172-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.088	1.0	5.000	0	102	90	110				

Sample ID: **N051207-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.509	0.20	1.000	0.5046	100	90	110				

Sample ID: **N051207-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.623	0.20	1.000	0.5334	109	90	110				

Sample ID: **N051207-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	106	90	110				

Sample ID: **N051207-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.164	0.20	1.000	0.07660	109	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051207-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.155	0.20	1.000	0.09010	106	90	110				

Sample ID: **N051207-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0	105	90	110				

Sample ID: **N051207-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.443	1.0	5.000	2.375	101	90	110				

Sample ID: **N051207-018AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.155	1.0	5.000	0	103	90	110				

Sample ID: **N051207-019AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.347	1.0	5.000	0	107	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-93349**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **PBW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-93349**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **LCSW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.195	1.0	10.00	0	91.9	85	115				

Sample ID: **N051172-003C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163355**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4688890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3278.488	25	10.00	3950	-6720	75	125				S

Sample ID: **N051172-003C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163355**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4688891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3276.562	25	10.00	3950	-6740	75	125	3278	0.0588	20	S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N051172-003C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **163355**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4688889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3591.481	25	10.00	3950	-3590	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 1:56:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A**	QC Batch: **R163240**			PrepDate:			Analyst: **RAB**
Nitrate as N	10	0.19	1.0		mg/L	20	6/15/2022 02:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-926-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 2:06:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A**	QC Batch: **R163240**			PrepDate:			Analyst: **RAB**
Nitrate as N	10	0.19	1.0		mg/L	20	6/15/2022 02:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 12:58:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A**	QC Batch: **R163240**			PrepDate:			Analyst: **RAB**
Nitrate as N	4.2	0.048	0.25		mg/L	5	6/15/2022 02:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R163240_NO3** SampType: **LCS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **LCSW** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.262	0.050	1.250	0	101	90	110				

Sample ID: **MB-R163240_NO3** SampType: **MBLK** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **PBW** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N051183-001BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.846	0.50	12.50	0	94.8	80	120				

Sample ID: **N051183-001BMSD** SampType: **MSD** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.616	0.50	12.50	0	92.9	80	120	11.85	1.96	20	

Sample ID: **N051183-003BMS** SampType: **MS** TestCode: **300WLLNO3** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.451	0.50	12.50	1.650	94.4	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N051183-005BDUP**	SampType: **DUP**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	9.336	0.50						9.267	0.742	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-180-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 1:56:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Molybdenum	46	0.12	0.50		µg/L	1	6/19/2022 03:44 PM
Selenium	5.9	0.044	0.50		µg/L	1	6/24/2022 04:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051172-004

Client Sample ID: MW-926-Q222
Collection Date: 6/14/2022 2:06:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Molybdenum	46	0.12	0.50		µg/L	1	6/19/2022 04:49 PM
Selenium	5.5	0.044	0.50		µg/L	1	6/24/2022 04:34 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-68-240-Q222
Lab Order:	N051172	**Collection Date:**	6/14/2022 12:58:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051172-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Molybdenum	22	0.12	0.50		µg/L	1	6/19/2022 05:01 PM
Selenium	4.1	0.044	0.50		µg/L	1	6/24/2022 04:40 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93349**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **PBW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									

Sample ID: **LCS-93349**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **LCSW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.186	0.50	10.00	0	91.9	85	115				

Sample ID: **N051172-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	55.230	0.50	10.00	45.81	94.2	75	125				

Sample ID: **N051172-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	50.529	0.50	10.00	45.81	47.1	75	125	55.23	8.89	20	S

Sample ID: **MB-93349**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **PBW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.060	0.50									

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051172
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **LCS-93349**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **LCSW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.701	0.50	10.00	0	87.0	85	115				

Sample ID: **N051172-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	13.980	0.50	10.00	5.861	81.2	75	125				

Sample ID: **N051172-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	14.223	0.50	10.00	5.861	83.6	75	125	13.98	1.72	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

N051172

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled X; 2. Headspace; 3. Container intact X; 4. Seal Present; 5. IR number 3; 6. Method of Cooling: Wet Ice
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Global ID: Specify State:
Submitted By: [redacted] Stef	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Sample Temp: 4.5, 1.4, 2.1 °C
Title: Field Tech			
Signature: Date: 6/14/22	Sampled By: Rissie Tep		Courier:
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		Tracking No.:
Project Name: PG&E Topock - RCM	Signature: Date: 6/14/22		
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051172-01	MW-25-Q222	6/14/2022	9:36		X			X		E	2	P	BNS	
2	-02	MW-15-Q222	6/14/2022	8:28		X			X		E	2	P	BNS	
3	-03	MW-68-180-Q222	6/14/2022	13:56		X	X		X	X	E	3	P	BNS	
4	-04	MW-926-Q222	6/14/2022	14:06		X	X		X	X	E	3	P	BNS	
5	-05	MW-68-240-Q222	6/14/2022	12:58		X	X		X	X	E	3	P	BNS	
	-06	MW-68BR-280-Q222	6/14/2022	11:22		X			X		E	2	P	BNS	
7	-07	EB-739-Q222	6/14/2022	14:30		X					E	1	P	BNS	
8											E	1	P	BNS	
9															
10															
11															
12															
13															
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Rissie Tep	6/14/22 1550	[redacted]	6/14/22 1550
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
REL/REC: MOUNTAIN		[redacted]	6/14/22 1928
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable samples.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/14/2022	Workorder:	N051172
Rep sample Temp (Deg C):	1.4/2.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 6/17/2022

Reviewed By: MBC 6/17/2022

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051172

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051172-001A	MW-25-Q222	6/14/2022 9:36:00 AM	6/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051172-001B			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051172-002A	MW-15-Q222	6/14/2022 8:28:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051172-002B			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051172-003A	MW-68-180-Q222	6/14/2022 1:56:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051172-003B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051172-003C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051172-004A	MW-926-Q222	6/14/2022 2:06:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051172-004B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051172-004C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051172-005A	MW-68-240-Q222	6/14/2022 12:58:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051172-005B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051172-005C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051172-006A	MW-68BR-280-Q222	6/14/2022 11:22:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051172

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051172-006B	MW-68BR-280-Q222	6/14/2022 11:22:00 AM	6/28/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051172-007A	EB-739-Q222	6/14/2022 2:30:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051172-008A	FOLDER	6/28/2022	6/28/2022		Folder	Folder	☐	☐	☐	LAB
			6/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/28/2022		Folder	Folder	☐	☐	☐	LAB

July 05, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051183

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 14, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs- Bakersfield,CA.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (3.8 ug/L) and hexavalent chromium (0 ug/L) for sample N051183-001 (MW-21-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N051183-001C-MS and N051183-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (3.8 ug/L) and hexavalent chromium (0 ug/L) for sample N051183-001 (MW-21-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 3.4 and 1.1 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N051172-003C-MS and N051172-003C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Chromium in QC sample N051171-018C-MS possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike Duplicate (MSD) is outside recovery criteria for some analytes in QC sample N051172-003C-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N051171-021DMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051171-021 and MS/MSD were reported at 100x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051183
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051183-001A	MW-21-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-001B	MW-21-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-001C	MW-21-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-001D	MW-21-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-001E	MW-21-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-002A	MW-21-EB-Q222	Groundwater	6/14/2022 9:05:00 AM	6/14/2022	7/5/2022
N051183-003A	MW-78-070-Q222	Groundwater	6/14/2022 2:03:00 PM	6/14/2022	7/5/2022
N051183-003B	MW-78-070-Q222	Groundwater	6/14/2022 2:03:00 PM	6/14/2022	7/5/2022
N051183-003C	MW-78-070-Q222	Groundwater	6/14/2022 2:03:00 PM	6/14/2022	7/5/2022
N051183-003D	MW-78-070-Q222	Groundwater	6/14/2022 2:03:00 PM	6/14/2022	7/5/2022
N051183-003E	MW-78-070-Q222	Groundwater	6/14/2022 2:03:00 PM	6/14/2022	7/5/2022
N051183-004A	MW-908-Q222	Groundwater	6/14/2022 2:13:00 PM	6/14/2022	7/5/2022
N051183-004B	MW-908-Q222	Groundwater	6/14/2022 2:13:00 PM	6/14/2022	7/5/2022
N051183-004C	MW-908-Q222	Groundwater	6/14/2022 2:13:00 PM	6/14/2022	7/5/2022
N051183-004D	MW-908-Q222	Groundwater	6/14/2022 2:13:00 PM	6/14/2022	7/5/2022
N051183-004E	MW-908-Q222	Groundwater	6/14/2022 2:13:00 PM	6/14/2022	7/5/2022
N051183-005A	MW-78-142-Q222	Groundwater	6/14/2022 2:16:00 PM	6/14/2022	7/5/2022
N051183-005B	MW-78-142-Q222	Groundwater	6/14/2022 2:16:00 PM	6/14/2022	7/5/2022
N051183-005C	MW-78-142-Q222	Groundwater	6/14/2022 2:16:00 PM	6/14/2022	7/5/2022
N051183-005D	MW-78-142-Q222	Groundwater	6/14/2022 2:16:00 PM	6/14/2022	7/5/2022
N051183-005E	MW-78-142-Q222	Groundwater	6/14/2022 2:16:00 PM	6/14/2022	7/5/2022
N051183-006A	MW-79-058-Q222	Groundwater	6/14/2022 12:55:00 PM	6/14/2022	7/5/2022
N051183-006B	MW-79-058-Q222	Groundwater	6/14/2022 12:55:00 PM	6/14/2022	7/5/2022
N051183-006C	MW-79-058-Q222	Groundwater	6/14/2022 12:55:00 PM	6/14/2022	7/5/2022
N051183-006D	MW-79-058-Q222	Groundwater	6/14/2022 12:55:00 PM	6/14/2022	7/5/2022
N051183-006E	MW-79-058-Q222	Groundwater	6/14/2022 12:55:00 PM	6/14/2022	7/5/2022
N051183-007A	MW-909-Q222	Groundwater	6/14/2022 1:05:00 PM	6/14/2022	7/5/2022
N051183-007B	MW-909-Q222	Groundwater	6/14/2022 1:05:00 PM	6/14/2022	7/5/2022
N051183-007C	MW-909-Q222	Groundwater	6/14/2022 1:05:00 PM	6/14/2022	7/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051183
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051183-007D	MW-909-Q222	Groundwater	6/14/2022 1:05:00 PM	6/14/2022	7/5/2022
N051183-007E	MW-909-Q222	Groundwater	6/14/2022 1:05:00 PM	6/14/2022	7/5/2022
N051183-008A	MW-79-102-Q222	Groundwater	6/14/2022 12:18:00 PM	6/14/2022	7/5/2022
N051183-008B	MW-79-102-Q222	Groundwater	6/14/2022 12:18:00 PM	6/14/2022	7/5/2022
N051183-008C	MW-79-102-Q222	Groundwater	6/14/2022 12:18:00 PM	6/14/2022	7/5/2022
N051183-008D	MW-79-102-Q222	Groundwater	6/14/2022 12:18:00 PM	6/14/2022	7/5/2022
N051183-008E	MW-79-102-Q222	Groundwater	6/14/2022 12:18:00 PM	6/14/2022	7/5/2022
N051183-009A	MW-80-057-Q222	Groundwater	6/14/2022 9:22:00 AM	6/14/2022	7/5/2022
N051183-009B	MW-80-057-Q222	Groundwater	6/14/2022 9:22:00 AM	6/14/2022	7/5/2022
N051183-009C	MW-80-057-Q222	Groundwater	6/14/2022 9:22:00 AM	6/14/2022	7/5/2022
N051183-009D	MW-80-057-Q222	Groundwater	6/14/2022 9:22:00 AM	6/14/2022	7/5/2022
N051183-009E	MW-80-057-Q222	Groundwater	6/14/2022 9:22:00 AM	6/14/2022	7/5/2022
N051183-010A	MW-910-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-010B	MW-910-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-010C	MW-910-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-010D	MW-910-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-010E	MW-910-Q222	Groundwater	6/14/2022 9:32:00 AM	6/14/2022	7/5/2022
N051183-011A	MW-80-082-Q222	Groundwater	6/14/2022 8:47:00 AM	6/14/2022	7/5/2022
N051183-011B	MW-80-082-Q222	Groundwater	6/14/2022 8:47:00 AM	6/14/2022	7/5/2022
N051183-011C	MW-80-082-Q222	Groundwater	6/14/2022 8:47:00 AM	6/14/2022	7/5/2022
N051183-011D	MW-80-082-Q222	Groundwater	6/14/2022 8:47:00 AM	6/14/2022	7/5/2022
N051183-011E	MW-80-082-Q222	Groundwater	6/14/2022 8:47:00 AM	6/14/2022	7/5/2022
N051183-012A	MW-26-Q222	Groundwater	6/14/2022 11:21:00 AM	6/14/2022	7/5/2022
N051183-012B	MW-26-Q222	Groundwater	6/14/2022 11:21:00 AM	6/14/2022	7/5/2022
N051183-012C	MW-26-Q222	Groundwater	6/14/2022 11:21:00 AM	6/14/2022	7/5/2022
N051183-012D	MW-26-Q222	Groundwater	6/14/2022 11:21:00 AM	6/14/2022	7/5/2022
N051183-012E	MW-26-Q222	Groundwater	6/14/2022 11:21:00 AM	6/14/2022	7/5/2022
N051183-013A	MW-51-Q222	Groundwater	6/14/2022 10:34:00 AM	6/14/2022	7/5/2022
N051183-013B	MW-51-Q222	Groundwater	6/14/2022 10:34:00 AM	6/14/2022	7/5/2022
N051183-013C	MW-51-Q222	Groundwater	6/14/2022 10:34:00 AM	6/14/2022	7/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051183
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051183-013D	MW-51-Q222	Groundwater	6/14/2022 10:34:00 AM	6/14/2022	7/5/2022
N051183-013E	MW-51-Q222	Groundwater	6/14/2022 10:34:00 AM	6/14/2022	7/5/2022
N051183-014A	EB-738-Q222	Groundwater	6/14/2022 2:25:00 PM	6/14/2022	7/5/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 9:32:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A** QC Batch: **R163221**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/15/2022 12:08 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220619A** QC Batch: **93349**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	3.8	0.035	1.0		µg/L	1	6/19/2022 05:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-EB-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 9:05:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/15/2022 06:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-003

Client Sample ID: MW-78-070-Q222
Collection Date: 6/14/2022 2:03:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A** QC Batch: **R163221**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	790	2.5	20		µg/L	100	6/15/2022 12:28 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220630C** QC Batch: **93580**				PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	820	0.88	25		µg/L	25	6/30/2022 07:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A** QC Batch: **R163221**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	810	2.5	20		µg/L	100	6/15/2022 12:38 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220619A** QC Batch: **93349**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	900	0.18	5.0		µg/L	5	6/19/2022 06:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5500	25	200		µg/L	1000	6/15/2022 01:24 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	6100	4.4	120		µg/L	125	6/20/2022 12:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2800	13	100		µg/L	500	6/15/2022 12:56 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	3200	0.88	25		µg/L	25	6/20/2022 12:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 1:05:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2900	13	100		µg/L	500	6/15/2022 01:06 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	2900	0.88	25		µg/L	25	6/20/2022 12:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-008

Client Sample ID: MW-79-102-Q222
Collection Date: 6/14/2022 12:18:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A** QC Batch: **R163221**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2200	13	100		µg/L	500	6/15/2022 02:31 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220620A** QC Batch: **93349**				PrepDate: **6/16/2022**			Analyst: **DJ**
Chromium	2400	0.88	25		µg/L	25	6/20/2022 12:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-009

Client Sample ID: MW-80-057-Q222
Collection Date: 6/14/2022 9:22:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A** QC Batch: **R163221**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	950	2.5	20		µg/L	100	6/15/2022 01:53 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220620A** QC Batch: **93349**				PrepDate: **6/16/2022**			Analyst: **DJ**
Chromium	1000	0.88	25		µg/L	25	6/20/2022 12:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-010

Client Sample ID: MW-910-Q222
Collection Date: 6/14/2022 9:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A** QC Batch: **R163221**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	950	2.5	20		µg/L	100	6/15/2022 08:16 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220620A** QC Batch: **93349**				PrepDate: **6/16/2022**			Analyst: **DJ**
Chromium	1000	0.88	25		µg/L	25	6/20/2022 01:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 8:47:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	980	5.0	40		µg/L	200	6/15/2022 01:15 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220620A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	1100	0.88	25		µg/L	25	6/20/2022 01:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	140	0.50	4.0		µg/L	20	6/15/2022 08:35 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220619A**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	130	0.035	1.0		µg/L	1	6/19/2022 08:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B** QC Batch: **R163250**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	450	2.5	20		µg/L	100	6/16/2022 11:57 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220619A** QC Batch: **93349**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	540	0.18	5.0		µg/L	5	6/19/2022 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-738-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:25:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/15/2022 06:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R163221**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **LCSW**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.107	0.20	5.000	0	102	90	110				

Sample ID: **MB-R163221**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **PBW**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N051183-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID: **N051183-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10801.100	200	5000	5543	105	90	110				

Sample ID: **N051183-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5427.950	100	2500	2837	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-006AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5441.750	100	2500	2837	104	90	110	5428	0.254	20	

Sample ID: **N051183-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5505.250	100	2500	2868	105	90	110				

Sample ID: **N051183-008ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2284.850	100						2250	1.56	20	

Sample ID: **N051183-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4856.100	100	2500	2250	104	90	110				

Sample ID: **N051171-016AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051171-022AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681342**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N051184-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681343**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.822	1.0	25.00	17.77	104	90	110				

Sample ID: **N051183-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID: **N051183-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0	104	90	110				

Sample ID: **N051184-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	770.895	10	250.0	500.4	108	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051184-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.247	1.0	25.00	23.34	108	90	110				

Sample ID: **N051184-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1189.090	20	500.0	658.4	106	90	110				

Sample ID: **N051183-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1330.450	20	500.0	790.2	108	90	110				

Sample ID: **N051183-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681354**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1343.720	20	500.0	809.6	107	90	110				

Sample ID: **N051183-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681355**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2003.480	40	1000	975.4	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681358**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1464.740	20	500.0	955.0	102	90	110				

Sample ID: **N051183-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1479.780	20	500.0	948.2	106	90	110				

Sample ID: **N051183-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	240.794	4.0	100.0	137.9	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R163250** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **LCSW** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.220	0.20	5.000	0	104	90	110				

Sample ID: **MB-R163250** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **PBW** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N051207-015ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	90.290	4.0						90.92	0.700	20	

Sample ID: **N051207-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	195.706	4.0	100.0	90.92	105	90	110				

Sample ID: **N051207-015AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	193.700	4.0	100.0	90.92	103	90	110	195.7	1.03	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051207-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682914**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1236.430	20	500.0	699.4	107	90	110				

Sample ID: **N051207-017AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1243.190	20	500.0	727.0	103	90	110				

Sample ID: **N051207-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682918**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1363.490	20	500.0	837.8	105	90	110				

Sample ID: **N051207-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1370.330	20	500.0	837.9	106	90	110				

Sample ID: **N051207-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	277.372	4.0	100.0	171.3	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-013AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **ZZZZZZ**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4682928**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	974.890	20	500.0	445.8	106	90	110				

Sample ID: **N051207-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **ZZZZZZ**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4682930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15.647	0.20	5.000	10.26	108	90	110				

Sample ID: **N051207-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **ZZZZZZ**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4682932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.328	1.0	5.000	0	107	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-93349**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **PBW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-93349**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **LCSW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.195	1.0	10.00	0	91.9	85	115				

Sample ID: **N051172-003C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163355**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4688890**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3278.488	25	10.00	3950	-6720	75	125				S

Sample ID: **N051172-003C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163355**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4688891**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3276.562	25	10.00	3950	-6740	75	125	3278	0.0588	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-93580**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **PBW**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-93580**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **LCSW**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.643	1.0	10.00	0	96.4	85	115				

Sample ID: **N051171-018C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **ZZZZZZ**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704661**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	81.682	1.0	10.00	75.67	60.1	75	125				S

Sample ID: **N051171-018C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163612**
Client ID: **ZZZZZZ**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	86.459	1.0	10.00	75.67	108	75	125	81.68	5.68	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N051172-003C-PS** SampType: **PS** TestCode: **6020DIS_CrP** Units: **µg/L** Prep Date: RunNo: **163355**
Client ID: **ZZZZZZ** Batch ID: **93349** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2022** SeqNo: **4688889**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3591.481	25	10.00	3950	-3590	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **N051171-018C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **163612**
Client ID: **ZZZZZZ**	Batch ID: **93580**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4704660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	83.863	1.0	10.00	75.67	81.9	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-001

Client Sample ID: MW-21-Q222
Collection Date: 6/14/2022 9:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 09:54 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	1900	12	100		mg/L	200	6/15/2022 06:49 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/15/2022 09:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-003

Client Sample ID: MW-78-070-Q222
Collection Date: 6/14/2022 2:03:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 10:09 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	430	3.0	25		mg/L	50	6/15/2022 07:05 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.6	0.095	0.50		mg/L	10	6/15/2022 10:09 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-004

Client Sample ID: MW-908-Q222
Collection Date: 6/14/2022 2:13:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 10:25 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	430	3.0	25		mg/L	50	6/15/2022 07:20 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	6/15/2022 10:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-005

Client Sample ID: MW-78-142-Q222
Collection Date: 6/14/2022 2:16:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 10:40 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	870	6.1	50		mg/L	100	6/15/2022 04:47 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	9.3	0.095	0.50		mg/L	10	6/15/2022 10:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-006

Client Sample ID: MW-79-058-Q222
Collection Date: 6/14/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 10:55 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	410	3.0	25		mg/L	50	6/15/2022 07:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	11	0.095	0.50		mg/L	10	6/15/2022 10:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-007

Client Sample ID: MW-909-Q222
Collection Date: 6/14/2022 1:05:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 11:10 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	410	3.0	25		mg/L	50	6/15/2022 07:51 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	11	0.095	0.50		mg/L	10	6/15/2022 11:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-008

Client Sample ID: MW-79-102-Q222
Collection Date: 6/14/2022 12:18:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 11:26 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	660	6.1	50		mg/L	100	6/15/2022 05:33 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	5.0	0.095	0.50		mg/L	10	6/15/2022 11:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-009

Client Sample ID: MW-80-057-Q222
Collection Date: 6/14/2022 9:22:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 12:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	490	3.0	25		mg/L	50	6/15/2022 08:06 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	13	0.095	0.50		mg/L	10	6/15/2022 12:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-010

Client Sample ID: MW-910-Q222
Collection Date: 6/14/2022 9:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 12:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	500	3.0	25		mg/L	50	6/15/2022 08:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	13	0.095	0.50		mg/L	10	6/15/2022 12:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-011

Client Sample ID: MW-80-082-Q222
Collection Date: 6/14/2022 8:47:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 12:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	560	3.0	25		mg/L	50	6/15/2022 08:37 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	4.4	0.095	0.50		mg/L	10	6/15/2022 12:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-012

Client Sample ID: MW-26-Q222
Collection Date: 6/14/2022 11:21:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 01:13 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	550	3.0	25		mg/L	50	6/15/2022 08:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.73	0.095	0.50		mg/L	10	6/15/2022 01:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-013

Client Sample ID: MW-51-Q222
Collection Date: 6/14/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/15/2022 01:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Sulfate	580	3.0	25		mg/L	50	6/15/2022 09:38 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220615A** QC Batch: **R163240**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.095	0.50		mg/L	10	6/15/2022 01:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **LCS-R163240_NO2** SampType: **LCS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **LCSW** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682637**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.263	0.50	1.250	0	101	90	110				

Sample ID: **MB-R163240_NO2** SampType: **MBLK** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **PBW** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **N051183-006BMS** SampType: **MS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682653**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.057	5.0	12.50	0	152	80	120				S

Sample ID: **N051183-006BMSD** SampType: **MSD** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682654**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	18.973	5.0	12.50	0	152	80	120	19.06	0.442	20	S

Sample ID: **N051183-007BMS** SampType: **MS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682657**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	19.209	5.0	12.50	0	154	80	120				S

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **N051183-005BDUP**	SampType: **DUP**	TestCode: **300_W_NO2P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **LCS-R163240_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **LCSW**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682703**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.980	0.50	4.000	0	99.5	90	110				

Sample ID: **MB-R163240_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **PBW**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682704**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **N051183-005BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682711**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1289.200	50	400.0	874.7	104	80	120				

Sample ID: **N051183-005BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1291.260	50	400.0	874.7	104	80	120	1289	0.160	20	

Sample ID: **N051183-008BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682714**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	665.160	50						660.5	0.708	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N051183-008BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1065.190	50	400.0	660.5	101	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **LCS-R163240_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **LCSW**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.262	0.050	1.250	0	101	90	110				

Sample ID: **MB-R163240_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **PBW**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682669**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **N051183-001BMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682689**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.846	0.50	12.50	0	94.8	80	120				

Sample ID: **N051183-001BMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682690**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	11.616	0.50	12.50	0	92.9	80	120	11.85	1.96	20	

Sample ID: **N051183-003BMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163240**
Client ID: **ZZZZZZ**	Batch ID: **R163240**	TestNo: **EPA 300.0**		Analysis Date: **6/15/2022**	SeqNo: **4682691**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.451	0.50	12.50	1.650	94.4	80	120				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N051183-005BDUP** SampType: **DUP** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **163240**
Client ID: **ZZZZZZ** Batch ID: **R163240** TestNo: **EPA 300.0** Analysis Date: **6/15/2022** SeqNo: **4682692**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	9.336	0.50						9.267	0.742	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-21-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 9:32:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 01:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 07:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 03:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 03:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-909-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 1:05:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 04:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-102-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 12:18:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 04:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 9:22:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 05:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 9:32:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 05:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-082-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 8:47:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 05:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 05:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R163321**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **PBW**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R163321**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **LCSW**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.896	1.0	5.000	0	97.9	85	115				

Sample ID: **N051171-021DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **ZZZZZZ**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	439.680	100	500.0	0	87.9	75	125				

Sample ID: **N051171-021DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163321**
Client ID: **ZZZZZZ**	Batch ID: **R163321**	TestNo: **SM 5310C**		Analysis Date: **6/15/2022**	SeqNo: **4686256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	442.730	100	500.0	0	88.5	75	125	439.7	0.691	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-001

Client Sample ID: MW-21-Q222
Collection Date: 6/14/2022 9:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	1100	13	20		µg/L	1	6/17/2022 02:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-070-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 03:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-908-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:13:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 03:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-78-142-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 2:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 03:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-79-058-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 12:55:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-007

Client Sample ID: MW-909-Q222
Collection Date: 6/14/2022 1:05:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 04:06 PM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-008

Client Sample ID: MW-79-102-Q222
Collection Date: 6/14/2022 12:18:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 04:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-80-057-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 9:22:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 04:17 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-910-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 9:32:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 04:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-011

Client Sample ID: MW-80-082-Q222
Collection Date: 6/14/2022 8:47:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	100	13	20		µg/L	1	6/17/2022 04:28 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-012

Client Sample ID: MW-26-Q222
Collection Date: 6/14/2022 11:21:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	49	13	20		µg/L	1	6/17/2022 04:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-51-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 10:34:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 04:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-93352**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **PBW**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **N051183-001C-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1086.169	20	100.0	1135	-48.9	75	125				S

Sample ID: **N051183-001C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1260.667	20	100.0	1135	126	75	125	1086	14.9	20	S

Sample ID: **LCS-93352**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **LCSW**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	85.447	20	100.0	0	85.4	85	115				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N051183-001C-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **163285**
Client ID: **ZZZZZZ** Batch ID: **93352** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **6/17/2022** SeqNo: **4683729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1170.853	20	100.0	1135	35.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-001

Client Sample ID: MW-21-Q222
Collection Date: 6/14/2022 9:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220624E**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	8.2	0.050	0.10		µg/L	1	6/24/2022 04:46 PM
Barium	38	0.083	1.0		µg/L	1	6/19/2022 05:37 PM
Manganese	680	0.13	2.5		µg/L	5	6/19/2022 05:43 PM
Molybdenum	64	0.12	0.50		µg/L	1	6/19/2022 05:37 PM
Selenium	1.4	0.044	0.50		µg/L	1	6/24/2022 04:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-003

Client Sample ID: MW-78-070-Q222
Collection Date: 6/14/2022 2:03:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 05:49 PM
Barium	160	0.083	1.0		µg/L	1	6/19/2022 05:49 PM
Manganese	500	0.13	2.5		µg/L	5	6/19/2022 05:55 PM
Molybdenum	8.3	0.12	0.50		µg/L	1	6/19/2022 05:49 PM
Selenium	1.7	0.044	0.50		µg/L	1	6/24/2022 05:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-004

Client Sample ID: MW-908-Q222
Collection Date: 6/14/2022 2:13:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 06:01 PM
Barium	140	0.083	1.0		µg/L	1	6/19/2022 06:01 PM
Manganese	480	0.13	2.5		µg/L	5	6/19/2022 06:07 PM
Molybdenum	7.3	0.12	0.50		µg/L	1	6/19/2022 06:01 PM
Selenium	1.6	0.044	0.50		µg/L	1	6/24/2022 05:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-005

Client Sample ID: MW-78-142-Q222
Collection Date: 6/14/2022 2:16:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 06:13 PM
Barium	27	0.083	1.0		µg/L	1	6/19/2022 06:13 PM
Manganese	1.2	0.026	0.50		µg/L	1	6/19/2022 06:13 PM
Molybdenum	22	0.12	0.50		µg/L	1	6/19/2022 06:13 PM
Selenium	36	0.044	0.50		µg/L	1	6/24/2022 05:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-006

Client Sample ID: MW-79-058-Q222
Collection Date: 6/14/2022 12:55:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 06:48 PM
Barium	91	0.083	1.0		µg/L	1	6/19/2022 06:48 PM
Manganese	ND	0.026	0.50		µg/L	1	6/19/2022 06:48 PM
Molybdenum	8.0	0.12	0.50		µg/L	1	6/19/2022 06:48 PM
Selenium	11	0.044	0.50		µg/L	1	6/24/2022 05:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-007

Client Sample ID: MW-909-Q222
Collection Date: 6/14/2022 1:05:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_220619B** QC Batch: **93349** PrepDate: **6/16/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 07:00 PM
Barium	79	0.083	1.0		µg/L	1	6/19/2022 07:00 PM
Manganese	ND	0.026	0.50		µg/L	1	6/19/2022 07:00 PM
Molybdenum	7.1	0.12	0.50		µg/L	1	6/19/2022 07:00 PM
Selenium	9.4	0.044	0.50		µg/L	1	6/24/2022 05:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-008

Client Sample ID: MW-79-102-Q222
Collection Date: 6/14/2022 12:18:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 07:12 PM
Barium	38	0.083	1.0		µg/L	1	6/19/2022 07:12 PM
Manganese	ND	0.026	0.50		µg/L	1	6/19/2022 07:12 PM
Molybdenum	26	0.12	0.50		µg/L	1	6/19/2022 07:12 PM
Selenium	13	0.044	0.50		µg/L	1	6/24/2022 05:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-009

Client Sample ID: MW-80-057-Q222
Collection Date: 6/14/2022 9:22:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 07:24 PM
Barium	51	0.083	1.0		µg/L	1	6/19/2022 07:24 PM
Manganese	2.0	0.026	0.50		µg/L	1	6/19/2022 07:24 PM
Molybdenum	31	0.12	0.50		µg/L	1	6/19/2022 07:24 PM
Selenium	24	0.044	0.50		µg/L	1	6/24/2022 05:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-010

Client Sample ID: MW-910-Q222
Collection Date: 6/14/2022 9:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 07:36 PM
Barium	51	0.083	1.0		µg/L	1	6/19/2022 07:36 PM
Manganese	2.2	0.026	0.50		µg/L	1	6/19/2022 07:36 PM
Molybdenum	31	0.12	0.50		µg/L	1	6/19/2022 07:36 PM
Selenium	25	0.044	0.50		µg/L	1	6/24/2022 05:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-011

Client Sample ID: MW-80-082-Q222
Collection Date: 6/14/2022 8:47:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 08:00 PM
Barium	40	0.083	1.0		µg/L	1	6/19/2022 08:00 PM
Manganese	1.5	0.026	0.50		µg/L	1	6/19/2022 08:00 PM
Molybdenum	29	0.12	0.50		µg/L	1	6/19/2022 08:00 PM
Selenium	4.2	0.044	0.50		µg/L	1	6/24/2022 06:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-26-Q222
Lab Order:	N051183	**Collection Date:**	6/14/2022 11:21:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051183-012		

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_220619B** QC Batch: **93349** PrepDate: **6/16/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 08:11 PM
Barium	88	0.083	1.0		µg/L	1	6/19/2022 08:11 PM
Manganese	880	0.13	2.5		µg/L	5	6/19/2022 08:17 PM
Molybdenum	6.4	0.12	0.50		µg/L	1	6/19/2022 08:11 PM
Selenium	1.0	0.044	0.50		µg/L	1	6/24/2022 06:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051183-013

Client Sample ID: MW-51-Q222
Collection Date: 6/14/2022 10:34:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 08:23 PM
Barium	27	0.083	1.0		µg/L	1	6/19/2022 08:23 PM
Manganese	1.7	0.026	0.50		µg/L	1	6/19/2022 08:23 PM
Molybdenum	76	0.12	0.50		µg/L	1	6/19/2022 08:23 PM
Selenium	2.6	0.044	0.50		µg/L	1	6/24/2022 06:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93349** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **PBW** Batch ID: **93349** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.033	0.50									
Molybdenum	ND	0.50									

Sample ID: **LCS-93349** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **LCSW** Batch ID: **93349** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.380	0.10	10.00	0	93.8	85	115				
Barium	9.158	1.0	10.00	0	91.6	85	115				
Manganese	92.443	0.50	100.0	0	92.4	85	115				
Molybdenum	9.186	0.50	10.00	0	91.9	85	115				

Sample ID: **N051172-003C-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93349** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.062	0.10	10.00	1.871	91.9	75	125				
Barium	36.627	1.0	10.00	28.17	84.5	75	125				
Manganese	83.569	0.50	100.0	0.07521	83.5	75	125				
Molybdenum	55.230	0.50	10.00	45.81	94.2	75	125				

Sample ID: **N051172-003C-MSD** SampType: **MSD** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93349** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.648	0.10	10.00	1.871	87.8	75	125	11.06	3.81	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051172-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	33.959	1.0	10.00	28.17	57.8	75	125	36.63	7.56	20	S
Manganese	83.986	0.50	100.0	0.07521	83.9	75	125	83.57	0.498	20	
Molybdenum	50.529	0.50	10.00	45.81	47.1	75	125	55.23	8.89	20	S

Sample ID: **MB-93349**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **PBW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697558**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.060	0.50									

Sample ID: **LCS-93349**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **LCSW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.701	0.50	10.00	0	87.0	85	115				

Sample ID: **N051172-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697563**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	13.980	0.50	10.00	5.861	81.2	75	125				

Sample ID: **N051172-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163497**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4697564**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	14.223	0.50	10.00	5.861	83.6	75	125	13.98	1.72	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051183
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051172-003C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93349** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.697	0.10	10.00	1.871	88.3	80	120				
Barium	34.806	1.0	10.00	28.17	66.3	80	120				S
Manganese	84.291	0.50	100.0	0.07521	84.2	80	120				
Molybdenum	52.737	0.50	10.00	45.81	69.2	80	120				S

Sample ID: **N051172-003C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **163497**
Client ID: **ZZZZZZ** Batch ID: **93349** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/24/2022** SeqNo: **4697562**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	13.852	0.50	10.00	5.861	79.9	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N051183

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	1. Chilled X
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Riggie Tep		Phone: 949-727-1400, ext 200 Fax:	Others	✓	LEVEL III		3. Container Intact X
Title: Field Tech	Phone: 916-786-3302 Fax:		Specify: RWQCB		LEVEL IV		4. Seal Present
Signature: Date: 6/14/22	Sampled By: Riggie Tep		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 6/14/22						Sample Temp: 1.5 & 1.4 & 2.1°C
Project Number: 30121866.2Q22GW							Courier: Tracking No.:

Matrix: Ground (X), Sediment; Potable, Soil; NPDES, Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, Nitrite, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051183-01	MW-21-Q222	6/14/2022	9:32		X	X	X	X	X	X		X	E	7	P	BNS	
2	-02	MW-21-EB-Q222	6/14/2022	9:05		X								E	1	P	BNS	
3	-03	MW-78-070-Q222	6/14/2022	14:03		X	X	X	X	X	X		X	E	7	P	BNS	
4	-04	MW-908-Q222	6/14/2022	14:13		X	X	X	X	X	X		X	E	7	P	BNS	
5	-05	MW-78-142-Q222	6/14/2022	14:16		X	X	X	X	X	X		X	E	7	P	BNS	
6	-06	MW-79-058-Q222	6/14/2022	12:55		X	X	X	X	X	X		X	E	7	P	BNS	
7	-07	MW-909-Q222	6/14/2022	13:05		X	X	X	X	X	X		X	E	1	P	BNS	
8	-08	MW-79-102-Q222	6/14/2022	12:18		X	X	X	X	X	X		X	E	7	P	BNS	
9	-09	MW-80-057-Q222	6/14/2022	9:22		X	X	X	X	X	X		X	E	7	P	BNS	
10	-10	MW-910-Q222	6/14/2022	9:32		X	X	X	X	X	X		X	E	7	P	BNS	
11	-11	MW-80-082-Q222	6/14/2022	8:47		X	X	X	X	X	X		X	E	7	P	BNS	
12	-12	MW-26-Q222	6/14/2022	11:21		X	X	X	X	X	X		X	E	7	P	BNS	
13	-13	MW-51-Q222	6/14/2022	10:34		X	X	X	X	X	X		X	E	7	P	BNS	
14	-14	EB-738-Q222	6/14/2022	14:25		X								E	1	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tep	6/14/22, 550	MCLARTIN	6/14/22 @1550
REL/REC: MCLARTIN			6/14/22@1928

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/15/2022	Workorder:	N051183
Rep sample Temp (Deg C):	1.5/1.4/2.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 6/15/2022 Reviewed By: MBC 6/21/2022

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051183

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051183-001A	MW-21-Q222	6/14/2022 9:32:00 AM	6/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-001B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-001C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-001D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-001E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-002A	MW-21-EB-Q222	6/14/2022 9:05:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-003A	MW-78-070-Q222	6/14/2022 2:03:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-003B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-003C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-003D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051183

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051183-003E	MW-78-070-Q222	6/14/2022 2:03:00 PM	6/28/2022	Groundwater	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-004A	MW-908-Q222	6/14/2022 2:13:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-004B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-004C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-004D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-004E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-005A	MW-78-142-Q222	6/14/2022 2:16:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-005B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-005C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051183

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051183-005D	MW-78-142-Q222	6/14/2022 2:16:00 PM	6/28/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-005E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-006A	MW-79-058-Q222	6/14/2022 12:55:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-006B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-006C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-006D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-006E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-007A	MW-909-Q222	6/14/2022 1:05:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-007B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-007C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051183

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051183-007C	MW-909-Q222	6/14/2022 1:05:00 PM	6/28/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-007D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-007E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-008A	MW-79-102-Q222	6/14/2022 12:18:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-008B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-008C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-008D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-008E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-009A	MW-80-057-Q222	6/14/2022 9:22:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-009B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-009C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051183

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051183-009C	MW-80-057-Q222	6/14/2022 9:22:00 AM	6/28/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-009D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-009E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-010A	MW-910-Q222	6/14/2022 9:32:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-010B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-010C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-010D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-010E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-011A	MW-80-082-Q222	6/14/2022 8:47:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-011B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-011C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051183

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051183-011C	MW-80-082-Q222	6/14/2022 8:47:00 AM	6/28/2022	Groundwater	EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-011D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-011E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-012A	MW-26-Q222	6/14/2022 11:21:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-012B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-012C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-012D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-012E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-013A	MW-51-Q222	6/14/2022 10:34:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-013B			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/28/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051183-013C			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051183

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051183-013C	MW-51-Q222	6/14/2022 10:34:00 AM	6/28/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051183-013D			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051183-013E			6/28/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051183-014A	EB-738-Q222	6/14/2022 2:25:00 PM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051183-015A	FOLDER	6/28/2022	6/28/2022		Folder	Folder	☐	☐	☐	LAB
			6/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/28/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Signed

15-Jun-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NH3D		
N051183-001E / MW-21-Q222	Groundwater	6/14/2022 9:32:00 AM	16OZP	1		
N051183-003E / MW-78-070-Q222	Groundwater	6/14/2022 2:03:00 PM	16OZP	1		
N051183-004E / MW-908-Q222	Groundwater	6/14/2022 2:13:00 PM	16OZP	1		
N051183-005E / MW-78-142-Q222	Groundwater	6/14/2022 2:16:00 PM	16OZP	1		
N051183-006E / MW-79-058-Q222	Groundwater	6/14/2022 12:55:00 PM	16OZP	1		
N051183-007E / MW-909-Q222	Groundwater	6/14/2022 1:05:00 PM	16OZP	1		
N051183-008E / MW-79-102-Q222	Groundwater	6/14/2022 12:18:00 PM	16OZP	1		
N051183-009E / MW-80-057-Q222	Groundwater	6/14/2022 9:22:00 AM	16OZP	1		
N051183-010E / MW-910-Q222	Groundwater	6/14/2022 9:32:00 AM	16OZP	1		
N051183-011E / MW-80-082-Q222	Groundwater	6/14/2022 8:47:00 AM	16OZP	1		
N051183-012E / MW-26-Q222	Groundwater	6/14/2022 11:21:00 AM	16OZP	1		
N051183-013E / MW-51-Q222	Groundwater	6/14/2022 10:34:00 AM	16OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N51183A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia by SM4500NH3D. EDD requirement Labspec7 edata.

GSO #: 557096174

		Date/Time		Date/Time
Relinquished by:	YRJ	6/15/2022 1630	**Received by:**	
Relinquished by:			**Received by:**	

June 30, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051184

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 14, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N051183-001C-MS and N051183-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike Duplicate (MSD) is outside recovery criteria for Manganese in QC sample N051207-001C-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N051171-021DMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051171-021 and MS/MSD were reported at 100x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria in QC sample N051207-005DMS at lower dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051207-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *30-Jun-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051184
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051184-001A	IRZ-09-100-Q222	Groundwater	6/13/2022 12:00:00 PM	6/14/2022	6/30/2022
N051184-001B	IRZ-09-100-Q222	Groundwater	6/13/2022 12:00:00 PM	6/14/2022	6/30/2022
N051184-001C	IRZ-09-100-Q222	Groundwater	6/13/2022 12:00:00 PM	6/14/2022	6/30/2022
N051184-002A	IRZ-13D-210-Q222	Groundwater	6/13/2022 10:30:00 AM	6/14/2022	6/30/2022
N051184-002B	IRZ-13D-210-Q222	Groundwater	6/13/2022 10:30:00 AM	6/14/2022	6/30/2022
N051184-002C	IRZ-13D-210-Q222	Groundwater	6/13/2022 10:30:00 AM	6/14/2022	6/30/2022
N051184-003A	IRZ-13S-095-Q222	Groundwater	6/13/2022 10:13:00 AM	6/14/2022	6/30/2022
N051184-003B	IRZ-13S-095-Q222	Groundwater	6/13/2022 10:13:00 AM	6/14/2022	6/30/2022
N051184-003C	IRZ-13S-095-Q222	Groundwater	6/13/2022 10:13:00 AM	6/14/2022	6/30/2022
N051184-004A	IRZ-23-143-Q222	Groundwater	6/13/2022 9:30:00 AM	6/14/2022	6/30/2022
N051184-004B	IRZ-23-143-Q222	Groundwater	6/13/2022 9:30:00 AM	6/14/2022	6/30/2022
N051184-004C	IRZ-23-143-Q222	Groundwater	6/13/2022 9:30:00 AM	6/14/2022	6/30/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 12:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	18	0.13	1.0		µg/L	5	6/15/2022 02:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220615A** QC Batch: **R163221** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	500	1.3	10		µg/L	50	6/15/2022 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:13:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	23	0.13	1.0		µg/L	5	6/15/2022 02:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220615A**	QC Batch: **R163221**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	660	2.5	20		µg/L	100	6/15/2022 03:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R163221** SampType: **LCS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **LCSW** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.107	0.20	5.000	0	102	90	110				

Sample ID: **MB-R163221** SampType: **MBLK** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **PBW** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681313**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N051183-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681315**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID: **N051183-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681331**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10801.100	200	5000	5543	105	90	110				

Sample ID: **N051183-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681334**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5427.950	100	2500	2837	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-006AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681335**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5441.750	100	2500	2837	104	90	110	5428	0.254	20	

Sample ID: **N051183-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681336**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5505.250	100	2500	2868	105	90	110				

Sample ID: **N051183-008ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681337**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2284.850	100						2250	1.56	20	

Sample ID: **N051183-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681338**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4856.100	100	2500	2250	104	90	110				

Sample ID: **N051171-016AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681340**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.045	0.20	1.000	0	104	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051171-022AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681342**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.024	0.20	1.000	0	102	90	110				

Sample ID: **N051184-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681343**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.822	1.0	25.00	17.77	104	90	110				

Sample ID: **N051183-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681347**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110				

Sample ID: **N051183-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681349**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.040	0.20	1.000	0	104	90	110				

Sample ID: **N051184-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681350**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	770.895	10	250.0	500.4	108	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051184-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681351**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	50.247	1.0	25.00	23.34	108	90	110				

Sample ID: **N051184-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1189.090	20	500.0	658.4	106	90	110				

Sample ID: **N051183-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681353**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1330.450	20	500.0	790.2	108	90	110				

Sample ID: **N051183-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681354**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1343.720	20	500.0	809.6	107	90	110				

Sample ID: **N051183-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163221**
Client ID: **ZZZZZZ** Batch ID: **R163221** TestNo: **EPA 218.6** Analysis Date: **6/15/2022** SeqNo: **4681355**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2003.480	40	1000	975.4	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681358**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1464.740	20	500.0	955.0	102	90	110				

Sample ID: **N051183-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1479.780	20	500.0	948.2	106	90	110				

Sample ID: **N051183-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163221**
Client ID: **ZZZZZZ**	Batch ID: **R163221**	TestNo: **EPA 218.6**		Analysis Date: **6/15/2022**	SeqNo: **4681363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	240.794	4.0	100.0	137.9	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 12:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 06:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220615A**	QC Batch: **R163321**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/15/2022 06:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:13:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 11:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 11:28 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R163321** SampType: **MBLK** TestCode: **5310C_W_T_** Units: **mg/L** Prep Date: RunNo: **163321**
Client ID: **PBW** Batch ID: **R163321** TestNo: **SM 5310C** Analysis Date: **6/15/2022** SeqNo: **4686239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R163321** SampType: **LCS** TestCode: **5310C_W_T_** Units: **mg/L** Prep Date: RunNo: **163321**
Client ID: **LCSW** Batch ID: **R163321** TestNo: **SM 5310C** Analysis Date: **6/15/2022** SeqNo: **4686240**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.896	1.0	5.000	0	97.9	85	115				

Sample ID: **N051171-021DMS** SampType: **MS** TestCode: **5310C_W_T_** Units: **mg/L** Prep Date: RunNo: **163321**
Client ID: **ZZZZZZ** Batch ID: **R163321** TestNo: **SM 5310C** Analysis Date: **6/15/2022** SeqNo: **4686255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	439.680	100	500.0	0	87.9	75	125				

Sample ID: **N051171-021DMSD** SampType: **MSD** TestCode: **5310C_W_T_** Units: **mg/L** Prep Date: RunNo: **163321**
Client ID: **ZZZZZZ** Batch ID: **R163321** TestNo: **SM 5310C** Analysis Date: **6/15/2022** SeqNo: **4686256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	442.730	100	500.0	0	88.5	75	125	439.7	0.691	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R163322**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **PBW**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R163322**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **LCSW**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686283**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.125	1.0	5.000	0	103	85	115				

Sample ID: **N051207-005DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **ZZZZZZ**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	216.300	50	250.0	0	86.5	75	125				

Sample ID: **N051207-005DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **ZZZZZZ**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	217.810	50	250.0	0	87.1	75	125	216.3	0.696	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051184-001

Client Sample ID: IRZ-09-100-Q222
Collection Date: 6/13/2022 12:00:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	48	13	20		µg/L	1	6/17/2022 04:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 04:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:13:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	39	13	20		µg/L	1	6/17/2022 05:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-23-143-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 9:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220617A**	QC Batch: **93352**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/17/2022 05:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-93352**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **PBW**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **N051183-001C-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683730**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1086.169	20	100.0	1135	-48.9	75	125				S

Sample ID: **N051183-001C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **ZZZZZZ**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1260.667	20	100.0	1135	126	75	125	1086	14.9	20	S

Sample ID: **LCS-93352**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163285**
Client ID: **LCSW**	Batch ID: **93352**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/17/2022**	SeqNo: **4683753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	85.447	20	100.0	0	85.4	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **N051183-001C-PS** SampType: **PS** TestCode: **6010_WDPG** Units: **µg/L** Prep Date: RunNo: **163285**
Client ID: **ZZZZZZ** Batch ID: **93352** TestNo: **EPA 6010B** **EPA 3010A** Analysis Date: **6/17/2022** SeqNo: **4683729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1170.853	20	100.0	1135	35.7	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-09-100-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 12:00:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	6/19/2022 08:35 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13D-210-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220619B**	QC Batch: **93349**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	6/19/2022 08:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	IRZ-13S-095-Q222
Lab Order:	N051184	**Collection Date:**	6/13/2022 10:13:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051184-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	6/19/2022 09:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051184-004

Client Sample ID: IRZ-23-143-Q222
Collection Date: 6/13/2022 9:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:	**6/16/2022**		Analyst: **DJ**
Manganese	ND	0.026	0.50		µg/L	1	6/19/2022 09:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93349**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **PBW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.033	0.50									

Sample ID: **LCS-93349**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **LCSW**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687031**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	92.443	0.50	100.0	0	92.4	85	115				

Sample ID: **N051172-003C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	83.569	0.50	100.0	0.07521	83.5	75	125				

Sample ID: **N051172-003C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687045**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	83.986	0.50	100.0	0.07521	83.9	75	125	83.57	0.498	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93351**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **PBW**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.069	0.50									

Sample ID: **LCS-93351**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **LCSW**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	91.558	0.50	100.0	0	91.6	85	115				

Sample ID: **N051207-001C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687107**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	524.322	2.5	100.0	429.1	95.2	75	125				

Sample ID: **N051207-001C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	554.479	2.5	100.0	429.1	125	75	125	524.3	5.59	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051172-003C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93349**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	84.291	0.50	100.0	0.07521	84.2	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051184
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051207-001C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	589.943	2.5	100.0	429.1	161	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

N051184

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Others ✓ — Specify: RWQCB
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RWQCB ✓
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Global ID:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Specify State:
Submitted By: Kevin A.	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:	
Title: O+M operator			
Signature: Date: 6/13/22	Sampled By: Kevin A. Leakey S.		
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may		
Project Name: PG&E Topock - PCM	Signature: Date: 6/13/22		
Project Number: 30121866.2Q22GW			

Matrix: Ground X | Potable | NPDES | Surface | Sediment | Soil | Other Solid

Sample Receipt Condition

	Y	N
1. Chilled	✓	
2. Headspace		X
3. Container Intact	✓	
4. Seal Present		
5. IR number	3	
6. Method of Cooling:	ICE	
Sample Temp:	1.5+1.4, 2.1 °C	

Courier:

Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) 250 mL poly (NH4)2, SO4, NH4, OH	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 500mL poly Iron, Manganese	Dissolved metals (SW6020) FF; HNO3 500mL poly Total Dissolved Chromium,	Dissolved metals (SW6020) FF; HNO3 500mL poly Molybdenum, Selenium	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 500mL poly Total Iron	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051184-01	IRZ-09-100-Q222	6/13/22	12:00		X		X			X			E	5	P	BNS	
2	-02	IRZ-13D-210-Q222	6/13/22	10:50		X		X			X			E	5	P	BNS	
3	-03	IRZ-13S-095-Q222	6/13/22	10:13		X		X			X			E	5	P	BNS	
4	-04	IRZ-23-143-Q222	6/13/22	9:30		X		X			X			E	5	P	BNS	
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name): Kevin Ashley — Date/Time: 6-13-22/1630

Relinquished by (Signature and Printed Name): Nam Tay — Date/Time: 6/14/22 1540

Relinquished by (Signature and Printed Name): REL/REC: MCCARTIN — Date/Time: 6/14/22 1928

Relinquished by (Signature and Printed Name): Nam Tay — Date/Time: 6/13/22 1630

Relinquished by (Signature and Printed Name): MCCARTIN — Date/Time: 6/14/22 1540

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less then 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable samples.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of reports needed.
9. For subcontract analyses, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On: 6/14/2022 Workorder: N051184

Rep sample Temp (Deg C): 2.1 IR Gun ID: 3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 6/15/2022 Reviewed By: MBC 6/22/2022

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051184

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051184-001A	IRZ-09-100-Q222	6/13/2022 12:00:00 PM	6/28/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051184-001B			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051184-001C			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051184-002A	IRZ-13D-210-Q222	6/13/2022 10:30:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051184-002B			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051184-002C			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051184-003A	IRZ-13S-095-Q222	6/13/2022 10:13:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051184-003B			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/28/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051184-003C			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051184-004A	IRZ-23-143-Q222	6/13/2022 9:30:00 AM	6/28/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051184-004B			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/28/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051184

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/14/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051184-004B	IRZ-23-143-Q222	6/13/2022 9:30:00 AM	6/28/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051184-004C			6/28/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051184-005A	FOLDER	6/28/2022	6/28/2022		Folder	Folder	☐	☐	☐	LAB
			6/28/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/28/2022		Folder	Folder	☐	☐	☐	LAB

July 05, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051207

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 15, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051207

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia and Nitrate/Nitrite were subcontracted to BC Labs- Bakersfield, CA.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Sample were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Nitrite possibly due to matrix interference. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N051207-001C-MS and N051207-001C-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT:	ARCADIS U.S., Inc. - California
Project:	PG&E Topock - PCM, 30121866.2Q22GW
Lab Order:	N051207

CASE NARRATIVE

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N051207-005DMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051207-005 and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051207
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051207-001A	MW-77-046-0622	Groundwater	6/15/2022 2:52:00 PM	6/15/2022	7/5/2022
N051207-001B	MW-77-046-0622	Groundwater	6/15/2022 2:52:00 PM	6/15/2022	7/5/2022
N051207-001C	MW-77-046-0622	Groundwater	6/15/2022 2:52:00 PM	6/15/2022	7/5/2022
N051207-001D	MW-77-046-0622	Groundwater	6/15/2022 2:52:00 PM	6/15/2022	7/5/2022
N051207-002A	MW-941-Q222	Groundwater	6/15/2022 3:02:00 PM	6/15/2022	7/5/2022
N051207-002B	MW-941-Q222	Groundwater	6/15/2022 3:02:00 PM	6/15/2022	7/5/2022
N051207-002C	MW-941-Q222	Groundwater	6/15/2022 3:02:00 PM	6/15/2022	7/5/2022
N051207-002D	MW-941-Q222	Groundwater	6/15/2022 3:02:00 PM	6/15/2022	7/5/2022
N051207-003A	MW-77-102-0622	Groundwater	6/15/2022 12:30:00 PM	6/15/2022	7/5/2022
N051207-003B	MW-77-102-0622	Groundwater	6/15/2022 12:30:00 PM	6/15/2022	7/5/2022
N051207-003C	MW-77-102-0622	Groundwater	6/15/2022 12:30:00 PM	6/15/2022	7/5/2022
N051207-003D	MW-77-102-0622	Groundwater	6/15/2022 12:30:00 PM	6/15/2022	7/5/2022
N051207-004A	MW-77-158-0622	Groundwater	6/15/2022 1:15:00 PM	6/15/2022	7/5/2022
N051207-004B	MW-77-158-0622	Groundwater	6/15/2022 1:15:00 PM	6/15/2022	7/5/2022
N051207-004C	MW-77-158-0622	Groundwater	6/15/2022 1:15:00 PM	6/15/2022	7/5/2022
N051207-004D	MW-77-158-0622	Groundwater	6/15/2022 1:15:00 PM	6/15/2022	7/5/2022
N051207-005A	MW-77-187-0622	Groundwater	6/15/2022 2:04:00 PM	6/15/2022	7/5/2022
N051207-005B	MW-77-187-0622	Groundwater	6/15/2022 2:04:00 PM	6/15/2022	7/5/2022
N051207-005C	MW-77-187-0622	Groundwater	6/15/2022 2:04:00 PM	6/15/2022	7/5/2022
N051207-005D	MW-77-187-0622	Groundwater	6/15/2022 2:04:00 PM	6/15/2022	7/5/2022
N051207-006A	EB-742-Q222	Groundwater	6/15/2022 3:15:00 PM	6/15/2022	7/5/2022
N051207-007A	MW-39-040-0622	Groundwater	6/15/2022 2:24:00 PM	6/15/2022	7/5/2022
N051207-007B	MW-39-040-0622	Groundwater	6/15/2022 2:24:00 PM	6/15/2022	7/5/2022
N051207-007C	MW-39-040-0622	Groundwater	6/15/2022 2:24:00 PM	6/15/2022	7/5/2022
N051207-007D	MW-39-040-0622	Groundwater	6/15/2022 2:24:00 PM	6/15/2022	7/5/2022
N051207-008A	MW-39-050-0622	Groundwater	6/15/2022 12:37:00 PM	6/15/2022	7/5/2022
N051207-008B	MW-39-050-0622	Groundwater	6/15/2022 12:37:00 PM	6/15/2022	7/5/2022
N051207-008C	MW-39-050-0622	Groundwater	6/15/2022 12:37:00 PM	6/15/2022	7/5/2022
N051207-008D	MW-39-050-0622	Groundwater	6/15/2022 12:37:00 PM	6/15/2022	7/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051207
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051207-009A	MW-39-060-0622	Groundwater	6/15/2022 12:03:00 PM	6/15/2022	7/5/2022
N051207-009B	MW-39-060-0622	Groundwater	6/15/2022 12:03:00 PM	6/15/2022	7/5/2022
N051207-009C	MW-39-060-0622	Groundwater	6/15/2022 12:03:00 PM	6/15/2022	7/5/2022
N051207-009D	MW-39-060-0622	Groundwater	6/15/2022 12:03:00 PM	6/15/2022	7/5/2022
N051207-010A	MW-39-070-0622	Groundwater	6/15/2022 1:54:00 PM	6/15/2022	7/5/2022
N051207-010B	MW-39-070-0622	Groundwater	6/15/2022 1:54:00 PM	6/15/2022	7/5/2022
N051207-010C	MW-39-070-0622	Groundwater	6/15/2022 1:54:00 PM	6/15/2022	7/5/2022
N051207-010D	MW-39-070-0622	Groundwater	6/15/2022 1:54:00 PM	6/15/2022	7/5/2022
N051207-011A	MW-39-080-0622	Groundwater	6/15/2022 1:17:00 PM	6/15/2022	7/5/2022
N051207-011B	MW-39-080-0622	Groundwater	6/15/2022 1:17:00 PM	6/15/2022	7/5/2022
N051207-011C	MW-39-080-0622	Groundwater	6/15/2022 1:17:00 PM	6/15/2022	7/5/2022
N051207-011D	MW-39-080-0622	Groundwater	6/15/2022 1:17:00 PM	6/15/2022	7/5/2022
N051207-012A	MW-39-100-0622	Groundwater	6/15/2022 11:26:00 AM	6/15/2022	7/5/2022
N051207-012B	MW-39-100-0622	Groundwater	6/15/2022 11:26:00 AM	6/15/2022	7/5/2022
N051207-012C	MW-39-100-0622	Groundwater	6/15/2022 11:26:00 AM	6/15/2022	7/5/2022
N051207-012D	MW-39-100-0622	Groundwater	6/15/2022 11:26:00 AM	6/15/2022	7/5/2022
N051207-013A	TW-02D-Q222	Groundwater	6/15/2022 9:58:00 AM	6/15/2022	7/5/2022
N051207-013B	TW-02D-Q222	Groundwater	6/15/2022 9:58:00 AM	6/15/2022	7/5/2022
N051207-013C	TW-02D-Q222	Groundwater	6/15/2022 9:58:00 AM	6/15/2022	7/5/2022
N051207-013D	TW-02D-Q222	Groundwater	6/15/2022 9:58:00 AM	6/15/2022	7/5/2022
N051207-013E	TW-02D-Q222	Groundwater	6/15/2022 9:58:00 AM	6/15/2022	7/5/2022
N051207-014A	MW-912-Q222	Groundwater	6/15/2022 10:08:00 AM	6/15/2022	7/5/2022
N051207-014B	MW-912-Q222	Groundwater	6/15/2022 10:08:00 AM	6/15/2022	7/5/2022
N051207-014C	MW-912-Q222	Groundwater	6/15/2022 10:08:00 AM	6/15/2022	7/5/2022
N051207-014D	MW-912-Q222	Groundwater	6/15/2022 10:08:00 AM	6/15/2022	7/5/2022
N051207-014E	MW-912-Q222	Groundwater	6/15/2022 10:08:00 AM	6/15/2022	7/5/2022
N051207-015A	TW-02S-Q222	Groundwater	6/15/2022 9:09:00 AM	6/15/2022	7/5/2022
N051207-015B	TW-02S-Q222	Groundwater	6/15/2022 9:09:00 AM	6/15/2022	7/5/2022
N051207-015C	TW-02S-Q222	Groundwater	6/15/2022 9:09:00 AM	6/15/2022	7/5/2022
N051207-015D	TW-02S-Q222	Groundwater	6/15/2022 9:09:00 AM	6/15/2022	7/5/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051207
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051207-015E	TW-02S-Q222	Groundwater	6/15/2022 9:09:00 AM	6/15/2022	7/5/2022
N051207-016A	TW-03D-Q222	Groundwater	6/15/2022 10:51:00 AM	6/15/2022	7/5/2022
N051207-016B	TW-03D-Q222	Groundwater	6/15/2022 10:51:00 AM	6/15/2022	7/5/2022
N051207-016C	TW-03D-Q222	Groundwater	6/15/2022 10:51:00 AM	6/15/2022	7/5/2022
N051207-016D	TW-03D-Q222	Groundwater	6/15/2022 10:51:00 AM	6/15/2022	7/5/2022
N051207-016E	TW-03D-Q222	Groundwater	6/15/2022 10:51:00 AM	6/15/2022	7/5/2022
N051207-017A	MW-913-Q222	Groundwater	6/15/2022 11:01:00 AM	6/15/2022	7/5/2022
N051207-017B	MW-913-Q222	Groundwater	6/15/2022 11:01:00 AM	6/15/2022	7/5/2022
N051207-017C	MW-913-Q222	Groundwater	6/15/2022 11:01:00 AM	6/15/2022	7/5/2022
N051207-017D	MW-913-Q222	Groundwater	6/15/2022 11:01:00 AM	6/15/2022	7/5/2022
N051207-017E	MW-913-Q222	Groundwater	6/15/2022 11:01:00 AM	6/15/2022	7/5/2022
N051207-018A	MW-71-035-Q222	Groundwater	6/15/2022 3:10:00 PM	6/15/2022	7/5/2022
N051207-018B	MW-71-035-Q222	Groundwater	6/15/2022 3:10:00 PM	6/15/2022	7/5/2022
N051207-018C	MW-71-035-Q222	Groundwater	6/15/2022 3:10:00 PM	6/15/2022	7/5/2022
N051207-018D	MW-71-035-Q222	Groundwater	6/15/2022 3:10:00 PM	6/15/2022	7/5/2022
N051207-018E	MW-71-035-Q222	Groundwater	6/15/2022 3:10:00 PM	6/15/2022	7/5/2022
N051207-018F	MW-71-035-Q222	Groundwater	6/15/2022 3:10:00 PM	6/15/2022	7/5/2022
N051207-019A	MW-906-Q222	Groundwater	6/15/2022 3:20:00 PM	6/15/2022	7/5/2022
N051207-019B	MW-906-Q222	Groundwater	6/15/2022 3:20:00 PM	6/15/2022	7/5/2022
N051207-019C	MW-906-Q222	Groundwater	6/15/2022 3:20:00 PM	6/15/2022	7/5/2022
N051207-019D	MW-906-Q222	Groundwater	6/15/2022 3:20:00 PM	6/15/2022	7/5/2022
N051207-019E	MW-906-Q222	Groundwater	6/15/2022 3:20:00 PM	6/15/2022	7/5/2022
N051207-019F	MW-906-Q222	Groundwater	6/15/2022 3:20:00 PM	6/15/2022	7/5/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.50	0.025	0.20		µg/L	1	6/16/2022 01:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-941-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 3:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.53	0.025	0.20		µg/L	1	6/16/2022 01:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 12:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220616B** QC Batch: **R163250** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/17/2022 12:35 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220616A** QC Batch: **R163249** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	2.4	0.13	1.0		µg/L	5	6/16/2022 06:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220617A** QC Batch: **R163274** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	33	0.13	1.0		µg/L	5	6/17/2022 09:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-742-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 3:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/16/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/16/2022 04:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-008

Client Sample ID: MW-39-050-0622
Collection Date: 6/15/2022 12:37:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A**	QC Batch: **R163249**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/16/2022 04:22 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 12:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220617A** QC Batch: **R163274** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/17/2022 09:13 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 1:54:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220616A** QC Batch: **R163249** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/16/2022 04:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-011

Client Sample ID: MW-39-080-0622
Collection Date: 6/15/2022 1:17:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B** QC Batch: **R163250**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	10	0.025	0.20		µg/L	1	6/17/2022 12:16 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 11:26:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B**	QC Batch: **R163250**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	170	0.50	4.0		µg/L	20	6/16/2022 11:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-013

Client Sample ID: TW-02D-Q222
Collection Date: 6/15/2022 9:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B** QC Batch: **R163250**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	840	2.5	20		µg/L	100	6/16/2022 10:22 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220619A** QC Batch: **93351**				PrepDate: **6/16/2022**			Analyst: **DJ**
Chromium	780	0.18	5.0		µg/L	5	6/20/2022 01:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-014

Client Sample ID: MW-912-Q222
Collection Date: 6/15/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B** QC Batch: **R163250**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	840	2.5	20		µg/L	100	6/16/2022 10:41 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220619A** QC Batch: **93351**				PrepDate: **6/16/2022**			Analyst: **DJ**
Chromium	800	0.18	5.0		µg/L	5	6/20/2022 01:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-015

Client Sample ID: TW-02S-Q222
Collection Date: 6/15/2022 9:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B** QC Batch: **R163250**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	91	0.50	4.0		µg/L	20	6/16/2022 08:48 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220619A** QC Batch: **93351**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	80	0.035	1.0		µg/L	1	6/20/2022 02:14 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 10:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B** QC Batch: **R163250**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	700	2.5	20		µg/L	100	6/16/2022 09:44 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220619A** QC Batch: **93351**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	750	0.18	5.0		µg/L	5	6/20/2022 02:32 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-017

Client Sample ID: MW-913-Q222
Collection Date: 6/15/2022 11:01:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616B** QC Batch: **R163250**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	730	2.5	20		µg/L	100	6/16/2022 10:03 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220619A** QC Batch: **93351**				PrepDate: **6/16/2022**			Analyst: **DJ**
Chromium	760	0.18	5.0		µg/L	5	6/20/2022 02:44 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-018

Client Sample ID: MW-71-035-Q222
Collection Date: 6/15/2022 3:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A** QC Batch: **R163249**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/16/2022 07:51 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220619A** QC Batch: **93351**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/20/2022 02:50 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-019

Client Sample ID: MW-906-Q222
Collection Date: 6/15/2022 3:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220616A** QC Batch: **R163249**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/16/2022 08:10 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220619A** QC Batch: **93351**				PrepDate:	**6/16/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/20/2022 03:02 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R163249**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **PBW**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682849**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R163249**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **LCSW**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682850**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.142	0.20	5.000	0	103	90	110				

Sample ID: **N051172-003ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682854**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3318.300	200						3282	1.10	20	

Sample ID: **N051172-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8645.100	200	5000	3282	107	90	110				

Sample ID: **N051172-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163249**
Client ID: **ZZZZZZ**	Batch ID: **R163249**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682857**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3137.140	40	1000	2073	106	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051172-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3157.760	40	1000	2073	108	90	110	3137	0.655	20	

Sample ID: **N051172-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682862**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8433.000	200	5000	3276	103	90	110				

Sample ID: **N051172-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682864**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.066	0.20	1.000	0	107	90	110				

Sample ID: **N051172-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682865**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	110.924	2.0	50.00	58.21	105	90	110				

Sample ID: **N051172-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682866**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	22.854	0.40	10.00	12.07	108	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051172-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682868**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.088	1.0	5.000	0	102	90	110				

Sample ID: **N051207-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682872**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.509	0.20	1.000	0.5046	100	90	110				

Sample ID: **N051207-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682874**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.623	0.20	1.000	0.5334	109	90	110				

Sample ID: **N051207-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682878**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	106	90	110				

Sample ID: **N051207-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682880**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.164	0.20	1.000	0.07660	109	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051207-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.155	0.20	1.000	0.09010	106	90	110				

Sample ID: **N051207-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.053	0.20	1.000	0	105	90	110				

Sample ID: **N051207-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682888**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.443	1.0	5.000	2.375	101	90	110				

Sample ID: **N051207-018AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682894**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.155	1.0	5.000	0	103	90	110				

Sample ID: **N051207-019AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163249**
Client ID: **ZZZZZZ** Batch ID: **R163249** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682896**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.347	1.0	5.000	0	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **LCS-R163250**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **LCSW**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682905**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.220	0.20	5.000	0	104	90	110				

Sample ID: **MB-R163250**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **PBW**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682906**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **N051207-015ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **ZZZZZZ**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682908**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	90.290	4.0						90.92	0.700	20	

Sample ID: **N051207-015AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **ZZZZZZ**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682909**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	195.706	4.0	100.0	90.92	105	90	110				

Sample ID: **N051207-015AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163250**
Client ID: **ZZZZZZ**	Batch ID: **R163250**	TestNo: **EPA 218.6**		Analysis Date: **6/16/2022**	SeqNo: **4682910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	193.700	4.0	100.0	90.92	103	90	110	195.7	1.03	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051207-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682914**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1236.430	20	500.0	699.4	107	90	110				

Sample ID: **N051207-017AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682916**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1243.190	20	500.0	727.0	103	90	110				

Sample ID: **N051207-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682918**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1363.490	20	500.0	837.8	105	90	110				

Sample ID: **N051207-014AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682920**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1370.330	20	500.0	837.9	106	90	110				

Sample ID: **N051207-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/16/2022** SeqNo: **4682926**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	277.372	4.0	100.0	171.3	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051183-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4682928**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	974.890	20	500.0	445.8	106	90	110				

Sample ID: **N051207-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4682930**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15.647	0.20	5.000	10.26	108	90	110				

Sample ID: **N051207-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163250**
Client ID: **ZZZZZZ** Batch ID: **R163250** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4682932**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.328	1.0	5.000	0	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R163274**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **PBW**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683396**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R163274**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **LCSW**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683397**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.147	0.20	5.000	0	103	90	110				

Sample ID: **N051207-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	1.0	5.000	0	100	90	110				

Sample ID: **N051207-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	58.846	1.0	25.00	32.51	105	90	110				

Sample ID: **N051227-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.602	1.0	25.00	10.70	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051227-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.362	1.0	25.00	10.70	103	90	110	36.60	0.658	20	

Sample ID: **N051226-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Sample ID: **N051226-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.199	0.20	1.000	1.169	103	90	110				

Sample ID: **N051207-005ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	31.639	1.0						32.51	2.73	20	

Sample ID: **N051226-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051227-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683417**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.006	0.20	5.000	4.824	104	90	110				

Sample ID: **N051227-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.618	1.0	25.00	21.60	100	90	110				

Sample ID: **N051227-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Sample ID: **N051227-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.129	1.0	25.00	19.04	100	90	110				

Sample ID: **N051227-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051227-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID: **N051226-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.105	1.0	5.000	0	102	90	110				

Sample ID: **N051226-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.004	1.0	5.000	4.124	97.6	90	110				

Sample ID: **N051226-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.002	1.0	5.000	1.840	103	90	110				

Sample ID: **N051227-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.513	1.0	5.000	0.6390	97.5	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051226-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.609	0.20	5.000	4.410	104	90	110				

Sample ID: **N051227-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.871	1.0	5.000	8.908	99.3	90	110				

Sample ID: **N051227-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683451**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.241	1.0	5.000	1.380	97.2	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-93351**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **PBW**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.313	1.0									

Sample ID: **LCS-93351**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **LCSW**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686745**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.528	1.0	10.00	0	95.3	85	115				

Sample ID: **N051207-001C-MS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686759**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.192	1.0	10.00	1.420	87.7	75	125				

Sample ID: **N051207-001C-MSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163330**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4686761**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.840	1.0	10.00	1.420	84.2	75	125	10.19	3.51	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-001

Client Sample ID: MW-77-046-0622
Collection Date: 6/15/2022 2:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	370	3.0	25		mg/L	50	6/16/2022 05:38 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/16/2022 11:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-002

Client Sample ID: MW-941-Q222
Collection Date: 6/15/2022 3:02:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	370	3.0	25		mg/L	50	6/16/2022 06:55 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/16/2022 11:54 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-003

Client Sample ID: MW-77-102-0622
Collection Date: 6/15/2022 12:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A**	QC Batch: **R163294**			PrepDate:			Analyst: **RAB**
Sulfate	700	6.1	50		mg/L	100	6/16/2022 07:10 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A**	QC Batch: **R163294**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.91	0.095	0.50		mg/L	10	6/16/2022 12:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-004

Client Sample ID: MW-77-158-0622
Collection Date: 6/15/2022 1:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	570	3.0	25		mg/L	50	6/16/2022 07:25 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/16/2022 12:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-005

Client Sample ID: MW-77-187-0622
Collection Date: 6/15/2022 2:04:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	940	6.1	50		mg/L	100	6/16/2022 07:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.2	0.048	0.25		mg/L	5	6/16/2022 12:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-007

Client Sample ID: MW-39-040-0622
Collection Date: 6/15/2022 2:24:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	150	1.2	10		mg/L	20	6/16/2022 07:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/16/2022 12:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-008

Client Sample ID: MW-39-050-0622
Collection Date: 6/15/2022 12:37:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A**	QC Batch: **R163294**			PrepDate:			Analyst: **RAB**
Sulfate	200	1.2	10		mg/L	20	6/16/2022 08:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A**	QC Batch: **R163294**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/16/2022 01:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-009

Client Sample ID: MW-39-060-0622
Collection Date: 6/15/2022 12:03:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	200	1.2	10		mg/L	20	6/16/2022 08:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/16/2022 01:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-010

Client Sample ID: MW-39-070-0622
Collection Date: 6/15/2022 1:54:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	260	1.2	10		mg/L	20	6/16/2022 08:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/16/2022 01:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-011

Client Sample ID: MW-39-080-0622
Collection Date: 6/15/2022 1:17:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	560	6.1	50		mg/L	100	6/16/2022 09:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/16/2022 01:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-012

Client Sample ID: MW-39-100-0622
Collection Date: 6/15/2022 11:26:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	940	6.1	50		mg/L	100	6/16/2022 09:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/16/2022 02:12 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-013

Client Sample ID: TW-02D-Q222
Collection Date: 6/15/2022 9:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/16/2022 09:10 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	850	6.1	50		mg/L	100	6/16/2022 09:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	6/16/2022 09:10 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-014

Client Sample ID: MW-912-Q222
Collection Date: 6/15/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/16/2022 09:25 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	920	6.1	50		mg/L	100	6/16/2022 10:14 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.4	0.095	0.50		mg/L	10	6/16/2022 09:25 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-015

Client Sample ID: TW-02S-Q222
Collection Date: 6/15/2022 9:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.058	10		mg/L	20	6/16/2022 03:44 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	190	1.2	10		mg/L	20	6/16/2022 03:44 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	3.3	0.095	0.50		mg/L	10	6/16/2022 09:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-016

Client Sample ID: TW-03D-Q222
Collection Date: 6/15/2022 10:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/16/2022 10:07 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	870	6.1	50		mg/L	100	6/16/2022 10:29 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.4	0.095	0.50		mg/L	10	6/16/2022 10:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-017

Client Sample ID: MW-913-Q222
Collection Date: 6/15/2022 11:01:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/16/2022 10:22 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	870	6.1	50		mg/L	100	6/16/2022 10:44 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.4	0.095	0.50		mg/L	10	6/16/2022 10:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-018

Client Sample ID: MW-71-035-Q222
Collection Date: 6/15/2022 3:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/16/2022 10:38 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	1200	6.1	50		mg/L	100	6/16/2022 11:00 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/16/2022 10:38 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-019

Client Sample ID: MW-906-Q222
Collection Date: 6/15/2022 3:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrogen, Nitrite	ND	0.029	5.0		mg/L	10	6/16/2022 10:53 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Sulfate	1300	6.1	50		mg/L	100	6/16/2022 11:15 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220616A** QC Batch: **R163294**				PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/16/2022 10:53 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **MB-R163294_NO2** SampType: **MBLK** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **PBW** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	0.50									

Sample ID: **LCS-R163294_NO2** SampType: **LCS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **LCSW** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	1.265	0.50	1.250	0	101	90	110				

Sample ID: **N051207-015BMS** SampType: **MS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685121**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	35.510	10	25.00	0	142	80	120				S

Sample ID: **N051207-015BMSD** SampType: **MSD** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685122**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	34.548	10	25.00	0	138	80	120	35.51	2.75	20	S

Sample ID: **N051207-017BDUP** SampType: **DUP** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685123**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0						0	0	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_NO2PGE

Sample ID: **N051207-017BMS** SampType: **MS** TestCode: **300_W_NO2P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685124**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrite	ND	5.0	12.50	0	0	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R163294_SO4** SampType: **MBLK** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **PBW** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID: **LCS-R163294_SO4** SampType: **LCS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **LCSW** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.020	0.50	4.000	0	100	90	110				

Sample ID: **N051207-015BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	267.670	10	80.00	185.7	102	80	120				

Sample ID: **N051207-015BMSD** SampType: **MSD** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685181**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	267.356	10	80.00	185.7	102	80	120	267.7	0.117	20	

Sample ID: **N051207-001BDUP** SampType: **DUP** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685185**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	368.065	25						368.1	0.0163	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **N051207-001BMS** SampType: **MS** TestCode: **300_W_SO4P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685186**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	568.580	25	200.0	368.1	100	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **MB-R163294_NO3**	SampType: **MBLK**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163294**
Client ID: **PBW**	Batch ID: **R163294**	TestNo: **EPA 300.0**		Analysis Date: **6/16/2022**	SeqNo: **4685135**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID: **LCS-R163294_NO3**	SampType: **LCS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163294**
Client ID: **LCSW**	Batch ID: **R163294**	TestNo: **EPA 300.0**		Analysis Date: **6/16/2022**	SeqNo: **4685136**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.181	0.050	1.250	0	94.5	90	110				

Sample ID: **N051207-015BMS**	SampType: **MS**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163294**
Client ID: **ZZZZZZ**	Batch ID: **R163294**	TestNo: **EPA 300.0**		Analysis Date: **6/16/2022**	SeqNo: **4685159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.169	0.50	12.50	3.327	94.7	80	120				

Sample ID: **N051207-015BMSD**	SampType: **MSD**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163294**
Client ID: **ZZZZZZ**	Batch ID: **R163294**	TestNo: **EPA 300.0**		Analysis Date: **6/16/2022**	SeqNo: **4685160**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	15.016	0.50	12.50	3.327	93.5	80	120	15.17	1.01	20	

Sample ID: **N051207-017BDUP**	SampType: **DUP**	TestCode: **300WLLNO3P**	Units: **mg/L**	Prep Date:	RunNo: **163294**
Client ID: **ZZZZZZ**	Batch ID: **R163294**	TestNo: **EPA 300.0**		Analysis Date: **6/16/2022**	SeqNo: **4685161**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.356	0.50						1.387	2.26	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID: **N051207-017BMS** SampType: **MS** TestCode: **300WLLNO3P** Units: **mg/L** Prep Date: RunNo: **163294**
Client ID: **ZZZZZZ** Batch ID: **R163294** TestNo: **EPA 300.0** Analysis Date: **6/16/2022** SeqNo: **4685162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	13.021	0.50	12.50	1.387	93.1	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-046-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:52:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 01:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-941-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 3:02:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 02:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-102-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 12:30:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 02:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-158-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 1:15:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 02:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	6.8	50		mg/L	50	6/16/2022 12:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	2.5	0.14	1.0		mg/L	1	6/16/2022 02:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 12:37:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-060-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 12:03:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-070-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 1:54:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 03:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-080-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 1:17:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 04:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 11:26:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 04:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02D-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 9:58:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 04:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-014

Client Sample ID: MW-912-Q222
Collection Date: 6/15/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 05:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-02S-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 9:09:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 05:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 10:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 05:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-913-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 11:01:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 05:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-71-035-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 3:10:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 06:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-906-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220616A**	QC Batch: **R163322**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/16/2022 01:33 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID: **MB-R163322**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **PBW**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686282**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID: **LCS-R163322**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **LCSW**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686283**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	5.125	1.0	5.000	0	103	85	115				

Sample ID: **N051207-005DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **ZZZZZZ**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686291**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	216.300	50	250.0	0	86.5	75	125				

Sample ID: **N051207-005DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163322**
Client ID: **ZZZZZZ**	Batch ID: **R163322**	TestNo: **SM 5310C**		Analysis Date: **6/16/2022**	SeqNo: **4686294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	217.810	50	250.0	0	87.1	75	125	216.3	0.696	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-001

Client Sample ID: MW-77-046-0622
Collection Date: 6/15/2022 2:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	6/24/2022 01:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-002

Client Sample ID: MW-941-Q222
Collection Date: 6/15/2022 3:02:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	130	13	20		µg/L	1	6/24/2022 01:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-003

Client Sample ID: MW-77-102-0622
Collection Date: 6/15/2022 12:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	67	13	20		µg/L	1	6/24/2022 01:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-004

Client Sample ID: MW-77-158-0622
Collection Date: 6/15/2022 1:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	32	13	20		µg/L	1	6/24/2022 01:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-77-187-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:04:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 01:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-040-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 2:24:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	350	13	20		µg/L	1	6/24/2022 01:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *05-Jul-22*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-050-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 12:37:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-009

Client Sample ID: MW-39-060-0622
Collection Date: 6/15/2022 12:03:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-010

Client Sample ID: MW-39-070-0622
Collection Date: 6/15/2022 1:54:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-011

Client Sample ID: MW-39-080-0622
Collection Date: 6/15/2022 1:17:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	24	13	20		µg/L	1	6/24/2022 02:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-39-100-0622
Lab Order:	N051207	**Collection Date:**	6/15/2022 11:26:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-013

Client Sample ID: TW-02D-Q222
Collection Date: 6/15/2022 9:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:25 PM

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-014

Client Sample ID: MW-912-Q222
Collection Date: 6/15/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	37	13	20		µg/L	1	6/24/2022 02:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-015

Client Sample ID: TW-02S-Q222
Collection Date: 6/15/2022 9:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-03D-Q222
Lab Order:	N051207	**Collection Date:**	6/15/2022 10:51:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051207-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-017

Client Sample ID: MW-913-Q222
Collection Date: 6/15/2022 11:01:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 02:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-018

Client Sample ID: MW-71-035-Q222
Collection Date: 6/15/2022 3:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	150	13	20		µg/L	1	6/24/2022 03:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-019

Client Sample ID: MW-906-Q222
Collection Date: 6/15/2022 3:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93353**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Iron	210	13	20		µg/L	1	6/24/2022 03:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID: **MB-93353**	SampType: **MBLK**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163474**
Client ID: **PBW**	Batch ID: **93353**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4694369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID: **LCS-93353**	SampType: **LCS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163474**
Client ID: **LCSW**	Batch ID: **93353**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4694370**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	95.796	20	100.0	0	95.8	85	115				

Sample ID: **N051207-001C-MS**	SampType: **MS**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163474**
Client ID: **ZZZZZZ**	Batch ID: **93353**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4694374**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	212.113	20	100.0	127.6	84.5	75	125				

Sample ID: **N051207-001C-MSD**	SampType: **MSD**	TestCode: **6010_WDPG**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163474**
Client ID: **ZZZZZZ**	Batch ID: **93353**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **6/24/2022**	SeqNo: **4694375**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	241.868	20	100.0	127.6	114	75	125	212.1	13.1	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-001

Client Sample ID: MW-77-046-0622
Collection Date: 6/15/2022 2:52:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220624E**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/24/2022 07:03 PM
Barium	54	0.083	1.0		µg/L	1	6/19/2022 09:47 PM
Manganese	430	0.13	2.5		µg/L	5	6/19/2022 09:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-002

Client Sample ID: MW-941-Q222
Collection Date: 6/15/2022 3:02:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220630A**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	0.69	0.050	0.10		µg/L	1	6/30/2022 05:35 PM
Barium	54	0.083	1.0		µg/L	1	6/19/2022 11:04 PM
Manganese	450	0.13	2.5		µg/L	5	6/19/2022 11:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-003

Client Sample ID: MW-77-102-0622
Collection Date: 6/15/2022 12:30:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 11:16 PM
Barium	50	0.083	1.0		µg/L	1	6/19/2022 11:16 PM
Manganese	78	0.026	0.50		µg/L	1	6/19/2022 11:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-004

Client Sample ID: MW-77-158-0622
Collection Date: 6/15/2022 1:15:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 11:40 PM
Barium	36	0.083	1.0		µg/L	1	6/19/2022 11:40 PM
Manganese	10	0.026	0.50		µg/L	1	6/19/2022 11:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-005

Client Sample ID: MW-77-187-0622
Collection Date: 6/15/2022 2:04:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/19/2022 11:51 PM
Barium	33	0.083	1.0		µg/L	1	6/19/2022 11:51 PM
Manganese	17	0.026	0.50		µg/L	1	6/19/2022 11:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-007

Client Sample ID: MW-39-040-0622
Collection Date: 6/15/2022 2:24:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220620B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	15	0.050	0.10		µg/L	1	6/20/2022 02:31 PM
Barium	72	0.083	1.0		µg/L	1	6/20/2022 12:03 AM
Manganese	110	0.026	0.50		µg/L	1	6/20/2022 12:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-008

Client Sample ID: MW-39-050-0622
Collection Date: 6/15/2022 12:37:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220620B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	1.6	0.050	0.10		µg/L	1	6/20/2022 02:37 PM
Barium	41	0.083	1.0		µg/L	1	6/20/2022 12:15 AM
Manganese	170	0.026	0.50		µg/L	1	6/20/2022 12:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-009

Client Sample ID: MW-39-060-0622
Collection Date: 6/15/2022 12:03:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220620B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	6/20/2022 02:43 PM
Barium	24	0.083	1.0		µg/L	1	6/20/2022 12:27 AM
Manganese	120	0.026	0.50		µg/L	1	6/20/2022 12:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-010

Client Sample ID: MW-39-070-0622
Collection Date: 6/15/2022 1:54:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220620B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	0.39	0.050	0.10		µg/L	1	6/20/2022 04:54 PM
Barium	40	0.083	1.0		µg/L	1	6/20/2022 01:03 AM
Manganese	8.5	0.026	0.50		µg/L	1	6/20/2022 01:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-011

Client Sample ID: MW-39-080-0622
Collection Date: 6/15/2022 1:17:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 01:15 AM
Barium	25	0.083	1.0		µg/L	1	6/20/2022 01:15 AM
Manganese	3.6	0.026	0.50		µg/L	1	6/20/2022 01:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-012

Client Sample ID: MW-39-100-0622
Collection Date: 6/15/2022 11:26:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**				PrepDate:	**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 01:27 AM
Barium	29	0.083	1.0		µg/L	1	6/20/2022 01:27 AM
Manganese	11	0.026	0.50		µg/L	1	6/20/2022 01:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-013

Client Sample ID: TW-02D-Q222
Collection Date: 6/15/2022 9:58:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 01:39 AM
Barium	34	0.083	1.0		µg/L	1	6/20/2022 01:39 AM
Manganese	12	0.026	0.50		µg/L	1	6/20/2022 01:39 AM
Molybdenum	65	0.12	0.50		µg/L	1	6/20/2022 01:39 AM
Selenium	0.98	0.044	0.50		µg/L	1	6/20/2022 03:18 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-014

Client Sample ID: MW-912-Q222
Collection Date: 6/15/2022 10:08:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 01:51 AM
Barium	36	0.083	1.0		µg/L	1	6/20/2022 01:51 AM
Manganese	15	0.026	0.50		µg/L	1	6/20/2022 01:51 AM
Molybdenum	68	0.12	0.50		µg/L	1	6/20/2022 01:51 AM
Selenium	1.1	0.044	0.50		µg/L	1	6/20/2022 03:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-015

Client Sample ID: TW-02S-Q222
Collection Date: 6/15/2022 9:09:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220620B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	0.30	0.050	0.10		µg/L	1	6/20/2022 03:30 PM
Barium	52	0.083	1.0		µg/L	1	6/20/2022 02:14 AM
Manganese	ND	0.026	0.50		µg/L	1	6/20/2022 02:14 AM
Molybdenum	8.9	0.12	0.50		µg/L	1	6/20/2022 02:14 AM
Selenium	1.9	0.044	0.50		µg/L	1	6/20/2022 03:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-016

Client Sample ID: TW-03D-Q222
Collection Date: 6/15/2022 10:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 02:26 AM
Barium	43	0.083	1.0		µg/L	1	6/20/2022 02:26 AM
Manganese	110	0.026	0.50		µg/L	1	6/20/2022 02:26 AM
Molybdenum	72	0.12	0.50		µg/L	1	6/20/2022 02:26 AM
Selenium	1.1	0.044	0.50		µg/L	1	6/20/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-017

Client Sample ID: MW-913-Q222
Collection Date: 6/15/2022 11:01:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICP-MS

EPA 3010A **EPA 6020**

RunID: **NV00922-ICP8_220619B** QC Batch: **93351** PrepDate: **6/16/2022** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 02:38 AM
Barium	41	0.083	1.0		µg/L	1	6/20/2022 02:38 AM
Manganese	97	0.026	0.50		µg/L	1	6/20/2022 02:38 AM
Molybdenum	66	0.12	0.50		µg/L	1	6/20/2022 02:38 AM
Selenium	1.0	0.044	0.50		µg/L	1	6/20/2022 03:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-018

Client Sample ID: MW-71-035-Q222
Collection Date: 6/15/2022 3:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 02:50 AM
Barium	58	0.083	1.0		µg/L	1	6/20/2022 02:50 AM
Manganese	1400	0.66	12		µg/L	25	6/20/2022 04:24 PM
Molybdenum	21	0.12	0.50		µg/L	1	6/20/2022 02:50 AM
Selenium	0.51	0.044	0.50		µg/L	1	6/25/2022 03:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051207-019

Client Sample ID: MW-906-Q222
Collection Date: 6/15/2022 3:20:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220619B**	QC Batch: **93351**			PrepDate:		**6/16/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/20/2022 03:02 AM
Barium	61	0.083	1.0		µg/L	1	6/20/2022 03:02 AM
Manganese	1500	0.66	12		µg/L	25	6/20/2022 04:30 PM
Molybdenum	22	0.12	0.50		µg/L	1	6/20/2022 03:02 AM
Selenium	ND	0.044	0.50		µg/L	1	6/24/2022 07:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93351** SampType: **MBLK** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **PBW** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687091**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Barium	ND	1.0									
Manganese	0.069	0.50									
Molybdenum	ND	0.50									

Sample ID: **LCS-93351** SampType: **LCS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **LCSW** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687092**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.024	0.10	10.00	0	90.2	85	115				
Barium	9.844	1.0	10.00	0	98.4	85	115				
Manganese	91.558	0.50	100.0	0	91.6	85	115				
Molybdenum	9.743	0.50	10.00	0	97.4	85	115				

Sample ID: **N051207-001C-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687106**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	60.494	1.0	10.00	53.83	66.6	75	125				S
Molybdenum	93.713	0.50	10.00	86.63	70.8	75	125				S

Sample ID: **N051207-001C-MS** SampType: **MS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: **6/16/2022** RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687107**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	524.322	2.5	100.0	429.1	95.2	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051207-001C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687108**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	57.669	1.0	10.00	53.83	38.3	75	125	60.49	4.78	20	S
Molybdenum	90.479	0.50	10.00	86.63	38.5	75	125	93.71	3.51	20	S

Sample ID: **N051207-001C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4687109**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	554.479	2.5	100.0	429.1	125	75	125	524.3	5.59	20	S

Sample ID: **MB-93351**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163360**
Client ID: **PBW**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689249**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.50									

Sample ID: **LCS-93351**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163360**
Client ID: **LCSW**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689250**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.890	0.50	10.00	0	88.9	85	115				

Sample ID: **N051207-001C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163360**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	9.210	0.50	10.00	0.8184	83.9	75	125				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051207-001C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163360**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/20/2022**	SeqNo: **4689257**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.652	0.50	10.00	0.8184	78.3	75	125	9.210	6.25	20	

Sample ID: **N051207-001C-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4700302**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.632	0.10	10.00	0	96.3	75	125				

Sample ID: **N051207-001C-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/16/2022**	RunNo: **163332**
Client ID: **ZZZZZZ**	Batch ID: **93351**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/19/2022**	SeqNo: **4700303**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.369	0.10	10.00	0	93.7	75	125	9.632	2.77	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051207
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051207-001C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687104**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	59.418	1.0	10.00	53.83	55.8	80	120				S
Molybdenum	90.988	0.50	10.00	86.63	43.5	80	120				S

Sample ID: **N051207-001C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4687105**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	589.943	2.5	100.0	429.1	161	80	120				S

Sample ID: **N051207-001C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **163360**
Client ID: **ZZZZZZ** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/20/2022** SeqNo: **4689255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	8.667	0.50	10.00	0.8184	78.5	80	120				S

Sample ID: **N051207-001C-PS** SampType: **PS** TestCode: **6020_DIS_TP** Units: **µg/L** Prep Date: RunNo: **163332**
Client ID: **ZZZZZZ** Batch ID: **93351** TestNo: **EPA 6020** **EPA 3010A** Analysis Date: **6/19/2022** SeqNo: **4700301**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.611	0.10	10.00	0	96.1	80	120				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

N051207

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled X
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace
Submitted By: Riggie Top	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact X
Title: Field Tech		Global ID:	Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 6/15/22	Sampled By: Riggie Top			Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - PCM	Signature: Date: 6/15/22				Sample Temp: 2.4c, 0.7c, 1.5°c
Project Number: 30121866.2Q22GW					Courier: ASSET Tracking No.:

Matrix: Ground X | Potable | NPDES | Surface; Sediment | Soil | Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) Sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051207-01	MW-77-046-0622	6/15/2022	14:52		X	X	X	X		X			E	2	P	BNS	6
2	-02	MW-941-Q222	6/15/2022	15:02		X	X	X	X		X			E	1	P	BNS	6
3	-03	MW-77-102-0622	6/15/2022	12:30		X	X	X	X		X			E	2	P	BNS	6
4	-04	MW-77-158-0622	6/15/2022	13:15		X	X	X	X		X			E	1	P	BNS	6
5	-05	MW-77-187-0622	6/15/2022	14:04		X	X	X	X		X			E	2	P	BNS	
6	-06	EB-742-Q222	6/15/2022	15:15		X								E	1	P	BNS	
7	-07	MW-39-040-0622	6/15/2022	14:24		X	X	X	X		X			E	6	P	BNS	
8	-08	MW-39-050-0622	6/15/2022	12:37		X	X	X	X		X			E	6	P	BNS	
9	-09	MW-39-060-0622	6/15/2022	12:03		X	X	X	X		X			E	6	P	BNS	
10	-10	MW-39-070-0622	6/15/2022	13:54		X	X	X	X		X			E	6	P	BNS	
11	-11	MW-39-080-0622	6/15/2022	13:17		X	X	X	X		X			E	6	P	BNS	
12	-12	MW-39-100-0622	6/15/2022	11:26		X	X	X	X		X			E	6	P	BNS	
13																		
14																		

Relinquished by (Signature and Printed Name): Riggie Top 6/15/22	Date/Time: 1721	Relinquished by (Signature and Printed Name): MBCARTIN	Date/Time: 6/15/22 1721
Relinquished by (Signature and Printed Name): REL/REC: MBCARTIN	Date/Time:	Relinquished by (Signature and Printed Name): MBCARTIN	Date/Time: 6/15/22 1910
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓ (Specify: RWQCB); Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	
Submitted By: Russie Tep		Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Phone: 916-786-3302 Fax:		
Signature: Date: RT 6/15/22	Sampled By: Russie Tep		

I hereby authorize ASSET Labs to perform the tests indicated below.

I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for

Project Name: PG&E Topock - PCM
Project Number: 30121866.2Q22GW
Signature: RT Date: 6/15/22

Sample Receipt Condition

	Y	N
1. Chilled	X	
2. Headspace		
3. Container Intact	X	
4. Seal Present		
5. IR number 3		
6. Method of Cooling: ICE		

Sample Temp: 2.4c, 0.7c, 1.5°C

Courier: ASSET
Tracking No.:

Matrix: Ground; X Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, Nitrite, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Nitrate/Nitrite as Nitrogen 4500-NO3 F (250 mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051207-13	TW-02D-Q222	6/15/2022	9:58		X	X	X	X	X	X		X		E	7	P	BNS	
2	-14	MW-912-Q222	6/15/2022	10:08		X	X	X	X	X	X		X		E	1	P	BNS	
3	-15	TW-02S-Q222	6/15/2022	9:09		X	X	X	X	X	X		X		E	7	P	BNS	
4	-16	TW-03D-Q222	6/15/2022	10:51		X	X	X	X	X	X		X		E	7	P	BNS	
5	-17	MW-913-Q222	6/15/2022	11:01		X	X	X	X	X	X		X		E	7	P	BNS	
6	-18	MW-71-035-Q222	6/15/2022	15:10		X	X	X	X	X	X		X	X	E	8	P	BNS	
7	-19	MW-906-Q222	6/15/2022	15:20		X	X	X	X	X	X		X	X	E	8	P	BNS	
8															E	7	P	BNS	
9															E	7	P	BNS	
10															E	7	P	BNS	
11															E	7	P	BNS	
12															E	7	P	BNS	
13															E	7	P	BNS	
14															E	1	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
RT/Russie Tep	6/15/22 1721	MS CARTON	6/15/22 @1721
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
REL/REC: MS CARTON			6/15/22 @1900
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		
Others/Specify:	B	(NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/15/2022	Workorder:	N051207
Rep sample Temp (Deg C):	2.4/0.7/1.5	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: MBC YRJ 6/16/2022

Reviewed By: MBC 6/28/2022

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-001A	MW-77-046-0622	6/15/2022 2:52:00 PM	6/29/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-001B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-001C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-001D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-002A	MW-941-Q222	6/15/2022 3:02:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-002B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-002C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-002D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-003A	MW-77-102-0622	6/15/2022 12:30:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-003B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-003C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-003C	MW-77-102-0622	6/15/2022 12:30:00 PM	6/29/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-003D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-004A	MW-77-158-0622	6/15/2022 1:15:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-004B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-004C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-004D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-005A	MW-77-187-0622	6/15/2022 2:04:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-005B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-005C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-005D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-006A	EB-742-Q222	6/15/2022 3:15:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-007A	MW-39-040-0622	6/15/2022 2:24:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-007B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-007C	MW-39-040-0622	6/15/2022 2:24:00 PM	6/29/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-007D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-008A	MW-39-050-0622	6/15/2022 12:37:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-008B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-008C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-008D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-009A	MW-39-060-0622	6/15/2022 12:03:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-009B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-009C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-009D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-010A	MW-39-070-0622	6/15/2022 1:54:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-010B	MW-39-070-0622	6/15/2022 1:54:00 PM	6/29/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-010C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-010D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-011A	MW-39-080-0622	6/15/2022 1:17:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-011B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-011C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-011D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-012A	MW-39-100-0622	6/15/2022 11:26:00 AM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-012B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-012C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-012D	MW-39-100-0622	6/15/2022 11:26:00 AM	6/29/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-013A	TW-02D-Q222	6/15/2022 9:58:00 AM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-013B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-013C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-013D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-013E			6/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051207-014A	MW-912-Q222	6/15/2022 10:08:00 AM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-014B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-014C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-014D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-014E	MW-912-Q222	6/15/2022 10:08:00 AM	6/29/2022	Groundwater	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051207-015A	TW-02S-Q222	6/15/2022 9:09:00 AM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-015B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-015C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-015D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-015E			6/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051207-016A	TW-03D-Q222	6/15/2022 10:51:00 AM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-016B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-016C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-016D	TW-03D-Q222	6/15/2022 10:51:00 AM	6/29/2022	Groundwater	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-016E			6/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051207-017A	MW-913-Q222	6/15/2022 11:01:00 AM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-017B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-017C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-017D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-017E			6/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051207-018A	MW-71-035-Q222	6/15/2022 3:10:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-018B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-018C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

16-Jun-22

WorkOrder: N051207

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/15/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051207-018C	MW-71-035-Q222	6/15/2022 3:10:00 PM	6/29/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-018D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-018E			6/29/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
			6/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051207-018F							☐	☐	☐	WW
N051207-019A	MW-906-Q222	6/15/2022 3:20:00 PM	6/29/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051207-019B			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/29/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051207-019C			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/29/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/29/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051207-019D			6/29/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051207-019E			6/29/2022		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
			6/29/2022		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N051207-019F							☐	☐	☐	WW
N051207-020A	FOLDER	6/29/2022	6/29/2022		Folder	Folder	☐	☐	☐	LAB
			6/29/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/29/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Riggie Tep

16-Jun-22

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-~~NH3D~~ Ammonia	Requested Tests: ~~SM4500-NO3F~~ Nitrate/Nitrite as N	
N051207-013E / TW-02D-Q222	Groundwater	6/15/2022 9:58:00 AM	16OZP	1		
N051207-014E / MW-912-Q222	Groundwater	6/15/2022 10:08:00 AM	16OZP	1		
N051207-015E / TW-02S-Q222	Groundwater	6/15/2022 9:09:00 AM	16OZP	1		
N051207-016E / TW-03D-Q222	Groundwater	6/15/2022 10:51:00 AM	16OZP	1		
N051207-017E / MW-913-Q222	Groundwater	6/15/2022 11:01:00 AM	16OZP	1		
N051207-018E / MW-71-035-Q222	Groundwater	6/15/2022 3:10:00 PM	16OZP	1	1	
N051207-019E / MW-906-Q222	Groundwater	6/15/2022 3:20:00 PM	16OZP	1	1	

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N51207A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT

Please analyze for Ammonia as Nitrogen (SM4500NH3) and Nitrate/Nitrite as Nitrogen. EDD requirement Labspec7 edata.

GSO #: 557111598

		Date/Time			Date/Time
Relinquished by:	GGarcia	6/16/2022 16:30	**Received by:**		
Relinquished by:			**Received by:**		

July 01, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051226

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 16, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N051226-002 and -006 due to matrix interference. Sample were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery and RPD criteria for Iron in QC samples N051250-003CMS and N051250-003CMSD possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC sample N051250-003DMS and N051250-003DMSD at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051250-003D and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051226
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051226-001A	MW-82-046-0622	Groundwater	6/16/2022 1:16:00 PM	6/16/2022	7/1/2022
N051226-001B	MW-82-046-0622	Groundwater	6/16/2022 1:16:00 PM	6/16/2022	7/1/2022
N051226-001C	MW-82-046-0622	Groundwater	6/16/2022 1:16:00 PM	6/16/2022	7/1/2022
N051226-001D	MW-82-046-0622	Groundwater	6/16/2022 1:16:00 PM	6/16/2022	7/1/2022
N051226-002A	MW-82-112-0622	Groundwater	6/16/2022 1:47:00 PM	6/16/2022	7/1/2022
N051226-002B	MW-82-112-0622	Groundwater	6/16/2022 1:47:00 PM	6/16/2022	7/1/2022
N051226-002C	MW-82-112-0622	Groundwater	6/16/2022 1:47:00 PM	6/16/2022	7/1/2022
N051226-002D	MW-82-112-0622	Groundwater	6/16/2022 1:47:00 PM	6/16/2022	7/1/2022
N051226-003A	MW-82-168-0622	Groundwater	6/16/2022 2:27:00 PM	6/16/2022	7/1/2022
N051226-003B	MW-82-168-0622	Groundwater	6/16/2022 2:27:00 PM	6/16/2022	7/1/2022
N051226-003C	MW-82-168-0622	Groundwater	6/16/2022 2:27:00 PM	6/16/2022	7/1/2022
N051226-003D	MW-82-168-0622	Groundwater	6/16/2022 2:27:00 PM	6/16/2022	7/1/2022
N051226-004A	MW-82-198-0622	Groundwater	6/16/2022 3:05:00 PM	6/16/2022	7/1/2022
N051226-004B	MW-82-198-0622	Groundwater	6/16/2022 3:05:00 PM	6/16/2022	7/1/2022
N051226-004C	MW-82-198-0622	Groundwater	6/16/2022 3:05:00 PM	6/16/2022	7/1/2022
N051226-004D	MW-82-198-0622	Groundwater	6/16/2022 3:05:00 PM	6/16/2022	7/1/2022
N051226-005A	MW-81-043-0622	Groundwater	6/16/2022 11:35:00 AM	6/16/2022	7/1/2022
N051226-005B	MW-81-043-0622	Groundwater	6/16/2022 11:35:00 AM	6/16/2022	7/1/2022
N051226-005C	MW-81-043-0622	Groundwater	6/16/2022 11:35:00 AM	6/16/2022	7/1/2022
N051226-005D	MW-81-043-0622	Groundwater	6/16/2022 11:35:00 AM	6/16/2022	7/1/2022
N051226-006A	MW-81-098-0622	Groundwater	6/16/2022 12:08:00 PM	6/16/2022	7/1/2022
N051226-006B	MW-81-098-0622	Groundwater	6/16/2022 12:08:00 PM	6/16/2022	7/1/2022
N051226-006C	MW-81-098-0622	Groundwater	6/16/2022 12:08:00 PM	6/16/2022	7/1/2022
N051226-006D	MW-81-098-0622	Groundwater	6/16/2022 12:08:00 PM	6/16/2022	7/1/2022
N051226-007A	EB-744-Q222	Groundwater	6/16/2022 3:20:00 PM	6/16/2022	7/1/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/17/2022 10:19 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/17/2022 06:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.2	0.025	0.20		µg/L	1	6/17/2022 11:43 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 3:05:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4.1	0.13	1.0		µg/L	5	6/17/2022 06:19 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 11:35:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4.4	0.025	0.20		µg/L	1	6/17/2022 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 12:08:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.8	0.13	1.0		µg/L	5	6/17/2022 06:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-744-Q222
Lab Order:	N051226	**Collection Date:**	6/16/2022 3:20:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/17/2022 01:27 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163274	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	PBW	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R163274	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	LCSW	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683397

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.147	0.20	5.000	0	103	90	110				

Sample ID	N051207-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683399

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	1.0	5.000	0	100	90	110				

Sample ID	N051207-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683401

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	58.846	1.0	25.00	32.51	105	90	110				

Sample ID	N051227-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683404

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.602	1.0	25.00	10.70	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051227-005AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.362	1.0	25.00	10.70	103	90	110	36.60	0.658	20	

Sample ID **N051226-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683408**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Sample ID **N051226-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683410**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.199	0.20	1.000	1.169	103	90	110				

Sample ID **N051207-005ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683411**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	31.639	1.0						32.51	2.73	20	

Sample ID **N051226-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163274**
Client ID: **ZZZZZZ** Batch ID: **R163274** TestNo: **EPA 218.6** Analysis Date: **6/17/2022** SeqNo: **4683415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051227-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683417**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.006	0.20	5.000	4.824	104	90	110				

Sample ID **N051227-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683421**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.618	1.0	25.00	21.60	100	90	110				

Sample ID **N051227-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683423**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Sample ID **N051227-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683425**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.129	1.0	25.00	19.04	100	90	110				

Sample ID **N051227-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683427**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051227-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683431**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID **N051226-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.105	1.0	5.000	0	102	90	110				

Sample ID **N051226-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.004	1.0	5.000	4.124	97.6	90	110				

Sample ID **N051226-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683439**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.002	1.0	5.000	1.840	103	90	110				

Sample ID **N051227-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.513	1.0	5.000	0.6390	97.5	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051226-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.609	0.20	5.000	4.410	104	90	110				

Sample ID **N051227-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.871	1.0	5.000	8.908	99.3	90	110				

Sample ID **N051227-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163274**
Client ID: **ZZZZZZ**	Batch ID: **R163274**	TestNo: **EPA 218.6**		Analysis Date: **6/17/2022**	SeqNo: **4683451**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.241	1.0	5.000	1.380	97.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Sulfate	1200	12	100		mg/L	200	6/17/2022 02:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/17/2022 09:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Sulfate	710	6.1	50		mg/L	100	6/17/2022 01:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.1	0.095	0.50		mg/L	10	6/17/2022 10:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Sulfate	570	3.0	25		mg/L	50	6/17/2022 03:13 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.095	0.50		mg/L	10	6/17/2022 10:22 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 3:05:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220617A** QC Batch: **R163314**				PrepDate:			Analyst: **RAB**
Sulfate	1100	6.1	50		mg/L	100	6/17/2022 03:28 PM
ANIONS BY ION CHROMATOGRAPHY							
EPA 300.0							
RunID: **NV00922-IC8_220617A** QC Batch: **R163314**				PrepDate:			Analyst: **RAB**
Nitrate as N	1.5	0.095	0.50		mg/L	10	6/17/2022 10:37 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051226-005

Client Sample ID: MW-81-043-0622
Collection Date: 6/16/2022 11:35:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A** QC Batch: **R163314**				PrepDate:			Analyst: **RAB**
Sulfate	380	3.0	25		mg/L	50	6/17/2022 03:58 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A** QC Batch: **R163314**				PrepDate:			Analyst: **RAB**
Nitrate as N	0.98	0.095	0.50		mg/L	10	6/17/2022 10:52 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 12:08:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Sulfate	660	6.1	50		mg/L	100	6/17/2022 03:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.94	0.095	0.50		mg/L	10	6/17/2022 11:08 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R163314_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163314		
Client ID:	PBW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686009		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	ND	0.50											

Sample ID	LCS-R163314_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163314		
Client ID:	LCSW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686010		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	3.947	0.50	4.000	0	98.7	90	110						

Sample ID	N051226-002BDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163314		
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686014		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	714.060	50						708.6	0.775	20			

Sample ID	N051226-005BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163314		
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686022		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	580.610	25	200.0	377.9	101	80	120						

Sample ID	N051226-005BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163314		
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686023		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sulfate	575.000	25	200.0	377.9	98.6	80	120	580.6	0.971	20			

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163314_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	PBW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685973

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163314_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	LCSW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685974

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.206	0.050	1.250	0	96.4	90	110				

Sample ID	N051227-010BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685986

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.529	0.25						0.5005	5.44	20	

Sample ID	N051226-002BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.605	0.50	12.50	1.069	92.3	80	120				

Sample ID	N051226-002BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685988

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.542	0.50	12.50	1.069	91.8	80	120	12.60	0.501	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N051250-003BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686001

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.826	0.25	6.250	0	93.2	80	120				

Sample ID	N051250-003BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686002

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.878	0.25	6.250	0	94.0	80	120	5.826	0.880	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	1.8	0.14	1.0		mg/L	1	6/20/2022 03:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 03:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 03:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 3:05:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 03:51 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 11:35:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 04:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 12:08:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 04:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R163342**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **PBW**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R163342**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **LCSW**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.736	1.0	5.000	0	94.7	85	115				

Sample ID **N051250-003DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **ZZZZZZ**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688442**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	226.160	50	250.0	0	90.5	75	125				

Sample ID **N051250-003DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **ZZZZZZ**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	228.270	50	250.0	0	91.3	75	125	226.2	0.929	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Iron	5800	13	20		µg/L	1	6/24/2022 03:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Iron	61	13	20		µg/L	1	6/24/2022 03:26 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Iron	27	13	20		µg/L	1	6/24/2022 03:30 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 3:05:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Iron	48	13	20		µg/L	1	6/24/2022 03:54 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 11:35:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Iron	93	13	20		µg/L	1	6/24/2022 03:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 12:08:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Iron	59	13	20		µg/L	1	6/24/2022 04:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-93399	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163474	
Client ID:	PBW	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694397	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	ND	20										

Sample ID	LCS-9399	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:		RunNo:	163474	
Client ID:	LCSW	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694398	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	95.863	20	100.0	0	95.9	85	115					

Sample ID	N051250-003CMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163474	
Client ID:	ZZZZZZ	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694414	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	158.202	20	100.0	15.87	142	75	125				S	

Sample ID	N051250-003CMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163474	
Client ID:	ZZZZZZ	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694415	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	89.271	20	100.0	15.87	73.4	75	125	158.2	55.7	20	SR	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	N051250-003C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:		RunNo:	163474
Client ID:	ZZZZZZ	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694413

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	124.801	20	100.0	15.87	109	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-046-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:16:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220622A**	QC Batch: **93397**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Arsenic	17	0.050	0.10		µg/L	1	6/22/2022 02:07 PM
Barium	56	0.083	1.0		µg/L	1	6/24/2022 07:51 PM
Manganese	260	0.13	2.5		µg/L	5	6/21/2022 03:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-112-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 1:47:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 12:38 PM
Barium	52	0.083	1.0		µg/L	1	6/24/2022 07:56 PM
Manganese	120	0.026	0.50		µg/L	1	6/21/2022 12:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-168-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 2:27:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 12:44 PM
Barium	42	0.083	1.0		µg/L	1	6/24/2022 08:02 PM
Manganese	29	0.026	0.50		µg/L	1	6/21/2022 12:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-82-198-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 3:05:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 12:50 PM
Barium	44	0.083	1.0		µg/L	1	6/24/2022 08:08 PM
Manganese	110	0.026	0.50		µg/L	1	6/21/2022 12:50 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-043-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 11:35:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 12:56 PM
Barium	78	0.083	1.0		µg/L	1	6/24/2022 08:14 PM
Manganese	64	0.026	0.50		µg/L	1	6/21/2022 12:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-81-098-0622
Lab Order:	N051226	**Collection Date:**	6/16/2022 12:08:00 PM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051226-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 01:02 PM
Barium	68	0.083	1.0		µg/L	1	6/24/2022 08:20 PM
Manganese	240	0.13	2.5		µg/L	5	6/21/2022 04:07 PM

Qualifiers:				
	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93397	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	PBW	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691402

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	ND	0.50									

Sample ID	LCS-93397	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	LCSW	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691403

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.748	0.10	10.00	0	97.5	85	115				
Manganese	95.965	0.50	100.0	0	96.0	85	115				

Sample ID	N051227-005BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	ZZZZZZ	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.849	0.10	10.00	0	88.5	75	125				
Manganese	90.156	0.50	100.0	2.426	87.7	75	125				

Sample ID	N051227-005BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	ZZZZZZ	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691420

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.487	0.10	10.00	0	84.9	75	125	8.849	4.18	20	
Manganese	89.333	0.50	100.0	2.426	86.9	75	125	90.16	0.917	20	

Sample ID	MB-93397	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	PBW	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698125

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051226
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93397	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	PBW	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698125

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	LCS-93397	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	LCSW	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698126

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.524	1.0	10.00	0	95.2	85	115				

Sample ID	N051227-005BMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	ZZZZZZ	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698138

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	153.072	1.0	10.00	143.0	101	75	125				

Sample ID	N051227-005BMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	ZZZZZZ	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698139

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	153.472	1.0	10.00	143.0	105	75	125	153.1	0.261	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

N051226

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95678	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: Y N; 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number D; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#	Sample Temp: 3.6 °C
Submitted By: Riggie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	
Title: Field Tech	Sampled By: Riggie Tep		
Signature: Date: 6/16/22	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 6/16/22		
Project Name: PG&E Topock - PCM			
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate, sulfate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Total Organic Carbon (SM5310C); H2SO4 (3x40 mL VOA)	Total metals (SW6010) No filter; HNO3 Total Iron (500mL poly)	Ammonia as Nitrogen (SM4500NH3); H2SO4 (1 L poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051226-01	MW-82-046-0622	6/16/2022	~~13:45~~ 1316	(40)	X	X	X			X			E	6	P	BNS	
2	-02	MW-82-112-0622	6/16/2022	13:47		X	X	X			X			E	6	P	BNS	
3	-03	MW-82-168-0622	6/16/2022	14:27		X	X	X			X			E	6	P	BNS	
4	-04	MW-82-198-0622	6/16/2022	15:05		X	X	X			X			E	6	P	BNS	
5	-05	MW-81-043-0622	6/16/2022	11:35		X	X	X			X			E	6	P	BNS	
6	-06	MW-81-098-0622	6/16/2022	12:08		X	X	X			X			E	6	P	BNS	
7	-07	EB-744-Q222	6/16/2022	15:20		X	X	X			X			E	1	P	BNS	
8														E	7	P	BNS	
9														E	7	P	BNS	
10														E	7	P	BNS	
11														E	7	P	BNS	
12														E	7	P	BNS	
13														E	7	P	BNS	
14														E	1	P	BNS	

Courier: ASSET
Tracking No.:

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Riggie Tep	6/16/22 1553	ROMEO ALCANTARA	6/16/22 1553
ROMEO ALCANTARA	6/16/22 1845	ROMEO ALCANTARA	6/16/22 1845
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/16/2022	Workorder:	N051226
Rep sample Temp (Deg C):	3.6	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YR 6/17/2022

Reviewed By: MBC 6/22/2022

Subject: Re: PG&E Topock - PCM, 30121866.2Q22GW (ASSET Labs No. N051226)
From: "Madsen, Laura" <Laura.Madsen@arcadis.com>
Date: 6/19/2022, 9:33 AM
To: Yoandra Rodriguez <yoandra@assetlaboratories.com>
CC: "maryann.balilu@assetlaboratoriesph.com" <maryann.balilu@assetlaboratoriesph.com>, "rustico.aquino@assetlaboratoriesph.com" <rustico.aquino@assetlaboratoriesph.com>, "giselle@assetlaboratories.com" <giselle@assetlaboratories.com>

Hi
Correct analyze for Cr6 only for sample 7

Thanks
Laura

Get Outlook for iOS

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Friday, June 17, 2022 5:53:58 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com <maryann.balilu@assetlaboratoriesph.com>; rustico.aquino@assetlaboratoriesph.com <rustico.aquino@assetlaboratoriesph.com>; giselle@assetlaboratories.com <giselle@assetlaboratories.com>
Subject: PG&E Topock - PCM, 30121866.2Q22GW (ASSET Labs No. N051226)

Hi Laura,

Please, confirm if sample 7 (EB-744-Q222) on the attached COC should be analyzed only for Hex Cr.

--
Thanks,

Yoandra Rodriguez
Project Manager

Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | P: 702.307.2659 | F: 702.307.2691
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | P: 562.219.7435 | F: 562.219.7436

ASSET LABORATORIES - Serving Clients with Passion and Professionalism

This message is intended for the use of the individual or entity to which it is addressed. This may contain information that is privileged, confidential, and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and delete the original message. Thank you.

This email and any files transmitted with it are the property of Arcadis and its affiliates. All rights, including without limitation copyright, are reserved. This email contains information that may be confidential and may also be privileged. It is for the exclusive use of the intended recipient(s). If you are not an intended recipient, please note that any form of distribution, copying or use of this communication or the information in it is strictly prohibited and may be unlawful. If you have received this communication in error, please return it to the sender and then delete the email and destroy any copies of it. While reasonable precautions have been taken to ensure that no software or viruses are present in our emails, we cannot guarantee that this email or any attachment is virus free or has not been intercepted or changed. Any opinions or other information in this email that do not relate to the official business of Arcadis are neither given nor endorsed by it.

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051226

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051226-001A	MW-82-046-0622	6/16/2022 1:16:00 PM	6/30/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051226-001B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051226-001C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051226-001D			6/30/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051226-002A	MW-82-112-0622	6/16/2022 1:47:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051226-002B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051226-002C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051226-002D			6/30/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051226-003A	MW-82-168-0622	6/16/2022 2:27:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051226-003B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051226-003C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051226

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051226-003C	MW-82-168-0622	6/16/2022 2:27:00 PM	6/30/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051226-003D			6/30/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051226-004A	MW-82-198-0622	6/16/2022 3:05:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051226-004B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051226-004C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051226-004D			6/30/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051226-005A	MW-81-043-0622	6/16/2022 11:35:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051226-005B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051226-005C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051226-005D			6/30/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051226-006A	MW-81-098-0622	6/16/2022 12:08:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051226-006B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051226-006C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

17-Jun-22

WorkOrder: N051226

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051226-006C	MW-81-098-0622	6/16/2022 12:08:00 PM	6/30/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051226-006D			6/30/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051226-007A	EB-744-Q222	6/16/2022 3:20:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051226-007B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051226-007C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051226-007D			6/30/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051226-008A	FOLDER	6/30/2022	6/30/2022		Folder	Folder	☐	☐	☐	LAB
			6/30/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/30/2022		Folder	Folder	☐	☐	☐	LAB

July 07, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051227

RE: PG&E Topock - RCM, 30121866.2Q22GW

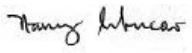
Attention: Dan Bush

Enclosed are the results for sample(s) received on June 16, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Sample N051227-015 (EB-743-Q222) was not analyzed for Method 6020. Please see attached correspondence.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N051227-001 and -007 due to matrix interference. Sample were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.0 ug/L) and hexavalent chromium (0 ug/L) for sample N051227-001 (MW-41D-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (3.8 ug/L) and hexavalent chromium (1.4 ug/L) for sample N051227-007 (MW-40D-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (160 ug/L) and hexavalent chromium (45 ug/L) for sample N051227-011 (MW-24B-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.0 ug/L) and hexavalent chromium (0 ug/L) for sample N051227-001 (MW-41D-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.3 and 1.3 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (3.8 ug/L) and hexavalent chromium (1.4 ug/L) for sample N051227-007 (MW-40D-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 3.5 and 2.6 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Because the results for total dissolved chromium (160 ug/L) and hexavalent chromium (45 ug/L) for sample N051227-011 (MW-24B-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 160 and 51 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051227
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051227-001A	MW-41D-Q222	Groundwater	6/16/2022 12:15:00 PM	6/16/2022	7/7/2022
N051227-001B	MW-41D-Q222	Groundwater	6/16/2022 12:15:00 PM	6/16/2022	7/7/2022
N051227-002A	MW-41M-Q222	Groundwater	6/16/2022 1:00:00 PM	6/16/2022	7/7/2022
N051227-002B	MW-41M-Q222	Groundwater	6/16/2022 1:00:00 PM	6/16/2022	7/7/2022
N051227-003A	MW-41S-Q222	Groundwater	6/16/2022 1:54:00 PM	6/16/2022	7/7/2022
N051227-003B	MW-41S-Q222	Groundwater	6/16/2022 1:54:00 PM	6/16/2022	7/7/2022
N051227-004A	MW-13-Q222	Groundwater	6/16/2022 10:01:00 AM	6/16/2022	7/7/2022
N051227-004B	MW-13-Q222	Groundwater	6/16/2022 10:01:00 AM	6/16/2022	7/7/2022
N051227-005A	MW-14-Q222	Groundwater	6/16/2022 11:01:00 AM	6/16/2022	7/7/2022
N051227-005B	MW-14-Q222	Groundwater	6/16/2022 11:01:00 AM	6/16/2022	7/7/2022
N051227-006A	EB-745-Q222	Groundwater	6/16/2022 2:10:00 PM	6/16/2022	7/7/2022
N051227-007A	MW-40D-Q222	Groundwater	6/16/2022 8:32:00 AM	6/16/2022	7/7/2022
N051227-007B	MW-40D-Q222	Groundwater	6/16/2022 8:32:00 AM	6/16/2022	7/7/2022
N051227-008A	MW-40S-Q222	Groundwater	6/16/2022 8:50:00 AM	6/16/2022	7/7/2022
N051227-008B	MW-40S-Q222	Groundwater	6/16/2022 8:50:00 AM	6/16/2022	7/7/2022
N051227-009A	MW-24A-Q222	Groundwater	6/16/2022 11:56:00 AM	6/16/2022	7/7/2022
N051227-009B	MW-24A-Q222	Groundwater	6/16/2022 11:56:00 AM	6/16/2022	7/7/2022
N051227-009C	MW-24A-Q222	Groundwater	6/16/2022 11:56:00 AM	6/16/2022	7/7/2022
N051227-010A	MW-921-Q222	Groundwater	6/16/2022 12:06:00 PM	6/16/2022	7/7/2022
N051227-010B	MW-921-Q222	Groundwater	6/16/2022 12:06:00 PM	6/16/2022	7/7/2022
N051227-010C	MW-921-Q222	Groundwater	6/16/2022 12:06:00 PM	6/16/2022	7/7/2022
N051227-011A	MW-24B-Q222	Groundwater	6/16/2022 11:02:00 AM	6/16/2022	7/7/2022
N051227-011B	MW-24B-Q222	Groundwater	6/16/2022 11:02:00 AM	6/16/2022	7/7/2022
N051227-011C	MW-24B-Q222	Groundwater	6/16/2022 11:02:00 AM	6/16/2022	7/7/2022
N051227-012A	MW-60-125-Q222	Groundwater	6/16/2022 2:12:00 PM	6/16/2022	7/7/2022
N051227-012B	MW-60-125-Q222	Groundwater	6/16/2022 2:12:00 PM	6/16/2022	7/7/2022
N051227-013A	MW-60BR-245-Q222	Groundwater	6/16/2022 2:54:00 PM	6/16/2022	7/7/2022
N051227-013B	MW-60BR-245-Q222	Groundwater	6/16/2022 2:54:00 PM	6/16/2022	7/7/2022
N051227-014A	MW-61-110-Q222	Groundwater	6/16/2022 1:24:00 PM	6/16/2022	7/7/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051227
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051227-014B	MW-61-110-Q222	Groundwater	6/16/2022 1:24:00 PM	6/16/2022	7/7/2022
N051227-015A	EB-743-Q222	Groundwater	6/16/2022 3:10:00 PM	6/16/2022	7/7/2022
N051227-015B	EB-743-Q222	Groundwater	6/16/2022 3:10:00 PM	6/16/2022	7/7/2022
N051227-016A	MW-89-183-Q222	Groundwater	6/16/2022 8:27:00 AM	6/16/2022	7/7/2022
N051227-016B	MW-89-183-Q222	Groundwater	6/16/2022 8:27:00 AM	6/16/2022	7/7/2022
N051227-017A	MW-89-273-Q222	Groundwater	6/16/2022 9:12:00 AM	6/16/2022	7/7/2022
N051227-017B	MW-89-273-Q222	Groundwater	6/16/2022 9:12:00 AM	6/16/2022	7/7/2022
N051227-018A	MW-37D-Q222	Groundwater	6/16/2022 9:05:00 AM	6/16/2022	7/7/2022
N051227-018B	MW-37D-Q222	Groundwater	6/16/2022 9:05:00 AM	6/16/2022	7/7/2022
N051227-019A	MW-37S-Q222	Groundwater	6/16/2022 8:30:00 AM	6/16/2022	7/7/2022
N051227-019B	MW-37S-Q222	Groundwater	6/16/2022 8:30:00 AM	6/16/2022	7/7/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41D-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 12:15:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/17/2022 07:15 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	1.0	0.035	1.0		µg/L	1	6/21/2022 01:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41M-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 1:00:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	8.9	0.13	1.0		µg/L	5	6/17/2022 08:22 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220621B**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	9.7	0.035	1.0		µg/L	1	6/21/2022 01:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-41S-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 1:54:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	4.8	0.025	0.20		µg/L	1	6/17/2022 02:24 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220621B**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	5.1	0.035	1.0		µg/L	1	6/21/2022 01:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-13-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 10:01:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A** QC Batch: **R163274**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	22	0.13	1.0		µg/L	5	6/17/2022 03:02 PM
DISSOLVED METALS BY ICP-MS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93397**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	22	0.035	1.0		µg/L	1	6/21/2022 01:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-14-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 11:01:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A** QC Batch: **R163274**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	11	0.13	1.0		µg/L	5	6/17/2022 10:10 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220621B** QC Batch: **93397**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	11	0.035	1.0		µg/L	1	6/21/2022 01:50 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-745-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 2:10:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/17/2022 03:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40D-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 8:32:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.4	0.13	1.0		µg/L	5	6/17/2022 09:18 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220621B**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	3.8	0.035	1.0		µg/L	1	6/21/2022 02:20 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-40S-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 8:50:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A** QC Batch: **R163274**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	19	0.13	1.0		µg/L	5	6/17/2022 04:06 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93397**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	19	0.035	1.0		µg/L	1	6/21/2022 02:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 11:56:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A**	QC Batch: **R163274**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/17/2022 04:25 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/21/2022 02:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-921-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 12:06:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220617A** QC Batch: **R163274**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/17/2022 05:03 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93397**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/21/2022 02:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24B-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 11:02:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	45	0.13	1.0		µg/L	5	6/20/2022 10:56 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220621B**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	160	0.035	1.0		µg/L	1	6/21/2022 03:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60-125-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 2:12:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	270	1.3	10		µg/L	50	6/20/2022 10:36 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220621B**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	260	0.18	5.0		µg/L	5	6/21/2022 04:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-60BR-245-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 2:54:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	10	0.13	1.0		µg/L	5	6/20/2022 03:36 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93397**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	10	0.035	1.0		µg/L	1	6/21/2022 03:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-61-110-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 1:24:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-014		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	310	1.3	10		µg/L	50	6/20/2022 10:47 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220630E**	QC Batch: **93397**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	280	0.18	5.0		µg/L	5	7/1/2022 01:18 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-743-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 3:10:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-015		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/20/2022 02:58 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-89-183-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 8:27:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-016		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1.0	0.025	0.20		µg/L	1	6/20/2022 01:23 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220621B** QC Batch: **93397**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	1.1	0.035	1.0		µg/L	1	6/21/2022 03:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-89-273-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 9:12:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-017		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.58	0.025	0.20		µg/L	1	6/20/2022 01:42 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220621B**	QC Batch: **93398**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	1.1	0.035	1.0		µg/L	1	6/21/2022 05:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37D-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 9:05:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-018		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5.6	0.13	1.0		µg/L	5	6/20/2022 03:55 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220621B**	QC Batch: **93398**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	6.0	0.035	1.0		µg/L	1	6/21/2022 05:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-37S-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 8:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-019		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	12	0.025	0.20		µg/L	1	6/20/2022 02:20 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220621B** QC Batch: **93398**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	6/21/2022 05:48 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163274	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	PBW	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R163274	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	LCSW	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683397

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.147	0.20	5.000	0	103	90	110				

Sample ID	N051207-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683399

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.017	1.0	5.000	0	100	90	110				

Sample ID	N051207-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683401

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	58.846	1.0	25.00	32.51	105	90	110				

Sample ID	N051227-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683404

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.602	1.0	25.00	10.70	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051227-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683405

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	36.362	1.0	25.00	10.70	103	90	110	36.60	0.658	20	

Sample ID	N051226-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683408

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.984	0.20	1.000	0	98.4	90	110				

Sample ID	N051226-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683410

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.199	0.20	1.000	1.169	103	90	110				

Sample ID	N051207-005ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683411

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	31.639	1.0						32.51	2.73	20	

Sample ID	N051226-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683415

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.061	0.20	1.000	0	106	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051227-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683417

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.006	0.20	5.000	4.824	104	90	110				

Sample ID	N051227-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683421

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.618	1.0	25.00	21.60	100	90	110				

Sample ID	N051227-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.997	0.20	1.000	0	99.7	90	110				

Sample ID	N051227-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683425

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.129	1.0	25.00	19.04	100	90	110				

Sample ID	N051227-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683427

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.056	0.20	1.000	0	106	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051227-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683431

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0	107	90	110				

Sample ID	N051226-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683433

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.105	1.0	5.000	0	102	90	110				

Sample ID	N051226-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683435

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.004	1.0	5.000	4.124	97.6	90	110				

Sample ID	N051226-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.002	1.0	5.000	1.840	103	90	110				

Sample ID	N051227-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683441

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.513	1.0	5.000	0.6390	97.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051226-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683445

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.609	0.20	5.000	4.410	104	90	110				

Sample ID	N051227-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	13.871	1.0	5.000	8.908	99.3	90	110				

Sample ID	N051227-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163274
Client ID:	ZZZZZZ	Batch ID:	R163274	TestNo:	EPA 218.6			Analysis Date:	6/17/2022	SeqNo:	4683451

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6.241	1.0	5.000	1.380	97.2	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163347	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347		
Client ID:	PBW	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688617		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R163347	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347		
Client ID:	LCSW	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688618		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.006	0.20	5.000	0	100	90	110						

Sample ID	N051227-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347		
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688622		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	71.713	1.0	25.00	45.46	105	90	110						

Sample ID	N051227-011ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347		
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688623		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	46.474	1.0						45.46	2.21	20			

Sample ID	N051227-014AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347		
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688624		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	551.265	10	250.0	305.1	98.5	90	110						

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051227-014AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.235	10	250.0	305.1	98.5	90	110	551.3	0.00544	20	

Sample ID	N051227-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	526.150	10	250.0	272.7	101	90	110				

Sample ID	N051227-016AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688630

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.034	0.20	1.000	1.021	101	90	110				

Sample ID	N051227-017AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688632

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.631	0.20	1.000	0.5801	105	90	110				

Sample ID	N051227-019AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688634

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16.946	0.20	5.000	12.04	98.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051227-015AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688638

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.971	0.20	1.000	0	97.1	90	110				

Sample ID	N051229-006BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688640

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.998	0.20	1.000	0	99.8	90	110				

Sample ID	N051227-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688642

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15.128	1.0	5.000	10.31	96.3	90	110				

Sample ID	N051227-018AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688644

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.608	1.0	5.000	5.612	99.9	90	110				

Sample ID	N051251-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163347
Client ID:	ZZZZZZ	Batch ID:	R163347	TestNo:	EPA 218.6			Analysis Date:	6/20/2022	SeqNo:	4688648

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	83.748	2.0	50.00	34.59	98.3	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051251-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688650**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID **N051251-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	105.665	2.0	50.00	55.17	101	90	110				

Sample ID **N051251-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.165	1.0	25.00	13.41	103	90	110				

Sample ID **N051251-008AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.099	1.0	25.00	14.01	100	90	110				

Sample ID **N051251-009AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	6895.450	100	2500	4393	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051251-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID **N051251-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.247	1.0	5.000	0	105	90	110				

Sample ID **N051251-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.213	1.0	5.000	0	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93397	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	PBW	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93397	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	LCSW	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691258

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.547	1.0	10.00	0	95.5	85	115				

Sample ID	N051227-005BMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	ZZZZZZ	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691274

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.365	1.0	10.00	10.59	97.8	75	125				

Sample ID	N051227-005BMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	ZZZZZZ	Batch ID:	93397	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691275

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	20.343	1.0	10.00	10.59	97.6	75	125	20.36	0.107	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93398	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	PBW	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691306

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93398	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	LCSW	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691307

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.652	1.0	10.00	0	96.5	85	115				

Sample ID	N051250-003CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691318

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.048	1.0	10.00	0.8905	91.6	75	125				

Sample ID	N051250-003CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163399
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691319

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.201	1.0	10.00	0.8905	93.1	75	125	10.05	1.52	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 11:56:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.55	0.048	0.25		mg/L	5	6/17/2022 09:36 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-921-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 12:06:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.50	0.048	0.25		mg/L	5	6/17/2022 12:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24B-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 11:02:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	1.3	0.048	0.25		mg/L	5	6/17/2022 11:23 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163314_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	PBW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685973

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163314_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	LCSW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685974

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.206	0.050	1.250	0	96.4	90	110				

Sample ID	N051227-010BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685986

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.529	0.25						0.5005	5.44	20	

Sample ID	N051226-002BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.605	0.50	12.50	1.069	92.3	80	120				

Sample ID	N051226-002BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685988

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.542	0.50	12.50	1.069	91.8	80	120	12.60	0.501	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	N051250-003BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686001

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.826	0.25	6.250	0	93.2	80	120				

Sample ID	N051250-003BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4686002

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.878	0.25	6.250	0	94.0	80	120	5.826	0.880	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24A-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 11:56:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Molybdenum	46	0.12	0.50		µg/L	1	6/21/2022 02:49 PM
Selenium	0.63	0.044	0.50		µg/L	1	6/25/2022 03:35 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-921-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 12:06:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Molybdenum	42	0.12	0.50		µg/L	1	6/21/2022 02:55 PM
Selenium	ND	0.044	0.50		µg/L	1	6/21/2022 02:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-24B-Q222
Lab Order:	N051227	**Collection Date:**	6/16/2022 11:02:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051227-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93397**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Molybdenum	36	0.12	0.50		µg/L	1	6/21/2022 03:01 PM
Selenium	1.4	0.044	0.50		µg/L	1	6/21/2022 03:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051227
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID **MB-93397**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163402**
Client ID: **PBW**	Batch ID: **93397**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-93397**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163402**
Client ID: **LCSW**	Batch ID: **93397**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.567	0.50	10.00	0	95.7	85	115				
Selenium	8.960	0.50	10.00	0	89.6	85	115				

Sample ID **N051227-005BMS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163402**
Client ID: **ZZZZZZ**	Batch ID: **93397**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691419**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	22.897	0.50	10.00	11.81	111	75	125				
Selenium	11.018	0.50	10.00	1.831	91.9	75	125				

Sample ID **N051227-005BMSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163402**
Client ID: **ZZZZZZ**	Batch ID: **93397**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691420**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	23.146	0.50	10.00	11.81	113	75	125	22.90	1.08	20	
Selenium	10.748	0.50	10.00	1.831	89.2	75	125	11.02	2.48	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

N051227

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3; 6. Method of Cooling: ICE
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Sample Temp: 3.2°C / 3.6°C
Submitted By: Riggie Tep	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Global ID:
Title: Field Tech	Sampled By: Riggie Tep		
Signature: Date: 6/16/22	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for		
I hereby authorize ASSET Labs to perform the tests indicated below.	Signature: Date: 6/16/22		
Project Name: PG&E Topock - RCM			
Project Number: 30121866.2Q22GW			

Matrix: Ground X; Sediment; Potable; Soil; NPDES; Other Solid; Surface

Courier: ASET
Tracking No.:

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051227-07	MW-40D-Q222	6/16/2022	8:32		X			X		E	2	P	BNS	
2	-08	MW-40S-Q222	6/16/2022	8:50		X			X		E	2	P	BNS	
3	-09	MW-24A-Q222	6/16/2022	11:56		X	X		X	X	E	3	P	BNS	
4	-10	MW-921-Q222	6/16/2022	12:06		X	X		X	X	E	3	P	BNS	
5	-11	MW-24B-Q222	6/16/2022	11:02		X	X		X	X	E	3	P	BNS	
7	-12	MW-60-125-Q222	6/16/2022	14:12		X			X		E	2	P	BNS	
8	-13	MW-60BR-245-Q222	6/16/2022	14:54		X			X		E	2	P	BNS	
9	-14	MW-61-110-Q222	6/16/2022	13:24		X			X		E	2	P	BNS	
10	-15	EB-743-Q222	6/16/2022	15:10		X			X		E	1	P	BNS	
11	-16	MW-89-183-Q222	6/16/2022	8:27		X			X		E	2	P	BNS	
12	-17	MW-89-273-Q222	6/16/2022	9:12		X			X		E	2	P	BNS	
13	-18	MW-37D-Q222	6/16/2022	9:05		X			X		E	2	P	BNS	
14	-19	MW-37S-Q222	6/16/2022	8:30		X			X		E	2	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Riggie Tep	6/16/22 1553	Romeo Kicaman	6/16/22 1553
Romeo Kicaman	6/16/22 1845	Romeo Kicaman	6/16/22 1845

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/16/2022	Workorder:	N051227
Rep sample Temp (Deg C):	3.2/3.6	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/17/2022

Reviewed By: MBC 6/27/2022

Sonny Lorenzo

From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Tuesday, June 28, 2022 5:09 PM
To: Sonny Lorenzo
Cc: 'Giselle Garcia'; yoandra@assetlaboratories.com; marlon@assetlaboratories.com
Subject: Re: N051227

Hi
We only need Cr6 for the EB-743 sample. The COC had a typo.

Thanks
Laura

Get Outlook for iOS

From: Sonny Lorenzo <sonny.lorenzo@assetlaboratories.com>
Sent: Tuesday, June 28, 2022 6:58:48 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: 'Giselle Garcia' <giselle@assetlaboratories.com>; yoandra@assetlaboratories.com <yoandra@assetlaboratories.com>; marlon@assetlaboratories.com <marlon@assetlaboratories.com>
Subject: N051227

Hi Laura,

I'm currently doing the review for above SDG,
Please advise if you need Dissolved Chromium for samples EB-743-Q222. It was marked on the COC attached.

Thank you,

Sonny Lorenzo
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421
www.assetlaboratories.com

ASSET Laboratories

WORK ORDER Summary

30-Jun-22

WorkOrder: N051227

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051227-001A	MW-41D-Q222	6/16/2022 12:15:00 PM	6/30/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-001B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-002A	MW-41M-Q222	6/16/2022 1:00:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-002B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-003A	MW-41S-Q222	6/16/2022 1:54:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-003B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-004A	MW-13-Q222	6/16/2022 10:01:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-004B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-005A	MW-14-Q222	6/16/2022 11:01:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N051227-005B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N051227-006A	EB-745-Q222	6/16/2022 2:10:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-007A	MW-40D-Q222	6/16/2022 8:32:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-007B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-008A	MW-40S-Q222	6/16/2022 8:50:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-008B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Jun-22

WorkOrder: N051227

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051227-009A	MW-24A-Q222	6/16/2022 11:56:00 AM	6/30/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-009B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051227-009C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-010A	MW-921-Q222	6/16/2022 12:06:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-010B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051227-010C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-011A	MW-24B-Q222	6/16/2022 11:02:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-011B			6/30/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051227-011C			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-012A	MW-60-125-Q222	6/16/2022 2:12:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-012B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-013A	MW-60BR-245-Q222	6/16/2022 2:54:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-013B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-014A	MW-61-110-Q222	6/16/2022 1:24:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

30-Jun-22

WorkOrder: N051227

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/16/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051227-014B	MW-61-110-Q222	6/16/2022 1:24:00 PM	6/30/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-015A	EB-743-Q222	6/16/2022 3:10:00 PM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-015B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☑	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☑	☐	☐	WW
N051227-016A	MW-89-183-Q222	6/16/2022 8:27:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-016B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-017A	MW-89-273-Q222	6/16/2022 9:12:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-017B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-018A	MW-37D-Q222	6/16/2022 9:05:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-018B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-019A	MW-37S-Q222	6/16/2022 8:30:00 AM	6/30/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051227-019B			6/30/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			6/30/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051227-020A	FOLDER	6/30/2022	6/30/2022		Folder	Folder	☐	☐	☐	LAB
			6/30/2022		Folder	Level IV Report	☐	☐	☐	LAB
			6/30/2022		Folder	Folder	☐	☐	☐	LAB

July 07, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051250

RE: PG&E Topock - PCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 17, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6010B_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery and RPD criteria for Iron in QC samples N051250-003CMS and N051250-003CMSD possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Arsenic in QC samples N051250-003CMS and N051250-003CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for SM 5310C:

Matrix Spike (MS) is outside recovery criteria in QC sample N051250-003DMS at several dilutions possibly due to matrix interference. QC samples were further diluted and recovery passed criteria. Thus sample reference N051250-003D and MS/MSD were reported at 50x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051250
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051250-001A	MW-45-095a-0622	Groundwater	6/17/2022 7:50:00 AM	6/17/2022	7/7/2022
N051250-001B	MW-45-095a-0622	Groundwater	6/17/2022 7:50:00 AM	6/17/2022	7/7/2022
N051250-001C	MW-45-095a-0622	Groundwater	6/17/2022 7:50:00 AM	6/17/2022	7/7/2022
N051250-001D	MW-45-095a-0622	Groundwater	6/17/2022 7:50:00 AM	6/17/2022	7/7/2022
N051250-002A	MW-34-080-0622	Groundwater	6/17/2022 8:30:00 AM	6/17/2022	7/7/2022
N051250-002B	MW-34-080-0622	Groundwater	6/17/2022 8:30:00 AM	6/17/2022	7/7/2022
N051250-002C	MW-34-080-0622	Groundwater	6/17/2022 8:30:00 AM	6/17/2022	7/7/2022
N051250-002D	MW-34-080-0622	Groundwater	6/17/2022 8:30:00 AM	6/17/2022	7/7/2022
N051250-003A	MW-44-115-0622	Groundwater	6/17/2022 8:13:00 AM	6/17/2022	7/7/2022
N051250-003B	MW-44-115-0622	Groundwater	6/17/2022 8:13:00 AM	6/17/2022	7/7/2022
N051250-003C	MW-44-115-0622	Groundwater	6/17/2022 8:13:00 AM	6/17/2022	7/7/2022
N051250-003D	MW-44-115-0622	Groundwater	6/17/2022 8:13:00 AM	6/17/2022	7/7/2022
N051250-004A	MW-44-125-0622	Groundwater	6/17/2022 7:46:00 AM	6/17/2022	7/7/2022
N051250-004B	MW-44-125-0622	Groundwater	6/17/2022 7:46:00 AM	6/17/2022	7/7/2022
N051250-004C	MW-44-125-0622	Groundwater	6/17/2022 7:46:00 AM	6/17/2022	7/7/2022
N051250-004D	MW-44-125-0622	Groundwater	6/17/2022 7:46:00 AM	6/17/2022	7/7/2022
N051250-005A	MW-36-090-0622	Groundwater	6/17/2022 9:02:00 AM	6/17/2022	7/7/2022
N051250-005B	MW-36-090-0622	Groundwater	6/17/2022 9:02:00 AM	6/17/2022	7/7/2022
N051250-005C	MW-36-090-0622	Groundwater	6/17/2022 9:02:00 AM	6/17/2022	7/7/2022
N051250-005D	MW-36-090-0622	Groundwater	6/17/2022 9:02:00 AM	6/17/2022	7/7/2022
N051250-006A	MW-36-100-0622	Groundwater	6/17/2022 9:27:00 AM	6/17/2022	7/7/2022
N051250-006B	MW-36-100-0622	Groundwater	6/17/2022 9:27:00 AM	6/17/2022	7/7/2022
N051250-006C	MW-36-100-0622	Groundwater	6/17/2022 9:27:00 AM	6/17/2022	7/7/2022
N051250-006D	MW-36-100-0622	Groundwater	6/17/2022 9:27:00 AM	6/17/2022	7/7/2022
N051250-007A	MW-940-Q222	Groundwater	6/17/2022 9:37:00 AM	6/17/2022	7/7/2022
N051250-007B	MW-940-Q222	Groundwater	6/17/2022 9:37:00 AM	6/17/2022	7/7/2022
N051250-007C	MW-940-Q222	Groundwater	6/17/2022 9:37:00 AM	6/17/2022	7/7/2022
N051250-007D	MW-940-Q222	Groundwater	6/17/2022 9:37:00 AM	6/17/2022	7/7/2022
N051250-008A	MW-30-050-0622	Groundwater	6/17/2022 10:16:00 AM	6/17/2022	7/7/2022

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab Order: N051250
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051250-008B	MW-30-050-0622	Groundwater	6/17/2022 10:16:00 AM	6/17/2022	7/7/2022
N051250-008C	MW-30-050-0622	Groundwater	6/17/2022 10:16:00 AM	6/17/2022	7/7/2022
N051250-008D	MW-30-050-0622	Groundwater	6/17/2022 10:16:00 AM	6/17/2022	7/7/2022
N051250-009A	EB-747-Q222	Groundwater	6/17/2022 10:20:00 AM	6/17/2022	7/7/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/21/2022 11:36 AM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 8:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/21/2022 11:55 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 8:13:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/21/2022 10:21 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:46:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/21/2022 02:36 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:02:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/21/2022 12:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.93	0.025	0.20		µg/L	1	6/21/2022 01:02 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-940-Q222
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:37:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.81	0.025	0.20		µg/L	1	6/21/2022 01:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/21/2022 01:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-747-Q222
Lab Order:	N051250	**Collection Date:**	6/17/2022 10:20:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/21/2022 02:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163384	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	PBW	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690448

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	LCS-R163384	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	LCSW	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690449

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.963	0.20	5.000	0	99.3	90	110				

Sample ID	N051250-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690463

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.953	1.0	5.000	0.6575	106	90	110				

Sample ID	N051250-003AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690464

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.681	1.0	5.000	0.6575	100	90	110	5.953	4.68	20	

Sample ID	N051251-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690468

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.468	1.0	25.00	25.25	105	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051250-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID **N051250-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0	108	90	110				

Sample ID **N051250-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID **N051250-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.878	0.20	1.000	0.9347	94.3	90	110				

Sample ID **N051250-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.838	0.20	1.000	0.8116	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051250-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690482

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	107	90	110				

Sample ID	N051250-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690484

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID	N051250-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690486

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.466	1.0	5.000	0	109	90	110				

Sample ID	N051251-004ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690487

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	25.510	1.0						25.25	1.04	20	

Sample ID	N051286-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690491

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.094	0.20	1.000	0	109	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051286-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690493

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	873.060	20	500.0	359.1	103	90	110				

Sample ID	N051286-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690494

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	878.040	20	500.0	358.8	104	90	110				

Sample ID	N051286-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690496

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.057	0.20	1.000	0	106	90	110				

Sample ID	N051286-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690500

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.386	1.0	5.000	0	108	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	480	3.0	25		mg/L	50	6/18/2022 01:51 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 05:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051250-002

Client Sample ID: MW-34-080-0622
Collection Date: 6/17/2022 8:30:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	490	3.0	25		mg/L	50	6/18/2022 02:07 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 05:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051250-003

Client Sample ID: MW-44-115-0622
Collection Date: 6/17/2022 8:13:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	1000	12	100		mg/L	200	6/18/2022 12:35 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 04:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:46:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	1100	12	100		mg/L	200	6/18/2022 02:22 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 05:39 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:02:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	350	3.0	25		mg/L	50	6/18/2022 02:37 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 06:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	470	3.0	25		mg/L	50	6/18/2022 02:52 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 06:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-940-Q222
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:37:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	470	3.0	25		mg/L	50	6/18/2022 03:08 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 06:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220618A**	QC Batch: **R163320**			PrepDate:			Analyst: **RAB**
Sulfate	210	3.0	25		mg/L	50	6/18/2022 03:23 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220617A**	QC Batch: **R163314**			PrepDate:			Analyst: **RAB**
Nitrate as N	ND	0.048	0.25		mg/L	5	6/17/2022 07:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R163320_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163320
Client ID:	PBW	Batch ID:	R163320	TestNo:	EPA 300.0			Analysis Date:	6/18/2022	SeqNo:	4686164

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R163320_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163320
Client ID:	LCSW	Batch ID:	R163320	TestNo:	EPA 300.0			Analysis Date:	6/18/2022	SeqNo:	4686165

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.974	0.50	4.000	0	99.4	90	110				

Sample ID	N051209-002BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163320
Client ID:	ZZZZZZ	Batch ID:	R163320	TestNo:	EPA 300.0			Analysis Date:	6/18/2022	SeqNo:	4686167

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	302.276	10	80.00	223.2	98.9	80	120				

Sample ID	N051209-002BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163320
Client ID:	ZZZZZZ	Batch ID:	R163320	TestNo:	EPA 300.0			Analysis Date:	6/18/2022	SeqNo:	4686168

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	304.038	10	80.00	223.2	101	80	120	302.3	0.581	20	

Sample ID	N051210-002BDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163320
Client ID:	ZZZZZZ	Batch ID:	R163320	TestNo:	EPA 300.0			Analysis Date:	6/18/2022	SeqNo:	4686170

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	159.062	10						158.1	0.595	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N051250-003BMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163320
Client ID:	ZZZZZZ	Batch ID:	R163320	TestNo:	EPA 300.0			Analysis Date:	6/18/2022	SeqNo:	4686184

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1817.060	100	800.0	1016	100	80	120				

Sample ID	N051250-003BMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	163320
Client ID:	ZZZZZZ	Batch ID:	R163320	TestNo:	EPA 300.0			Analysis Date:	6/18/2022	SeqNo:	4686185

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1825.280	100	800.0	1016	101	80	120	1817	0.451	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163314_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	PBW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685973

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163314_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	LCSW	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685974

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.206	0.050	1.250	0	96.4	90	110				

Sample ID	N051227-010BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685986

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	0.529	0.25						0.5005	5.44	20	

Sample ID	N051226-002BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685987

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.605	0.50	12.50	1.069	92.3	80	120				

Sample ID	N051226-002BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163314
Client ID:	ZZZZZZ	Batch ID:	R163314	TestNo:	EPA 300.0			Analysis Date:	6/17/2022	SeqNo:	4685988

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	12.542	0.50	12.50	1.069	91.8	80	120	12.60	0.501	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID **N051250-003BMS**	SampType: **MS**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163314**
Client ID: **ZZZZZZ**	Batch ID: **R163314**	TestNo: **EPA 300.0**		Analysis Date: **6/17/2022**	SeqNo: **4686001**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.826	0.25	6.250	0	93.2	80	120				

Sample ID **N051250-003BMSD**	SampType: **MSD**	TestCode: **300WLLNO3**	Units: **mg/L**	Prep Date:	RunNo: **163314**
Client ID: **ZZZZZZ**	Batch ID: **R163314**	TestNo: **EPA 300.0**		Analysis Date: **6/17/2022**	SeqNo: **4686002**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	5.878	0.25	6.250	0	94.0	80	120	5.826	0.880	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 06:57 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 8:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 05:24 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 8:13:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	6.8	50		mg/L	50	6/20/2022 01:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:46:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 05:40 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:02:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 05:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 06:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-940-Q222
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:37:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 06:26 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220620A**	QC Batch: **R163342**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	ND	0.14	1.0		mg/L	1	6/20/2022 06:42 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R163342**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **PBW**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688433**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R163342**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **LCSW**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688434**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.736	1.0	5.000	0	94.7	85	115				

Sample ID **N051250-003DMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **ZZZZZZ**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688442**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	226.160	50	250.0	0	90.5	75	125				

Sample ID **N051250-003DMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163342**
Client ID: **ZZZZZZ**	Batch ID: **R163342**	TestNo: **SM 5310C**		Analysis Date: **6/20/2022**	SeqNo: **4688445**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	228.270	50	250.0	0	91.3	75	125	226.2	0.929	20	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-45-095a-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:50:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 04:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 8:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Iron	790	13	20		µg/L	1	6/24/2022 04:14 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051250-003

Client Sample ID: MW-44-115-0622
Collection Date: 6/17/2022 8:13:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	6/24/2022 04:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:46:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Iron	370	13	20		µg/L	1	6/24/2022 04:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:02:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Iron	42	13	20		µg/L	1	6/24/2022 05:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-100-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:27:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Iron	410	13	20		µg/L	1	6/24/2022 05:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051250-007

Client Sample ID: MW-940-Q222
Collection Date: 6/17/2022 9:37:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Iron	350	13	20		µg/L	1	6/24/2022 05:10 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-30-050-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 10:16:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_220624B**	QC Batch: **93399**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Iron	58	13	20		µg/L	1	6/24/2022 05:15 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-93399	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163474	
Client ID:	PBW	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694397	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	ND	20										

Sample ID	LCS-9399	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:		RunNo:	163474	
Client ID:	LCSW	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694398	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	95.863	20	100.0	0	95.9	85	115					

Sample ID	N051250-003CMS	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163474	
Client ID:	ZZZZZZ	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694414	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	158.202	20	100.0	15.87	142	75	125				S	

Sample ID	N051250-003CMSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163474	
Client ID:	ZZZZZZ	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694415	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Iron	89.271	20	100.0	15.87	73.4	75	125	158.2	55.7	20	SR	

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	N051250-003C-PS	SampType:	PS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:		RunNo:	163474
Client ID:	ZZZZZZ	Batch ID:	93399	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4694413

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	124.801	20	100.0	15.87	109	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051250-001

Client Sample ID: MW-45-095a-0622
Collection Date: 6/17/2022 7:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220621C**	QC Batch: **93398**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 05:54 PM
Barium	29	0.083	1.0		µg/L	1	6/24/2022 09:26 PM
Manganese	370	0.13	2.5		µg/L	5	6/22/2022 03:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-34-080-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 8:30:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93398**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 06:00 PM
Barium	35	0.083	1.0		µg/L	1	6/24/2022 09:32 PM
Manganese	110	0.026	0.50		µg/L	1	6/21/2022 06:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-115-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 8:13:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93398**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 06:06 PM
Barium	19	0.083	1.0		µg/L	1	6/24/2022 09:38 PM
Manganese	14	0.026	0.50		µg/L	1	6/21/2022 06:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-44-125-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 7:46:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93398**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 06:54 PM
Barium	44	0.083	1.0		µg/L	1	6/24/2022 10:31 PM
Manganese	440	0.13	2.5		µg/L	5	6/22/2022 02:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-36-090-0622
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:02:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220621C**	QC Batch: **93398**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 07:00 PM
Barium	37	0.083	1.0		µg/L	1	6/24/2022 10:37 PM
Manganese	130	0.026	0.50		µg/L	1	6/21/2022 07:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051250-006

Client Sample ID: MW-36-100-0622
Collection Date: 6/17/2022 9:27:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220621C**	QC Batch: **93398**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 07:06 PM
Barium	51	0.083	1.0		µg/L	1	6/24/2022 10:43 PM
Manganese	620	0.13	2.5		µg/L	5	6/22/2022 02:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-940-Q222
Lab Order:	N051250	**Collection Date:**	6/17/2022 9:37:00 AM
Project:	PG&E Topock - PCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051250-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A				**EPA 6020**		
RunID: **NV00922-ICP8_220621C**	QC Batch: **93398**				PrepDate:	**6/19/2022**	Analyst: **DJ**
Arsenic	ND	0.050	0.10		µg/L	1	6/21/2022 07:12 PM
Barium	52	0.083	1.0		µg/L	1	6/24/2022 10:49 PM
Manganese	560	0.13	2.5		µg/L	5	6/22/2022 03:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW
Lab ID: N051250-008

Client Sample ID: MW-30-050-0622
Collection Date: 6/17/2022 10:16:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220622A**	QC Batch: **93398**			PrepDate:		**6/19/2022**	Analyst: **DJ**
Arsenic	2.0	0.050	0.10		µg/L	1	6/22/2022 03:19 PM
Barium	21	0.083	1.0		µg/L	1	6/24/2022 10:55 PM
Manganese	540	0.13	2.5		µg/L	5	6/22/2022 03:25 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93398	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	PBW	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691451

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Manganese	0.055	0.50									

Sample ID	LCS-93398	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	LCSW	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691452

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	9.682	0.10	10.00	0	96.8	85	115				
Manganese	94.845	0.50	100.0	0	94.8	85	115				

Sample ID	N051250-003CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691463

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.642	0.10	10.00	0	66.4	75	125				S
Manganese	100.919	0.50	100.0	14.05	86.9	75	125				

Sample ID	N051250-003CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163402
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691464

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.340	0.10	10.00	0	63.4	75	125	6.642	4.66	20	S
Manganese	100.338	0.50	100.0	14.05	86.3	75	125	100.9	0.577	20	

Sample ID	MB-93398	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	PBW	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698141

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93398	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	PBW	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698141

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									

Sample ID	LCS-93398	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	LCSW	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698142

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.327	1.0	10.00	0	93.3	85	115				

Sample ID	N051250-003CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698152

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	27.337	1.0	10.00	18.92	84.2	75	125				

Sample ID	N051250-003CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/19/2022	RunNo:	163498
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698153

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	27.422	1.0	10.00	18.92	85.0	75	125	27.34	0.312	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051250
Project: PG&E Topock - PCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N051250-003C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	163402
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/21/2022	SeqNo:	4691462

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	6.353	0.10	10.00	0	63.5	80	120				S
Manganese	100.925	0.50	100.0	14.05	86.9	80	120				

Sample ID	N051250-003C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	163498
Client ID:	ZZZZZZ	Batch ID:	93398	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4698151

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	27.367	1.0	10.00	18.92	84.5	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ARCUS02
FOLDER
N051250-010A

C: 6/30/2022 12:00 AM
R: 6/17/2022
1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:
Address: Roseville, CA 95678	Email: [illegible]@arcadis.com	Address:
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#
Submitted By: Nara Tep		Phone: 949-727-1400, ext 200 Fax:
Title: Project Manager	Phone: 916-786-3302 Fax:	
Signature: Date: 6/17/22	Sampled By: Nara Tep	
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for	
Project Name: PG&E Topock - PCM	Signature: Date: 6/17/22	
Project Number: 30121866.2Q22GW		

EDD Requirement		QA/QC	
Excel EDD		RTNE	
Geotracker		RWQCB	✓
Labspec		CalTrans	
Others	✓	LEVEL III	
Specify: RWQCB		LEVEL IV	
Global ID:		Regulatory	
		Specify State:	

Sample Receipt Condition	Y	N
1. Chilled	✓	
2. Headspace		
3. Container Intact	✓	
4. Seal Present		X
5. IR number	3	
6. Method of Cooling: ICE		
Sample Temp: 2.1°C / 4.1°C		
Courier: ASSET		
Tracking No.:		

Matrix: Ground X | Sediment | Potable | Soil | NPDES | Other Solid | Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate, sulfate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Arsenic, Iron, Barium, Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Total Organic Carbon (SM5310C); H2SO4 3x40 mL VOA	Total metals (SW6010) No filter; HNO3 Total Iron 500mL poly	Ammonia as Nitrogen (SM4500NH3); H2SO4 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051250-01	MW-45-095a-0622	6/17/2022	7:50		X	X	X			X			E	6	P	BNS	
2	-02	MW-34-080-0622	6/17/2022	8:30		X	X	X			X			E	6	P	BNS	
3	-03	MW-44-115-0622	6/17/2022	8:13		X	X	X			X			E	9	P	BNS	MS/MSD
4	-04	MW-44-125-0622	6/17/2022	7:46		X	X	X			X			E	6	P	BNS	
5	-05	MW-36-090-0622	6/17/2022	9:02		X	X	X			X			E	6	P	BNS	
6	-06	MW-36-100-0622	6/17/2022	9:27		X	X	X			X			E	6	P	BNS	
7	-07	MW-940-Q222	6/17/2022	9:37		X	X	X			X			E	6	P	BNS	
8	-08	MW-30-050-0622	6/17/2022	10:16		X	X	X			X			E	6	P	BNS	
9	-09	EB-747-Q222	6/17/2022	10:20		X								E	1	P	BNS	
10																		
11																		
12																		
13																		
14																		

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nara Tep	6/17/22 1200	ROMEO ARCAMASA	6/17/22 1200
ROMEO ARCAMASA	6/17/22 1545	Giselle Ramirez	6/17/22 1545

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/17/2022	Workorder:	N051250
Rep sample Temp (Deg C):	2.1/4.1	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: GGJ YRJ 6/20/2022

Reviewed By: MBC 6/22/2022

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051250

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/17/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051250-001A	MW-45-095a-0622	6/17/2022 7:50:00 AM	7/1/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-001B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051250-001C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051250-001D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051250-002A	MW-34-080-0622	6/17/2022 8:30:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-002B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051250-002C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051250-002D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051250-003A	MW-44-115-0622	6/17/2022 8:13:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N051250-003B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N051250-003C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☑	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051250

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/17/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051250-003C	MW-44-115-0622	6/17/2022 8:13:00 AM	7/1/2022	Groundwater	EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N051250-003D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☑	☐	VW
N051250-004A	MW-44-125-0622	6/17/2022 7:46:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-004B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051250-004C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051250-004D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051250-005A	MW-36-090-0622	6/17/2022 9:02:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-005B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051250-005C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051250-005D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051250-006A	MW-36-100-0622	6/17/2022 9:27:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-006B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051250-006C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051250

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/17/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051250-006C	MW-36-100-0622	6/17/2022 9:27:00 AM	7/1/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051250-006D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051250-007A	MW-940-Q222	6/17/2022 9:37:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-007B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051250-007C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051250-007D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051250-008A	MW-30-050-0622	6/17/2022 10:16:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-008B			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			7/1/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051250-008C			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051250-008D			7/1/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051250-009A	EB-747-Q222	6/17/2022 10:20:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051250-010A	FOLDER	7/1/2022	7/1/2022		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051250

Client ID: ARCUS02

Project: PG&E Topock - PCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/17/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051250-010A	FOLDER	7/1/2022	7/1/2022		Folder	Level IV Report	☐	☐	☐	LAB
			7/1/2022		Folder	Folder	☐	☐	☐	LAB

July 07, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051251

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 17, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for samples N051251-001 and -003 due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (2400 ug/L) and hexavalent chromium (1800 ug/L) for sample N051251-009 (MW-50-200-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (2400 ug/L) and hexavalent chromium (1800 ug/L) for sample N051251-009 (MW-50-200-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 2170 and 1970 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051251
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051251-001A	MW-24BR-Q222	Groundwater	6/17/2022 11:32:00 AM	6/17/2022	7/7/2022
N051251-001B	MW-24BR-Q222	Groundwater	6/17/2022 11:32:00 AM	6/17/2022	7/7/2022
N051251-002A	MW-72-080-Q222	Groundwater	6/17/2022 10:06:00 AM	6/17/2022	7/7/2022
N051251-002B	MW-72-080-Q222	Groundwater	6/17/2022 10:06:00 AM	6/17/2022	7/7/2022
N051251-003A	MW-72BR-200-Q222	Groundwater	6/17/2022 10:48:00 AM	6/17/2022	7/7/2022
N051251-003B	MW-72BR-200-Q222	Groundwater	6/17/2022 10:48:00 AM	6/17/2022	7/7/2022
N051251-004A	MW-73-080-Q222	Groundwater	6/17/2022 9:28:00 AM	6/17/2022	7/7/2022
N051251-004B	MW-73-080-Q222	Groundwater	6/17/2022 9:28:00 AM	6/17/2022	7/7/2022
N051251-005A	EB-746-Q222	Groundwater	6/17/2022 10:55:00 AM	6/17/2022	7/7/2022
N051251-006A	MW-19-Q222	Groundwater	6/17/2022 7:49:00 AM	6/17/2022	7/7/2022
N051251-006B	MW-19-Q222	Groundwater	6/17/2022 7:49:00 AM	6/17/2022	7/7/2022
N051251-007A	TW-05-Q222	Groundwater	6/17/2022 8:30:00 AM	6/17/2022	7/7/2022
N051251-007B	TW-05-Q222	Groundwater	6/17/2022 8:30:00 AM	6/17/2022	7/7/2022
N051251-008A	MW-50-095-Q222	Groundwater	6/17/2022 10:07:00 AM	6/17/2022	7/7/2022
N051251-008B	MW-50-095-Q222	Groundwater	6/17/2022 10:07:00 AM	6/17/2022	7/7/2022
N051251-009A	MW-50-200-Q222	Groundwater	6/17/2022 9:16:00 AM	6/17/2022	7/7/2022
N051251-009B	MW-50-200-Q222	Groundwater	6/17/2022 9:16:00 AM	6/17/2022	7/7/2022
N051251-010A	EB-748-Q222	Groundwater	6/17/2022 10:20:00 AM	6/17/2022	7/7/2022

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051251-001

Client Sample ID: MW-24BR-Q222
Collection Date: 6/17/2022 11:32:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/20/2022 08:14 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93398**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/21/2022 07:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72-080-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 10:06:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	35	0.25	2.0		µg/L	10	6/20/2022 05:05 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93398**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	32	0.035	1.0		µg/L	1	6/21/2022 07:59 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-72BR-200-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 10:48:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/20/2022 08:52 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220621B** QC Batch: **93398**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/21/2022 08:05 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Lab Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab ID: N051251-004

Client Sample ID: MW-73-080-Q222
Collection Date: 6/17/2022 9:28:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A** QC Batch: **R163384**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	25	0.13	1.0		µg/L	5	6/21/2022 10:58 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93398**				PrepDate: **6/19/2022**			Analyst: **DJ**
Chromium	22	0.035	1.0		µg/L	1	6/21/2022 08:11 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-746-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 10:55:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/20/2022 06:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-19-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 7:49:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	55	0.25	2.0		µg/L	10	6/20/2022 06:20 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93398**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	54	0.035	1.0		µg/L	1	6/21/2022 08:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	TW-05-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 8:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A** QC Batch: **R163347**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	13	0.13	1.0		µg/L	5	6/20/2022 06:58 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220621B** QC Batch: **93398**				PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	12	0.035	1.0		µg/L	1	6/21/2022 08:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-095-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 10:07:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: **NV00922-IC7_220620A** QC Batch: **R163347** PrepDate: Analyst: **RAB**							
Hexavalent Chromium	14	0.13	1.0		µg/L	5	6/20/2022 07:17 PM
DISSOLVED METALS BY ICP-MS							
EPA 3010A **EPA 6020**							
RunID: **NV00922-ICP8_220621B** QC Batch: **93398** PrepDate: **6/19/2022** Analyst: **DJ**							
Chromium	14	0.035	1.0		µg/L	1	6/21/2022 08:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-50-200-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 9:16:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1800	5.0	40		µg/L	200	6/20/2022 07:36 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220622A**	QC Batch: **93398**			PrepDate:	**6/19/2022**		Analyst: **DJ**
Chromium	2400	0.88	25		µg/L	25	6/22/2022 03:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-748-Q222
Lab Order:	N051251	**Collection Date:**	6/17/2022 10:20:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051251-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220620A**	QC Batch: **R163347**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/20/2022 07:55 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R163347**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **PBW**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688617**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R163347**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **LCSW**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688618**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.006	0.20	5.000	0	100	90	110				

Sample ID: **N051227-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688622**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	71.713	1.0	25.00	45.46	105	90	110				

Sample ID: **N051227-011ADUP**	SampType: **DUP**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688623**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	46.474	1.0						45.46	2.21	20	

Sample ID: **N051227-014AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688624**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.265	10	250.0	305.1	98.5	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051227-014AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688625**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	551.235	10	250.0	305.1	98.5	90	110	551.3	0.00544	20	

Sample ID: **N051227-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688626**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	526.150	10	250.0	272.7	101	90	110				

Sample ID: **N051227-016AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.034	0.20	1.000	1.021	101	90	110				

Sample ID: **N051227-017AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688632**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.631	0.20	1.000	0.5801	105	90	110				

Sample ID: **N051227-019AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688634**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	16.946	0.20	5.000	12.04	98.2	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051227-015AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.971	0.20	1.000	0	97.1	90	110				

Sample ID: **N051229-006BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.998	0.20	1.000	0	99.8	90	110				

Sample ID: **N051227-013AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	15.128	1.0	5.000	10.31	96.3	90	110				

Sample ID: **N051227-018AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688644**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10.608	1.0	5.000	5.612	99.9	90	110				

Sample ID: **N051251-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688648**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	83.748	2.0	50.00	34.59	98.3	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051251-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688650**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.014	0.20	1.000	0	101	90	110				

Sample ID: **N051251-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688652**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	105.665	2.0	50.00	55.17	101	90	110				

Sample ID: **N051251-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688656**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.165	1.0	25.00	13.41	103	90	110				

Sample ID: **N051251-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688658**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.099	1.0	25.00	14.01	100	90	110				

Sample ID: **N051251-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163347**
Client ID: **ZZZZZZ** Batch ID: **R163347** TestNo: **EPA 218.6** Analysis Date: **6/20/2022** SeqNo: **4688660**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2758.180	40	1000	1757	100	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051251-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688662**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.011	0.20	1.000	0	101	90	110				

Sample ID: **N051251-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688664**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.247	1.0	5.000	0	105	90	110				

Sample ID: **N051251-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163347**
Client ID: **ZZZZZZ**	Batch ID: **R163347**	TestNo: **EPA 218.6**		Analysis Date: **6/20/2022**	SeqNo: **4688668**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.213	1.0	5.000	0	104	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **MB-R163384**	SampType: **MBLK**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **PBW**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID: **LCS-R163384**	SampType: **LCS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **LCSW**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.963	0.20	5.000	0	99.3	90	110				

Sample ID: **N051250-003AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.953	1.0	5.000	0.6575	106	90	110				

Sample ID: **N051250-003AMSD**	SampType: **MSD**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.681	1.0	5.000	0.6575	100	90	110	5.953	4.68	20	

Sample ID: **N051251-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.468	1.0	25.00	25.25	105	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051250-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID: **N051250-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0	108	90	110				

Sample ID: **N051250-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID: **N051250-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.878	0.20	1.000	0.9347	94.3	90	110				

Sample ID: **N051250-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.838	0.20	1.000	0.8116	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051250-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	107	90	110				

Sample ID: **N051250-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690484**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID: **N051250-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690486**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.466	1.0	5.000	0	109	90	110				

Sample ID: **N051251-004ADUP** SampType: **DUP** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690487**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	25.510	1.0						25.25	1.04	20	

Sample ID: **N051286-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690491**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.094	0.20	1.000	0	109	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID: **N051286-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	873.060	20	500.0	359.1	103	90	110				

Sample ID: **N051286-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690494**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	878.040	20	500.0	358.8	104	90	110				

Sample ID: **N051286-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690496**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.057	0.20	1.000	0	106	90	110				

Sample ID: **N051286-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163384**
Client ID: **ZZZZZZ** Batch ID: **R163384** TestNo: **EPA 218.6** Analysis Date: **6/21/2022** SeqNo: **4690500**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.386	1.0	5.000	0	108	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051251
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID: **MB-93398**	SampType: **MBLK**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163399**
Client ID: **PBW**	Batch ID: **93398**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID: **LCS-93398**	SampType: **LCS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163399**
Client ID: **LCSW**	Batch ID: **93398**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.652	1.0	10.00	0	96.5	85	115				

Sample ID: **N051250-003CMS**	SampType: **MS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163399**
Client ID: **ZZZZZZ**	Batch ID: **93398**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691318**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.048	1.0	10.00	0.8905	91.6	75	125				

Sample ID: **N051250-003CMSD**	SampType: **MSD**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date: **6/19/2022**	RunNo: **163399**
Client ID: **ZZZZZZ**	Batch ID: **93398**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/21/2022**	SeqNo: **4691319**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.201	1.0	10.00	0.8905	93.1	75	125	10.05	1.52	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ARCUS02 C: 6/30/2022 12:00 AM
FOLDER R: 6/17/2022
N051251-011A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95661	Email: [redacted]	Address:	Geotracker		RWQCB	✓	1. Chilled X
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec		CalTrans		2. Headspace
Submitted By: Nava Tey		Phone: 949-727-1400, ext 200 Fax:	Others	✓	LEVEL III		3. Container Intact ✓
Title: Project Manager	Phone: 916-786-3302 Fax:		Specify: RWQCB		LEVEL IV		4. Seal Present ✓
Signature: Date: 6/17/22	Sampled By: Nava Tey		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*				Specify State:		6. Method of Cooling: ICE
Project Name: PG&E Topock - RCM	Signature: Date: 6/17/22						Sample Temp: 2.1 °C
Project Number: 30121866.2Q22GW							Courier: ASSET Tracking No.:

Matrix: Ground | X | Sediment; Potable | Soil; NPDES | Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051251-01	MW-24BR-Q222	6/17/2022	11:32		X			X		E	2	P	BNS	
2	-02	MW-72-080-Q222	6/17/2022	10:06		X			X		E	2	P	BNS	
3	-03	MW-72BR-200-Q222	6/17/2022	10:48		X			X		E	3	P	BNS	
4	-04	MW-73-080-Q222	6/17/2022	9:26		X			X		E	3	P	BNS	
5	-05	EB-746-Q222	6/17/2022	10:55		X					E	3	P	BNS	
	-06	MW-19-Q222	6/17/2022	7:49		X			X		E	2	P	BNS	
7	-07	TW-05-Q222	6/17/2022	8:30		X			X		E	2	P	BNS	
8	-08	MW-50-095-Q222	6/17/2022	10:07		X			X		E	2	P	BNS	
9	-09	MW-50-200-Q222	6/17/2022	9:16		X			X		E	2	P	BNS	
10	-10	EB-748-Q222	6/17/2022	10:20		X					E	1	P	BNS	
11											E	2	P	BNS	
12											E	2	P	BNS	
13											E	2	P	BNS	
14											E	2	P	BNS	

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nava Tey	6/17/22 1200	ROMEO ARCAMARA	6/17/22 1200
ROMEO ARCAMARA	6/17/22 1545	Giselle Ponce de Leon	6/17/22 1545

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [X] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis. TAT and Surcharges will vary.

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B (NH4)2SO4/NH4OH		

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

White=Laboratory Copy Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/17/2022	Workorder:	N051251
Rep sample Temp (Deg C):	2.1	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: GGJ YRJ 6/20/2022

Reviewed By: MBC 6/22/2022

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051251

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/17/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051251-001A	MW-24BR-Q222	6/17/2022 11:32:00 AM	7/1/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-001B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051251-002A	MW-72-080-Q222	6/17/2022 10:06:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-002B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051251-003A	MW-72BR-200-Q222	6/17/2022 10:48:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-003B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051251-004A	MW-73-080-Q222	6/17/2022 9:28:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-004B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051251-005A	EB-746-Q222	6/17/2022 10:55:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-006A	MW-19-Q222	6/17/2022 7:49:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-006B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051251-007A	TW-05-Q222	6/17/2022 8:30:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-007B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051251-008A	MW-50-095-Q222	6/17/2022 10:07:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-008B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051251

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/17/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051251-009A	MW-50-200-Q222	6/17/2022 9:16:00 AM	7/1/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-009B			7/1/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/1/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051251-010A	EB-748-Q222	6/17/2022 10:20:00 AM	7/1/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051251-011A	FOLDER	7/1/2022	7/1/2022		Folder	Folder	☐	☐	☐	LAB
			7/1/2022		Folder	Level IV Report	☐	☐	☐	LAB
			7/1/2022		Folder	Folder	☐	☐	☐	LAB

July 07, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051286

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 20, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N051286-001 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N051301-005CMS and N051301-005CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Selenium in QC samples N051301-005CMS and N051301-005CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051286
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051286-001A	MW-66BR-270-Q222	Groundwater	6/20/2022 3:15:00 PM	6/20/2022	7/7/2022
N051286-001B	MW-66BR-270-Q222	Groundwater	6/20/2022 3:15:00 PM	6/20/2022	7/7/2022
N051286-002A	MW-74-240-Q222	Groundwater	6/20/2022 1:32:00 PM	6/20/2022	7/7/2022
N051286-002B	MW-74-240-Q222	Groundwater	6/20/2022 1:32:00 PM	6/20/2022	7/7/2022
N051286-003A	MW-69-195-Q222	Groundwater	6/20/2022 2:24:00 PM	6/20/2022	7/7/2022
N051286-003B	MW-69-195-Q222	Groundwater	6/20/2022 2:24:00 PM	6/20/2022	7/7/2022
N051286-003C	MW-69-195-Q222	Groundwater	6/20/2022 2:24:00 PM	6/20/2022	7/7/2022
N051286-004A	MW-927-Q222	Groundwater	6/20/2022 2:34:00 PM	6/20/2022	7/7/2022
N051286-004B	MW-927-Q222	Groundwater	6/20/2022 2:34:00 PM	6/20/2022	7/7/2022
N051286-004C	MW-927-Q222	Groundwater	6/20/2022 2:34:00 PM	6/20/2022	7/7/2022
N051286-005A	EB-749-Q222	Groundwater	6/20/2022	6/20/2022	7/7/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-66BR-270-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 3:15:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A** QC Batch: **R163384**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/21/2022 05:44 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220623F** QC Batch: **93479**				PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/23/2022 09:23 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-74-240-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 1:32:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/21/2022 03:47 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/23/2022 09:29 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 2:24:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A** QC Batch: **R163384**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	360	2.5	20		µg/L	100	6/21/2022 04:06 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220623F** QC Batch: **93479**				PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	370	0.18	5.0		µg/L	5	6/23/2022 09:41 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-927-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 2:34:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	360	2.5	20		µg/L	100	6/21/2022 06:03 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	370	0.18	5.0		µg/L	5	6/23/2022 09:53 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-749-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220621A**	QC Batch: **R163384**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/21/2022 05:06 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	**MB-R163384**	SampType:	**MBLK**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**163384**
Client ID:	**PBW**	Batch ID:	**R163384**	TestNo:	**EPA 218.6**			Analysis Date:	**6/21/2022**	SeqNo:	**4690448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.20									

Sample ID	**LCS-R163384**	SampType:	**LCS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**163384**
Client ID:	**LCSW**	Batch ID:	**R163384**	TestNo:	**EPA 218.6**			Analysis Date:	**6/21/2022**	SeqNo:	**4690449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.963	0.20	5.000	0	99.3	90	110				

Sample ID	**N051250-003AMS**	SampType:	**MS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**163384**
Client ID:	**ZZZZZZ**	Batch ID:	**R163384**	TestNo:	**EPA 218.6**			Analysis Date:	**6/21/2022**	SeqNo:	**4690463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.953	1.0	5.000	0.6575	106	90	110				

Sample ID	**N051250-003AMSD**	SampType:	**MSD**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**163384**
Client ID:	**ZZZZZZ**	Batch ID:	**R163384**	TestNo:	**EPA 218.6**			Analysis Date:	**6/21/2022**	SeqNo:	**4690464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.681	1.0	5.000	0.6575	100	90	110	5.953	4.68	20	

Sample ID	**N051251-004AMS**	SampType:	**MS**	TestCode:	**218.6_WPGE**	Units:	**µg/L**	Prep Date:		RunNo:	**163384**
Client ID:	**ZZZZZZ**	Batch ID:	**R163384**	TestNo:	**EPA 218.6**			Analysis Date:	**6/21/2022**	SeqNo:	**4690468**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	51.468	1.0	25.00	25.25	105	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051250-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.058	0.20	1.000	0	106	90	110				

Sample ID **N051250-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.075	0.20	1.000	0	108	90	110				

Sample ID **N051250-005AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690474**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.995	0.20	1.000	0	99.5	90	110				

Sample ID **N051250-006AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.878	0.20	1.000	0.9347	94.3	90	110				

Sample ID **N051250-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163384**
Client ID: **ZZZZZZ**	Batch ID: **R163384**	TestNo: **EPA 218.6**		Analysis Date: **6/21/2022**	SeqNo: **4690480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.838	0.20	1.000	0.8116	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051250-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690482

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.065	0.20	1.000	0	107	90	110				

Sample ID	N051250-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690484

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.048	0.20	1.000	0	105	90	110				

Sample ID	N051250-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690486

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.466	1.0	5.000	0	109	90	110				

Sample ID	N051251-004ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690487

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	25.510	1.0						25.25	1.04	20	

Sample ID	N051286-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690491

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.094	0.20	1.000	0	109	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051286-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690493

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	873.060	20	500.0	359.1	103	90	110				

Sample ID	N051286-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690494

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	878.040	20	500.0	358.8	104	90	110				

Sample ID	N051286-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690496

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.057	0.20	1.000	0	106	90	110				

Sample ID	N051286-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163384
Client ID:	ZZZZZZ	Batch ID:	R163384	TestNo:	EPA 218.6			Analysis Date:	6/21/2022	SeqNo:	4690500

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.386	1.0	5.000	0	108	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93479	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479	
Client ID:	PBW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695757	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	ND	1.0										

Sample ID	LCS-93479	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479	
Client ID:	LCSW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695758	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	9.300	1.0	10.00	0	93.0	85	115					

Sample ID	N051301-005CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479	
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695785	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	3304.209	25	10.00	3097	2070	75	125				S	

Sample ID	N051301-005CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479	
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4695787	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium	3301.478	25	10.00	3097	2040	75	125	3304	0.0827	20	S	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N051301-005C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **163479**
Client ID:	**ZZZZZZ**	Batch ID: **93479**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/23/2022**	SeqNo: **4695783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3305.862	25	10.00	3097	2090	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 2:24:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220621A**	QC Batch: **R163418**			PrepDate:			Analyst: **RAB**
Nitrate as N	14	0.19	1.0		mg/L	20	6/21/2022 10:11 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-927-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 2:34:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220621A**	QC Batch: **R163418**			PrepDate:			Analyst: **RAB**
Nitrate as N	15	0.19	1.0		mg/L	20	6/21/2022 11:26 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163418_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163418
Client ID:	PBW	Batch ID:	R163418	TestNo:	EPA 300.0			Analysis Date:	6/21/2022	SeqNo:	4692622

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163418_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163418
Client ID:	LCSW	Batch ID:	R163418	TestNo:	EPA 300.0			Analysis Date:	6/21/2022	SeqNo:	4692623

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.196	0.050	1.250	0	95.6	90	110				

Sample ID	N051286-003BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163418
Client ID:	ZZZZZZ	Batch ID:	R163418	TestNo:	EPA 300.0			Analysis Date:	6/21/2022	SeqNo:	4692625

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	38.914	1.0	25.00	14.13	99.2	80	120				

Sample ID	N051286-003BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163418
Client ID:	ZZZZZZ	Batch ID:	R163418	TestNo:	EPA 300.0			Analysis Date:	6/21/2022	SeqNo:	4692626

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	38.932	1.0	25.00	14.13	99.2	80	120	38.91	0.0462	20	

Sample ID	N051286-004BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163418
Client ID:	ZZZZZZ	Batch ID:	R163418	TestNo:	EPA 300.0			Analysis Date:	6/21/2022	SeqNo:	4692628

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	14.508	1.0						14.60	0.660	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-69-195-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 2:24:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	54	0.12	0.50		µg/L	1	6/23/2022 09:35 PM
Selenium	9.4	0.044	0.50		µg/L	1	6/23/2022 09:35 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-927-Q222
Lab Order:	N051286	**Collection Date:**	6/20/2022 2:34:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051286-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	52	0.12	0.50		µg/L	1	6/23/2022 09:47 PM
Selenium	8.6	0.044	0.50		µg/L	1	6/23/2022 09:47 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93479	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	PBW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695951

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-93479	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	LCSW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695952

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.437	0.50	10.00	0	94.4	85	115				
Selenium	9.300	0.50	10.00	0	93.0	85	115				

Sample ID	N051301-005CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	73.523	0.50	10.00	65.09	84.4	75	125				
Selenium	57.388	0.50	10.00	50.33	70.6	75	125				S

Sample ID	N051301-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4695980

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	73.617	0.50	10.00	65.09	85.3	75	125	73.52	0.128	20	
Selenium	57.360	0.50	10.00	50.33	70.4	75	125	57.39	0.0474	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051286
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	N051301-005C-PS	SampType:	PS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:		RunNo:	163479
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695976

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	73.481	0.50	10.00	65.09	84.0	80	120				
Selenium	58.080	0.50	10.00	50.33	77.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N051286

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement: Excel EDD; Geotracker; Labspec; Others ✓; Specify: RWQCB; Global ID:
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	QA/QC: RTNE; RWQCB ✓; CalTrans; LEVEL III ✓; LEVEL IV; Regulatory; Specify State:
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.moore@critigen.com	Address:	Sample Receipt Condition: Y N; 1. Chilled ✓; 2. Headspace; 3. Container Intact ✓; 4. Seal Present ✓; 5. IR number 3
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivotk.com P.O.#	6. Method of Cooling: Ice
Submitted By: Nara Tay		Phone: 949-727-1400, ext 200 Fax:	Sample Temp: 3.3 °C
Title: Project Manager	Phone: 916-786-3302 Fax:		Courier: ASSET
Signature: Date: 6/20/22	Sampled By: Nara Tay	Matrix: Ground X; Potable; NPDES; Surface; Sediment; Soil; Other Solid	Tracking No.:
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*		
Project Name: PG&E Topock - RCM	Signature: Date: 6/20/22		
Project Number: 30121866.2Q22GW			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH (250 mL poly)	Nitrate (EPA 300.0) (1 L poly)	Dissolved metals (SW6020) FF; HNO3 Manganese (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, (500mL poly)	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051286-01	MW-66BR-270-Q222	6/20/2022	15:15		X			X		E	2	P	BNS	
2	-02	MW-74-240-Q222	6/20/2022	13:32		X			X		E	2	P	BNS	
3	-03	MW-69-195-Q222	6/20/2022	14:24		X	X		X	X	E	3	P	BNS	
4	-04	MW-927-Q222	6/20/2022	14:34		X	X		X	X	E	3	P	BNS	
5	-05	EB-749-Q222	6/20/2022			X					E	1	P	BNS	
6															
7															
8															
9															
10															
11															
12															
13															
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nara Tay	6/20/22 1600	ROMEO ALCANTARA	6/20/22 1600
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
	6/20/22 1845		6/20/22 1845
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/20/2022	Workorder:	N051286
Rep sample Temp (Deg C):	3.3	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/22/2022

Reviewed By: MBC 6/23/2022

ASSET Laboratories

WORK ORDER Summary

21-Jun-22

WorkOrder: N051286

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/20/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051286-001A	MW-66BR-270-Q222	6/20/2022 3:15:00 PM	7/4/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051286-001B			7/4/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/4/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051286-002A	MW-74-240-Q222	6/20/2022 1:32:00 PM	7/4/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051286-002B			7/4/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/4/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051286-003A	MW-69-195-Q222	6/20/2022 2:24:00 PM	7/4/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051286-003B			7/4/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051286-003C			7/4/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/4/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/4/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051286-004A	MW-927-Q222	6/20/2022 2:34:00 PM	7/4/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051286-004B			7/4/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051286-004C			7/4/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/4/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/4/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051286-005A	EB-749-Q222	6/20/2022	7/4/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051286-006A	FOLDER	7/4/2022	7/4/2022		Folder	Folder	☐	☐	☐	LAB
			7/4/2022		Folder	Level IV Report	☐	☐	☐	LAB
			7/4/2022		Folder	Folder	☐	☐	☐	LAB

July 08, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051301

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 21, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (530 ug/L) and hexavalent chromium (390 ug/L) for sample N051301-008 (MW-65-225-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Dilution was necessary due to precipitation of samples upon the addition of eluent.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (530 ug/L) and hexavalent chromium (390 ug/L) for sample N051301-008 (MW-65-225-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 490 and 380 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N051301-005CMS and N051301-005CMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Selenium in QC samples N051301-005CMS and N051301-005CMSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated

Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051301
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051301-001A	MW-70-105-Q222	Groundwater	6/21/2022 9:24:00 AM	6/21/2022	7/8/2022
N051301-001B	MW-70-105-Q222	Groundwater	6/21/2022 9:24:00 AM	6/21/2022	7/8/2022
N051301-001C	MW-70-105-Q222	Groundwater	6/21/2022 9:24:00 AM	6/21/2022	7/8/2022
N051301-002A	MW-70BR-225-Q222	Groundwater	6/21/2022 10:56:00 AM	6/21/2022	7/8/2022
N051301-002B	MW-70BR-225-Q222	Groundwater	6/21/2022 10:56:00 AM	6/21/2022	7/8/2022
N051301-002C	MW-70BR-225-Q222	Groundwater	6/21/2022 10:56:00 AM	6/21/2022	7/8/2022
N051301-003A	MW-70BR-287-Q222	Groundwater	6/21/2022 10:14:00 AM	6/21/2022	7/8/2022
N051301-003B	MW-70BR-287-Q222	Groundwater	6/21/2022 10:14:00 AM	6/21/2022	7/8/2022
N051301-004A	MW-58BR-Q222	Groundwater	6/21/2022 11:35:00 AM	6/21/2022	7/8/2022
N051301-004B	MW-58BR-Q222	Groundwater	6/21/2022 11:35:00 AM	6/21/2022	7/8/2022
N051301-005A	MW-67-225-Q222	Groundwater	6/21/2022 3:40:00 PM	6/21/2022	7/8/2022
N051301-005B	MW-67-225-Q222	Groundwater	6/21/2022 3:40:00 PM	6/21/2022	7/8/2022
N051301-005C	MW-67-225-Q222	Groundwater	6/21/2022 3:40:00 PM	6/21/2022	7/8/2022
N051301-006A	MW-67-260-Q222	Groundwater	6/21/2022 2:24:00 PM	6/21/2022	7/8/2022
N051301-006B	MW-67-260-Q222	Groundwater	6/21/2022 2:24:00 PM	6/21/2022	7/8/2022
N051301-006C	MW-67-260-Q222	Groundwater	6/21/2022 2:24:00 PM	6/21/2022	7/8/2022
N051301-007A	MW-65-160-Q222	Groundwater	6/21/2022 1:18:00 PM	6/21/2022	7/8/2022
N051301-007B	MW-65-160-Q222	Groundwater	6/21/2022 1:18:00 PM	6/21/2022	7/8/2022
N051301-007C	MW-65-160-Q222	Groundwater	6/21/2022 1:18:00 PM	6/21/2022	7/8/2022
N051301-008A	MW-65-225-Q222	Groundwater	6/21/2022 12:30:00 PM	6/21/2022	7/8/2022
N051301-008B	MW-65-225-Q222	Groundwater	6/21/2022 12:30:00 PM	6/21/2022	7/8/2022
N051301-008C	MW-65-225-Q222	Groundwater	6/21/2022 12:30:00 PM	6/21/2022	7/8/2022
N051301-009A	MW-924-Q222	Groundwater	6/21/2022 12:40:00 PM	6/21/2022	7/8/2022
N051301-009B	MW-924-Q222	Groundwater	6/21/2022 12:40:00 PM	6/21/2022	7/8/2022
N051301-009C	MW-924-Q222	Groundwater	6/21/2022 12:40:00 PM	6/21/2022	7/8/2022
N051301-010A	EB-750-Q222	Groundwater	6/21/2022 4:00:00 PM	6/21/2022	7/8/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70-105-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 9:24:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	110	0.50	4.0		µg/L	20	6/22/2022 10:19 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	110	0.035	1.0		µg/L	1	6/23/2022 10:10 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 10:56:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	1400	5.0	40		µg/L	200	6/22/2022 11:31 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220707A**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	1300	0.88	25		µg/L	25	7/7/2022 01:32 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-287-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 10:14:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	380	1.3	10		µg/L	50	6/22/2022 10:33 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220707A**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	430	0.18	5.0		µg/L	5	7/7/2022 01:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-58BR-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 11:35:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220622A** QC Batch: **R163387**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/22/2022 10:44 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220623F** QC Batch: **93479**				PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/23/2022 10:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 3:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3400	13	100		µg/L	500	6/22/2022 11:22 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	3100	0.88	25		µg/L	25	6/23/2022 11:04 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 2:24:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	490	2.5	20		µg/L	100	6/22/2022 10:53 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220707A**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	450	0.18	5.0		µg/L	5	7/7/2022 01:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 1:18:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	270	1.3	10		µg/L	50	6/22/2022 11:03 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	330	0.18	5.0		µg/L	5	6/24/2022 12:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 12:30:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	390	1.3	10		µg/L	50	6/22/2022 11:12 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	530	0.18	5.0		µg/L	5	6/24/2022 12:57 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-924-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 12:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	390	1.3	10		µg/L	50	6/22/2022 01:15 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	460	0.18	5.0		µg/L	5	6/24/2022 01:09 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-750-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 4:00:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220622A**	QC Batch: **R163387**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/22/2022 12:56 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163387	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387		
Client ID:	PBW	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690704		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R163387	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387		
Client ID:	LCSW	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690705		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		5.097	0.20	5.000	0	102	90	110					

Sample ID	N051301-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387		
Client ID:	ZZZZZZ	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690716		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		6001.950	100	2500	3428	103	90	110					

Sample ID	N051301-005AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387		
Client ID:	ZZZZZZ	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690717		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		6004.800	100	2500	3428	103	90	110	6002	0.0475	20		

Sample ID	N051301-002ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387		
Client ID:	ZZZZZZ	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690718		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		1419.120	40						1414	0.366	20		

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051301-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163387**
Client ID: **ZZZZZZ** Batch ID: **R163387** TestNo: **EPA 218.6** Analysis Date: **6/22/2022** SeqNo: **4690719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2402.260	40	1000	1414	98.8	90	110				

Sample ID **N051301-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163387**
Client ID: **ZZZZZZ** Batch ID: **R163387** TestNo: **EPA 218.6** Analysis Date: **6/22/2022** SeqNo: **4690720**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	216.540	4.0	100.0	113.4	103	90	110				

Sample ID **N051301-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163387**
Client ID: **ZZZZZZ** Batch ID: **R163387** TestNo: **EPA 218.6** Analysis Date: **6/22/2022** SeqNo: **4690721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.050	0.20	1.000	0	105	90	110				

Sample ID **N051301-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163387**
Client ID: **ZZZZZZ** Batch ID: **R163387** TestNo: **EPA 218.6** Analysis Date: **6/22/2022** SeqNo: **4690723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.952	0.20	1.000	0	95.2	90	110				

Sample ID **N051301-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163387**
Client ID: **ZZZZZZ** Batch ID: **R163387** TestNo: **EPA 218.6** Analysis Date: **6/22/2022** SeqNo: **4690725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	653.590	10	250.0	388.8	106	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
E Value above quantitation range
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
R RPD outside accepted recovery limits
S Spike/Surrogate outside of limits due to matrix interference
DO Surrogate Diluted Out
Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051301-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387
Client ID:	ZZZZZZ	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690728

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	643.740	10	250.0	384.6	104	90	110				

Sample ID	N051301-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387
Client ID:	ZZZZZZ	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690729

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1008.140	20	500.0	490.0	104	90	110				

Sample ID	N051301-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387
Client ID:	ZZZZZZ	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690730

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	515.685	10	250.0	265.8	100	90	110				

Sample ID	N051301-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163387
Client ID:	ZZZZZZ	Batch ID:	R163387	TestNo:	EPA 218.6			Analysis Date:	6/22/2022	SeqNo:	4690731

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	650.265	10	250.0	392.0	103	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93479	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	PBW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695757		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		ND	1.0										

Sample ID	LCS-93479	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	LCSW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695758		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		9.300	1.0	10.00	0	93.0	85	115					

Sample ID	N051301-005CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695785		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		3304.209	25	10.00	3097	2070	75	125				S	

Sample ID	N051301-005CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4695787		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		3301.478	25	10.00	3097	2040	75	125	3304	0.0827	20	S	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N051301-005C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **163479**
Client ID:	**ZZZZZZ**	Batch ID: **93479**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/23/2022**	SeqNo: **4695783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3305.862	25	10.00	3097	2090	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70-105-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 9:24:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220622A**	QC Batch: **R163437**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.7	0.048	0.25		mg/L	5	6/22/2022 11:48 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 10:56:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220622A**	QC Batch: **R163437**			PrepDate:			Analyst: **RAB**
Nitrate as N	3.0	0.048	0.25		mg/L	5	6/22/2022 12:03 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 3:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220622A**	QC Batch: **R163437**			PrepDate:			Analyst: **RAB**
Nitrate as N	16	0.19	1.0		mg/L	20	6/22/2022 03:09 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 2:24:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220622A**	QC Batch: **R163437**			PrepDate:			Analyst: **RAB**
Nitrate as N	0.30	0.048	0.25		mg/L	5	6/22/2022 12:17 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
	Results are wet unless otherwise specified

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 1:18:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220622A**	QC Batch: **R163437**			PrepDate:			Analyst: **RAB**
Nitrate as N	13	0.095	0.50		mg/L	10	6/22/2022 12:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 12:30:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220622A**	QC Batch: **R163437**			PrepDate:			Analyst: **RAB**
Nitrate as N	6.4	0.048	0.25		mg/L	5	6/22/2022 12:46 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-924-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 12:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220622A**	QC Batch: **R163437**			PrepDate:			Analyst: **RAB**
Nitrate as N	6.4	0.048	0.25		mg/L	5	6/22/2022 01:00 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163437_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163437
Client ID:	PBW	Batch ID:	R163437	TestNo:	EPA 300.0			Analysis Date:	6/22/2022	SeqNo:	4693409

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163437_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163437
Client ID:	LCSW	Batch ID:	R163437	TestNo:	EPA 300.0			Analysis Date:	6/22/2022	SeqNo:	4693410

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.188	0.050	1.250	0	95.0	90	110				

Sample ID	N051301-005BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163437
Client ID:	ZZZZZZ	Batch ID:	R163437	TestNo:	EPA 300.0			Analysis Date:	6/22/2022	SeqNo:	4693421

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	40.318	1.0	25.00	16.38	95.7	80	120				

Sample ID	N051301-005BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163437
Client ID:	ZZZZZZ	Batch ID:	R163437	TestNo:	EPA 300.0			Analysis Date:	6/22/2022	SeqNo:	4693422

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	40.912	1.0	25.00	16.38	98.1	80	120	40.32	1.46	20	

Sample ID	N051290-002DDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163437
Client ID:	ZZZZZZ	Batch ID:	R163437	TestNo:	EPA 300.0			Analysis Date:	6/22/2022	SeqNo:	4693423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.120	0.25						1.120	0.0447	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70-105-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 9:24:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	69	0.12	0.50		µg/L	1	6/23/2022 10:10 PM
Selenium	4.0	0.044	0.50		µg/L	1	6/23/2022 10:10 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-70BR-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 10:56:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	17	0.12	0.50		µg/L	1	6/23/2022 10:16 PM
Selenium	2.2	0.044	0.50		µg/L	1	6/23/2022 10:16 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 3:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	65	0.12	0.50		µg/L	1	6/23/2022 10:52 PM
Selenium	50	0.044	0.50		µg/L	1	6/23/2022 10:52 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-260-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 2:24:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	67	0.12	0.50		µg/L	1	6/24/2022 12:15 AM
Selenium	1.1	0.044	0.50		µg/L	1	6/24/2022 12:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-160-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 1:18:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	25	0.12	0.50		µg/L	1	6/24/2022 12:39 AM
Selenium	9.4	0.044	0.50		µg/L	1	6/24/2022 12:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-65-225-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 12:30:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	31	0.12	0.50		µg/L	1	6/24/2022 12:51 AM
Selenium	4.7	0.044	0.50		µg/L	1	6/24/2022 12:51 AM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-924-Q222
Lab Order:	N051301	**Collection Date:**	6/21/2022 12:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051301-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Molybdenum	30	0.12	0.50		µg/L	1	6/24/2022 01:03 AM
Selenium	4.6	0.044	0.50		µg/L	1	6/24/2022 01:03 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93479	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	PBW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695951

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID	LCS-93479	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	LCSW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695952

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.437	0.50	10.00	0	94.4	85	115				
Selenium	9.300	0.50	10.00	0	93.0	85	115				

Sample ID	N051301-005CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	73.523	0.50	10.00	65.09	84.4	75	125				
Selenium	57.388	0.50	10.00	50.33	70.6	75	125				S

Sample ID	N051301-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4695980

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	73.617	0.50	10.00	65.09	85.3	75	125	73.52	0.128	20	
Selenium	57.360	0.50	10.00	50.33	70.4	75	125	57.39	0.0474	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits
- Calculations are based on raw values
- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051301
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	**N051301-005C-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **163479**
Client ID:	**ZZZZZZ**	Batch ID: **93479**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/23/2022**	SeqNo: **4695976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	73.481	0.50	10.00	65.09	84.0	80	120				
Selenium	58.080	0.50	10.00	50.33	77.5	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

N051301

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com daniel.moore@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace
Submitted By: Nava Tay	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: Project Manager			Specify: RWQCB	LEVEL IV	4. Seal Present ✓
Signature: Date: 6/21/22	Sampled By: Nava Tay		Global ID:	Regulatory	5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - RCM	Signature: Date: 6/21/22				Sample Temp: 3.6°C
Project Number: 30121866.2Q22GW					Courier: ASSET
					Tracking No.:

Matrix: Ground X | Sediment; Potable | Soil; NPDES | Other Solid; Surface

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051301-01	MW-70-105-Q222	6/21/2022	9:24		X	X		X	X	E	3	P	BNS	
2	-02	MW-70BR-225-Q222	6/21/2022	10:56		X	X		X	X	E	3	P	BNS	
3	-03	MW-70BR-287-Q222	6/21/2022	10:14		X			X		E	2	P	BNS	
4											E	3	P	BNS	
5	-04	MW-58BR-Q222	6/21/2022	11:35		X			X		E	2	P	BNS	
											E	3	P	BNS	
7	-05	MW-67-225-Q222	6/21/2022	15:40		X	X		X	X	E	3	P	BNS	MSMSD
8	-06	MW-67-260-Q222	6/21/2022	14:24		X	X		X	X	E	3	P	BNS	
9	-07	MW-65-160-Q222	6/21/2022	13:18		X	X		X	X	E	3	P	BNS	
10	-08	MW-65-225-Q222	6/21/2022	12:30		X	X		X	X	E	3	P	BNS	
11	-09	MW-924-Q222	6/21/2022	12:40		X	X		X	X	E	3	P	BNS	
12											E	3	P	BNS	
13	-10	EB-750-Q222	6/21/2022	16:00		X					E	1	P	BNS	
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nava Tay	6/21/22 1630	ROMEO ARCANTARA	6/21/22 1630
ROMEO ARCANTARA	6/21/22 1940	ROMEO ARCANTARA	6/21/22 1940
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Temps are not 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=$Zn(AC)_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B	(NH4)2SO4/NH4OH		M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/21/2022	Workorder:	N051301
Rep sample Temp (Deg C):	3.6	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: GGJ GGarcia 6/22/2022

Reviewed By: MBC 6/28/2022

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051301

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/21/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051301-001A	MW-70-105-Q222	6/21/2022 9:24:00 AM	7/6/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-001B			7/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051301-001C			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-002A	MW-70BR-225-Q222	6/21/2022 10:56:00 AM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-002B			7/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051301-002C			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-003A	MW-70BR-287-Q222	6/21/2022 10:14:00 AM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-003B			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-004A	MW-58BR-Q222	6/21/2022 11:35:00 AM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-004B			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-005A	MW-67-225-Q222	6/21/2022 3:40:00 PM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☑	☐	WW
N051301-005B			7/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☑	☐	WW
N051301-005C			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☑	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☑	☐	WW
N051301-006A	MW-67-260-Q222	6/21/2022 2:24:00 PM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051301

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/21/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051301-006B	MW-67-260-Q222	6/21/2022 2:24:00 PM	7/6/2022	Groundwater	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051301-006C			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-007A	MW-65-160-Q222	6/21/2022 1:18:00 PM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-007B			7/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051301-007C			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-008A	MW-65-225-Q222	6/21/2022 12:30:00 PM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-008B			7/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051301-008C			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-009A	MW-924-Q222	6/21/2022 12:40:00 PM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-009B			7/6/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051301-009C			7/6/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/6/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051301-010A	EB-750-Q222	6/21/2022 4:00:00 PM	7/6/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051301-011A	FOLDER	7/6/2022	7/6/2022		Folder	Folder	☐	☐	☐	LAB
			7/6/2022		Folder	Level IV Report	☐	☐	☐	LAB

ASSET Laboratories

WORK ORDER Summary

22-Jun-22

WorkOrder: N051301

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/21/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051301-011A	FOLDER	7/6/2022	7/6/2022		Folder	Folder	☐	☐	☐	LAB

July 07, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051326

RE: PG&E Topock - OMM Baseline, 30106892

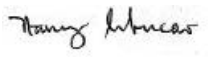
Attention: Brian Prowd

Enclosed are the results for sample(s) received on June 22, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,



Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N051326

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

ASSET Laboratories

Date: *07-Jul-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM Baseline, 30106892
Lab Order: N051326
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051326-001A	CAB_MIXER_606-062122	Water	6/21/2022 9:15:00 AM	6/22/2022	7/7/2022
N051326-001B	CAB_MIXER_606-062122	Water	6/21/2022 9:15:00 AM	6/22/2022	7/7/2022
N051326-002A	CAB_MIXER_607-062122	Water	6/21/2022 9:30:00 AM	6/22/2022	7/7/2022
N051326-002B	CAB_MIXER_607-062122	Water	6/21/2022 9:30:00 AM	6/22/2022	7/7/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-062122
Lab Order:	N051326	**Collection Date:**	6/21/2022 9:15:00 AM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N051326-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220624A**	QC Batch: **R163515**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	610	27	200		mg/L	200	6/24/2022 10:45 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-062122
Lab Order:	N051326	**Collection Date:**	6/21/2022 9:30:00 AM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N051326-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL ORGANIC CARBON							
			SM 5310C				
RunID: **TOC2_220624A**	QC Batch: **R163515**			PrepDate:			Analyst: **RAB**
Organic Carbon, Total	610	27	200		mg/L	200	6/24/2022 11:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051326
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 5310C_W_T_PGE

Sample ID **MB-R163515**	SampType: **MBLK**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163515**
Client ID: **PBW**	Batch ID: **R163515**	TestNo: **SM 5310C**		Analysis Date: **6/24/2022**	SeqNo: **4698910**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	ND	1.0									

Sample ID **LCS-R163515**	SampType: **LCS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163515**
Client ID: **LCSW**	Batch ID: **R163515**	TestNo: **SM 5310C**		Analysis Date: **6/24/2022**	SeqNo: **4698911**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	4.985	1.0	5.000	0	99.7	85	115				

Sample ID **N051326-001AMS**	SampType: **MS**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163515**
Client ID: **ZZZZZZ**	Batch ID: **R163515**	TestNo: **SM 5310C**		Analysis Date: **6/24/2022**	SeqNo: **4698914**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1556.260	200	1000	610.8	94.5	75	125				

Sample ID **N051326-001AMSD**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163515**
Client ID: **ZZZZZZ**	Batch ID: **R163515**	TestNo: **SM 5310C**		Analysis Date: **6/24/2022**	SeqNo: **4698915**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1554.860	200	1000	610.8	94.4	75	125	1556	0.0900	20	

Sample ID **N051326-002AMS**	SampType: **MSD**	TestCode: **5310C_W_T_**	Units: **mg/L**	Prep Date:	RunNo: **163515**
Client ID: **ZZZZZZ**	Batch ID: **R163515**	TestNo: **SM 5310C**		Analysis Date: **6/24/2022**	SeqNo: **4709927**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total	1569.260	200	1000	612.7	95.7	75	125				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_606-062122
Lab Order:	N051326	**Collection Date:**	6/21/2022 9:15:00 AM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N051326-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_220627A**	QC Batch: **R22VW083**			PrepDate:			Analyst: **AW**
Ethanol	1400000	200000	200000		µg/L	2000	6/27/2022 01:44 PM
Surr: 1,2-Dichloroethane-d4	129	0	77-138		%REC	2000	6/27/2022 01:44 PM
Surr: 4-Bromofluorobenzene	93.9	0	80-120		%REC	2000	6/27/2022 01:44 PM
Surr: Dibromofluoromethane	122	0	80-132		%REC	2000	6/27/2022 01:44 PM
Surr: Toluene-d8	107	0	80-120		%REC	2000	6/27/2022 01:44 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CAB_MIXER_607-062122
Lab Order:	N051326	**Collection Date:**	6/21/2022 9:30:00 AM
Project:	PG&E Topock - OMM Baseline, 30106892	**Matrix:**	WATER
Lab ID:	N051326-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS							
			EPA 8260B				
RunID: **CA01638-MS08_220627A**	QC Batch: **R22VW083**			PrepDate:			Analyst: **AW**
Ethanol	1400000	200000	200000		µg/L	2000	6/27/2022 02:08 PM
Surr: 1,2-Dichloroethane-d4	128	0	77-138		%REC	2000	6/27/2022 02:08 PM
Surr: 4-Bromofluorobenzene	92.0	0	80-120		%REC	2000	6/27/2022 02:08 PM
Surr: Dibromofluoromethane	123	0	80-132		%REC	2000	6/27/2022 02:08 PM
Surr: Toluene-d8	106	0	80-120		%REC	2000	6/27/2022 02:08 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051326
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID **R220627-LCS**	SampType: **LCS**	TestCode: **CA_8260WAT**	Units: **µg/L**	Prep Date:	RunNo: **163505**
Client ID: **LCSW**	Batch ID: **R22VW083**	TestNo: **EPA 8260B**		Analysis Date: **6/27/2022**	SeqNo: **4699805**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	452.670	100	400.0	0	113	42	159				
Surr: 1,2-Dichloroethane-d4	29.900		25.00		120	77	138				
Surr: 4-Bromofluorobenzene	26.330		25.00		105	80	120				
Surr: Dibromofluoromethane	27.130		25.00		109	80	132				
Surr: Toluene-d8	24.660		25.00		98.6	80	120				

Sample ID **N051295-006A-MS**	SampType: **MS**	TestCode: **CA_8260WAT**	Units: **µg/L**	Prep Date:	RunNo: **163505**
Client ID: **ZZZZZZ**	Batch ID: **R22VW083**	TestNo: **EPA 8260B**		Analysis Date: **6/27/2022**	SeqNo: **4699806**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	1554640.000	400000	1600000	0	97.2	38	170				
Surr: 1,2-Dichloroethane-d4	104360.000		100000		104	77	138				
Surr: 4-Bromofluorobenzene	106640.000		100000		107	80	120				
Surr: Dibromofluoromethane	104040.000		100000		104	80	132				
Surr: Toluene-d8	102400.000		100000		102	80	120				

Sample ID **N051295-006A-MSD**	SampType: **MSD**	TestCode: **CA_8260WAT**	Units: **µg/L**	Prep Date:	RunNo: **163505**
Client ID: **ZZZZZZ**	Batch ID: **R22VW083**	TestNo: **EPA 8260B**		Analysis Date: **6/27/2022**	SeqNo: **4699807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	1607840.000	400000	1600000	0	100	38	170	1555000	3.36	20	
Surr: 1,2-Dichloroethane-d4	106160.000		100000		106	77	138		0		
Surr: 4-Bromofluorobenzene	107520.000		100000		108	80	120		0		
Surr: Dibromofluoromethane	106160.000		100000		106	80	132		0		
Surr: Toluene-d8	103960.000		100000		104	80	120		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051326
Project: PG&E Topock - OMM Baseline, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: CA_8260WATERP

Sample ID **R220627-MB3** SampType: **MBLK** TestCode: **CA_8260WAT** Units: **µg/L** Prep Date: RunNo: **163505**
Client ID: **PBW** Batch ID: **R22VW083** TestNo: **EPA 8260B** Analysis Date: **6/27/2022** SeqNo: **4699808**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Ethanol	ND	100									
Surr: 1,2-Dichloroethane-d4	29.260		25.00		117	77	138				
Surr: 4-Bromofluorobenzene	23.430		25.00		93.7	80	120				
Surr: Dibromofluoromethane	28.660		25.00		115	80	132				
Surr: Toluene-d8	25.700		25.00		103	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Page 1 of 1

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95661	Email: brian.prowd@arcadis.com daniel.moore@arcadis.com	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Ct, Ste 200 Roseville, CA 95678	Email to: mbloes@pivox.com P.O.# SWA-ASSET-C9817-051	Labspec		CalTrans		2. Headspace
Submitted By: Gary Smith			Others	✓	LEVEL III		3. Container Intact ✓
Title: O&M	Phone: 916-786-3302 Fax:	Phone: 949-727-1400. ext 200 Fax:	Specify: RWQCB		LEVEL IV		4. Seal Present ✓
Signature: Gary Smith Date: 6-21-22	Sampled By: Kevin Ashley		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may				Specify State:		6. Method of Cooling: Ice
Project Name: PG&E Topock - OMM Baseline	Signature: Date: 6-21-22						Sample Temp: 2.7°C
Project Number: 30106892							Courier: ASSET
							Tracking No.:

Matrix			
Ground		Sediment	
Potable		Soil	
NPDES		Other Solid	
Surface		Water	X

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	3x40 mL VOA: Total Organic Carbon (SM5310C); H2SO4	3x40 mL VOA: Ethanol (EPA 8260); HCl	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051326-01	CAB_MIXER_606-062122	6/21/22	09:15		X	X	E	6	PV	BNS	
2	-02	CAB_MIXER_607-062122	6/21/22	09:20		X	X	E	6	PV	BNS	
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												

Relinquished by (Signature and Printed Name):	Date/Time:	Received by (Signature and Printed Name):	Date/Time:
Gary Smith Gary Smith	6/22/21 1530	Nara Tep	6/22/21 1530
Nara Tep	6/22/22 1530	ROMEO ACAMPADO	6/22/22 1530
ROMEO ACAMPADO	6/22/22 1540	ROMEO ACAMPADO	6/22/22 1540

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Title 22 Metals Dissolved- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn, K, Na

Title 22 Metals TOTAL- Al, Sb, As, Ba, Be, B, Ca, Cd, Co, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, Se, Ag, Tl, V, Zn

Terms

1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
   Less than 24 Hrs =200% Next Day=100% 2 Workdays=60% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blank and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC_2)	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

Container Type:

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/22/2022	Workorder:	N051326
Rep sample Temp (Deg C):	2.7	IR Gun ID:	3
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☑	No ☐	NA ☐
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/23/2022

Reviewed By: MBC 6/28/2022

ASSET Laboratories

WORK ORDER Summary

28-Jun-22

WorkOrder: N051326

Client ID: ARCUS02

Project: PG&E Topock - OMM Baseline, 30106892 **QC Level:** Level IV **Date Received:** 6/22/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051326-001A	CAB_MIXER_606-062122	6/21/2022 9:15:00 AM	7/7/2022	Water	SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051326-001B			7/7/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW-CA
N051326-002A	CAB_MIXER_607-062122	6/21/2022 9:30:00 AM	7/7/2022		SM 5310C	TOTAL ORGANIC CARBON	☐	☐	☐	VW
N051326-002B			7/7/2022		EPA 8260B	VOLATILE ORGANIC COMPOUNDS BY GC/MS	☐	☐	☐	VW-CA
N051326-003A	FOLDER	7/7/2022	7/7/2022		Folder	Folder	☐	☐	☐	LAB
			7/7/2022		Folder	Level IV Report	☐	☐	☐	LAB
			7/7/2022		Folder	Folder	☐	☐	☐	LAB

July 08, 2022

Brian Prowd
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051327

RE: PG&E Topock - OMM TCS PWTF, 30106892

Attention: Brian Prowd

Enclosed are the results for sample(s) received on June 22, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 6020_Total:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N051329-001A-MS and N051329-001A-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - OMM TCS PWTF, 30106892
Lab Order: N051327
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051327-001A	Backwash-Pre-filter-061522	Water	6/15/2022 2:10:00 PM	6/22/2022	7/8/2022
N051327-001B	Backwash-Pre-filter-061522	Water	6/15/2022 2:10:00 PM	6/22/2022	7/8/2022
N051327-001C	Backwash-Pre-filter-061522	Water	6/15/2022 2:10:00 PM	6/22/2022	7/8/2022
N051327-002A	Backwash Post-filter-061522	Water	6/15/2022 2:20:00 PM	6/22/2022	7/8/2022
N051327-002B	Backwash Post-filter-061522	Water	6/15/2022 2:20:00 PM	6/22/2022	7/8/2022
N051327-002C	Backwash Post-filter-061522	Water	6/15/2022 2:20:00 PM	6/22/2022	7/8/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash-Pre-filter-061522
Lab Order:	N051327	**Collection Date:**	6/15/2022 2:10:00 PM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N051327-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	370	1.3	10		µg/L	50	6/23/2022 09:36 AM
TOTAL METALS BY ICPMS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220624D**	QC Batch: **93499**			PrepDate:	**6/24/2022**		Analyst: **DJ**
Chromium	390	0.18	5.0		µg/L	5	6/24/2022 11:31 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-061522
Lab Order:	N051327	**Collection Date:**	6/15/2022 2:20:00 PM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N051327-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	370	1.3	10		µg/L	50	6/23/2022 10:05 AM
TOTAL METALS BY ICPMS							
			EPA 3010A		**EPA 6020**		
RunID: **NV00922-ICP8_220624D**	QC Batch: **93499**			PrepDate:	**6/24/2022**		Analyst: **DJ**
Chromium	440	0.18	5.0		µg/L	5	6/24/2022 11:43 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163416	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	PBW	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692574		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R163416	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	LCSW	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692575		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		5.089	0.20	5.000	0	102	90	110					

Sample ID	N051327-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692577		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		361.205	10						367.1	1.62	20		

Sample ID	N051327-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692578		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		613.905	10	250.0	367.1	98.7	90	110					

Sample ID	N051327-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692580		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		622.540	10	250.0	369.1	101	90	110					

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051329-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	56.719	1.0	25.00	30.48	105	90	110				

Sample ID **N051328-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692586**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	89.283	2.0	50.00	37.96	103	90	110				

Sample ID **N051328-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	92.132	2.0	50.00	37.96	108	90	110	89.28	3.14	20	

Sample ID **N051328-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.148	0.20	5.000	3.747	108	90	110				

Sample ID **N051328-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.597	0.20	1.000	3.531	107	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051328-010AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163416**
Client ID: **ZZZZZZ**	Batch ID: **R163416**	TestNo: **EPA 218.6**		Analysis Date: **6/23/2022**	SeqNo: **4692595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	199.300	40	200.0	0	99.6	90	110				

Sample ID **N051328-011AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163416**
Client ID: **ZZZZZZ**	Batch ID: **R163416**	TestNo: **EPA 218.6**		Analysis Date: **6/23/2022**	SeqNo: **4692597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	206.120	40	200.0	0	103	90	110				

Sample ID **N051328-012AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163416**
Client ID: **ZZZZZZ**	Batch ID: **R163416**	TestNo: **EPA 218.6**		Analysis Date: **6/23/2022**	SeqNo: **4693846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.080	0.20	1.000	0	108	90	110				

Sample ID **N051328-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163416**
Client ID: **ZZZZZZ**	Batch ID: **R163416**	TestNo: **EPA 218.6**		Analysis Date: **6/23/2022**	SeqNo: **4693848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.478	1.0	5.000	0	110	90	110				

Sample ID **N051328-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163416**
Client ID: **ZZZZZZ**	Batch ID: **R163416**	TestNo: **EPA 218.6**		Analysis Date: **6/23/2022**	SeqNo: **4693850**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.998	1.0	5.000	0.8485	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051328-007AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4693856**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.261	1.0	5.000	0	105	90	110				

Sample ID **N051328-006AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4693858**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5221.200	100	2500	2638	103	90	110				

Sample ID **N051328-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4693860**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	72.998	1.0	25.00	46.69	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID	MB-93499	SampType:	MBLK	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/24/2022	RunNo:	163493
Client ID:	PBW	Batch ID:	93499	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4697225

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93499	SampType:	LCS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/24/2022	RunNo:	163493
Client ID:	LCSW	Batch ID:	93499	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4697226

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.393	1.0	10.00	0	93.9	85	115				

Sample ID	N051329-001A-MS	SampType:	MS	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/24/2022	RunNo:	163493
Client ID:	ZZZZZZ	Batch ID:	93499	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/25/2022	SeqNo:	4697236

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	37.603	1.0	10.00	30.78	68.2	75	125				S

Sample ID	N051329-001A-MSD	SampType:	MSD	TestCode:	6020_W_CRP	Units:	µg/L	Prep Date:	6/24/2022	RunNo:	163493
Client ID:	ZZZZZZ	Batch ID:	93499	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/25/2022	SeqNo:	4697237

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	37.930	1.0	10.00	30.78	71.5	75	125	37.60	0.866	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_W_CRPGE_TPK

Sample ID **N051329-001A-PS**	SampType: **PS**	TestCode: **6020_W_CRP**	Units: **µg/L**	Prep Date:					RunNo: **163493**		
Client ID: **ZZZZZZ**	Batch ID: **93499**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/25/2022**					SeqNo: **4697235**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	37.739	1.0	10.00	30.78	69.6	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash-Pre-filter-061522
Lab Order:	N051327	**Collection Date:**	6/15/2022 2:10:00 PM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N051327-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220707B**	QC Batch: **93602**				PrepDate:	**7/3/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	7/7/2022 01:16 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-061522
Lab Order:	N051327	**Collection Date:**	6/15/2022 2:20:00 PM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N051327-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
	EPA 3010A				**EPA 6010B**		
RunID: **NV00922-ICP2_220707B**	QC Batch: **93602**				PrepDate:	**7/3/2022**	Analyst: **DJ**
Iron	ND	13	20		µg/L	1	7/7/2022 01:41 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WDPGEPPB

Sample ID	MB-93602	SampType:	MBLK	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	7/3/2022	RunNo:	163726
Client ID:	PBW	Batch ID:	93602	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	7/7/2022	SeqNo:	4710933

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	N051327-001B-MS1	SampType:	MS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	7/3/2022	RunNo:	163726
Client ID:	ZZZZZZ	Batch ID:	93602	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	7/7/2022	SeqNo:	4710938

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	135.134	20	100.0	16.80	118	75	125				

Sample ID	N051327-001B-MSD	SampType:	MSD	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	7/3/2022	RunNo:	163726
Client ID:	ZZZZZZ	Batch ID:	93602	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	7/7/2022	SeqNo:	4710939

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	110.595	20	100.0	16.80	93.8	75	125	135.1	20.0	20	

Sample ID	LCS1-93602	SampType:	LCS	TestCode:	6010_WDPG	Units:	µg/L	Prep Date:	7/3/2022	RunNo:	163726
Client ID:	LCSW	Batch ID:	93602	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	7/7/2022	SeqNo:	4710985

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	93.357	20	100.0	0	93.4	85	115				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash-Pre-filter-061522
Lab Order:	N051327	**Collection Date:**	6/15/2022 2:10:00 PM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N051327-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Manganese	41	0.026	0.50		µg/L	1	6/24/2022 01:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	Backwash Post-filter-061522
Lab Order:	N051327	**Collection Date:**	6/15/2022 2:20:00 PM
Project:	PG&E Topock - OMM TCS PWTF, 30106892	**Matrix:**	WATER
Lab ID:	N051327-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:		**6/23/2022**	Analyst: **DJ**
Manganese	17	0.026	0.50		µg/L	1	6/24/2022 01:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051327
Project: PG&E Topock - OMM TCS PWTF, 30106892

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID	MB-93479	SampType:	MBLK	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	PBW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695951

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									

Sample ID	LCS-93479	SampType:	LCS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	LCSW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695952

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	95.156	0.50	100.0	0	95.2	85	115				

Sample ID	N051301-005CMS	SampType:	MS	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695978

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	90.053	0.50	100.0	6.390	83.7	75	125				

Sample ID	N051301-005CMSD	SampType:	MSD	TestCode:	6020_DIS_TP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4695980

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.598	0.50	100.0	6.390	87.2	75	125	90.05	3.86	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES

ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 1

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

Client: Arcadis	Report to: Brian Prowd	Bill to: Marty Bloes	EDD Requirement		QA/QC		Sample Receipt Condition
Address: 101 Creekside Ridge Court, Suite 200	Company: Arcadis	Address:	Excel EDD		RTNE		Y N
Address: Roseville, CA 95678	Email: brian.prowd@arcadis.com; daniel.moore@critigen.com	Address:	Geotracker		RWQCB	✓	1. Chilled ✓
Phone: 916-786-3302 Fax:	Address: 101 Creekside Ridge Court, Roseville, CA 95678	Email to: mbloes@pivox.com P.O.#: SWA-ASSET-C9617-051	Labspec		CalTrans		2. Headspace
Submitted By: Kevin Astley		Phone: 949-727-1400. ext 200 Fax:	Others	✓	LEVEL III		3. Container Intact ✓
Title: OIM operator	Phone: 916-786-3302 Fax:		Specify: RWQCB		LEVEL IV		4. Seal Present ✓
Signature: Date: 6/15/22	Sampled By: Kevin Astley		Global ID:		Regulatory		5. IR number 3
I hereby authorize ASSET Labs to perform the tests indicated below.	I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may				Specify State:		6. Method of Cooling: Ice
Project Name: PG&E Topock - OMM TCS PWTF	Signature: Date: 6/15/22						Sample Temp: 2.7°C
Project Number: 30106892							Courier: ASSET Tracking No.:

Matrix: Ground; Potable; NPDES; Surface; Sediment; Soil; Other Solid; Water (X)

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH, Filtered (250 mL poly)	Dissolved metals Iron, Manganese (SW6020) FF; HNO3; Filtered (500mL poly)	Total chromium (SW6020) No filter; HNO3 (500mL poly)	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051327-01	Backwash Pre-filter-061522	6/15/22	2:15PM		X	X	X	E	3	PV	BNS	
2	-02	Backwash Post-filter-061522	6/15/22	2:30PM		X	X	X	E	3	PV	BNS	
3													
4													
5													
7													
8													
9													
10													
11													
12													
13													
14													

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Kevin Astley / Mi Astley	6/22/22 1530	Nava Tep	6/22/22 1530
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nava Tep	6/22/22 1530	ROMEO ACANTARA	6/22/22 1530
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
ROMEO ACANTARA	6/22/22 1840	ROMEO ACANTARA	6/22/22 1840

Turn Around Time (TAT)

- [ ] A = < 24 Hrs or Same Day TAT
- [ ] B = Next Workday
- [ ] C = 2 Workdays
- [ ] D = 3 Workdays
- [x] E = Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Preservatives:

H=HCL	N=HNO_3	S=H_2SO_4	C=4°C
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$	
Others/Specify:	B	(NH4)2SO4/NH4OH	

Container Type:

T=Tube	V=VOA	P=Pint
J=Jar	B=Tedlar	G=Glass
M=Metal	M=Metal	C=Can

1. Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis.
Less than 24 Hrs =200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

White=Laboratory Copy

Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/22/2022	Workorder:	N051327
Rep sample Temp (Deg C):	2.7	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/23/2022

Reviewed By: MBC 6/28/2022

ASSET Laboratories

WORK ORDER Summary

23-Jun-22

WorkOrder: N051327

Client ID: ARCUS02

Project: PG&E Topock - OMM TCS PWTF, 30106892 **QC Level:** Level IV **Date Received:** 6/22/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051327-001A	Backwash-Pre-filter-061522	6/15/2022 2:10:00 PM	7/7/2022	Water	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051327-001B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051327-001C			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N051327-002A	Backwash Post-filter-061522	6/15/2022 2:20:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051327-002B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6010B	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051327-002C			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N051327-003A	FOLDER	7/7/2022	7/7/2022		Folder	Folder	☐	☐	☐	LAB
			7/7/2022		Folder	Level IV Report	☐	☐	☐	LAB
			7/7/2022		Folder	Folder	☐	☐	☐	LAB

July 14, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051328

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 22, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for some samples due to matrix interference. Samples were analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Samples were reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Dilution was necessary for samples N051328-010 and -011 due to matrix. Samples have bright pink color.

Because the results for total dissolved chromium (7.1 ug/L) and hexavalent chromium (3.7 ug/L) for sample N051328-009 (MW-95-157-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 300.0:

Nitrate for sample N051328-011 was reported below the reporting limit @200x dilution. Dilution was necessary due to matrix. Sample Duplicate (DUP) was performed and results met RPD criteria.

Dilution was necessary for samples N051328-010 and -011 due to matrix. Samples have bright pink color.

Analytical Comments for EPA 6020_Dissolved:

Dilution was necessary for samples N051328-010 and -011 due to matrix. Samples are dark red in color.

Because the results for total dissolved chromium (7.1 ug/L) and hexavalent chromium (3.7 ug/L) for sample N051328-009 (MW-95-157-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 6.9 and 3.7 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N051301-005CMS, N051301-005CMSD, N051328-006B-MS and N051328-006B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) is outside recovery criteria for Molybdenum in QC sample N051328-006B-MS possibly due to matrix interference. Post Spike passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051328
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051328-001A	MW-62-110-Q222	Groundwater	6/22/2022 3:20:00 PM	6/22/2022	7/14/2022
N051328-001B	MW-62-110-Q222	Groundwater	6/22/2022 3:20:00 PM	6/22/2022	7/14/2022
N051328-002A	MW-62-190-Q222	Groundwater	6/22/2022 3:10:00 PM	6/22/2022	7/14/2022
N051328-002B	MW-62-190-Q222	Groundwater	6/22/2022 3:10:00 PM	6/22/2022	7/14/2022
N051328-003A	MW-83-090-Q222	Groundwater	6/22/2022 1:18:00 PM	6/22/2022	7/14/2022
N051328-003B	MW-83-090-Q222	Groundwater	6/22/2022 1:18:00 PM	6/22/2022	7/14/2022
N051328-004A	MW-83-180-Q222	Groundwater	6/22/2022 12:45:00 PM	6/22/2022	7/14/2022
N051328-004B	MW-83-180-Q222	Groundwater	6/22/2022 12:45:00 PM	6/22/2022	7/14/2022
N051328-005A	MW-83-225-Q222	Groundwater	6/22/2022 12:08:00 PM	6/22/2022	7/14/2022
N051328-005B	MW-83-225-Q222	Groundwater	6/22/2022 12:08:00 PM	6/22/2022	7/14/2022
N051328-006A	MW-83-245-Q222	Groundwater	6/22/2022 11:30:00 AM	6/22/2022	7/14/2022
N051328-006B	MW-83-245-Q222	Groundwater	6/22/2022 11:30:00 AM	6/22/2022	7/14/2022
N051328-007A	MW-64BR-Q222	Groundwater	6/22/2022 10:36:00 AM	6/22/2022	7/14/2022
N051328-007B	MW-64BR-Q222	Groundwater	6/22/2022 10:36:00 AM	6/22/2022	7/14/2022
N051328-008A	MW-95-113-Q222	Groundwater	6/22/2022 9:20:00 AM	6/22/2022	7/14/2022
N051328-008B	MW-95-113-Q222	Groundwater	6/22/2022 9:20:00 AM	6/22/2022	7/14/2022
N051328-009A	MW-95-157-Q222	Groundwater	6/22/2022 8:42:00 AM	6/22/2022	7/14/2022
N051328-009B	MW-95-157-Q222	Groundwater	6/22/2022 8:42:00 AM	6/22/2022	7/14/2022
N051328-010A	MW-67-185-Q222	Groundwater	6/22/2022 2:30:00 PM	6/22/2022	7/14/2022
N051328-010B	MW-67-185-Q222	Groundwater	6/22/2022 2:30:00 PM	6/22/2022	7/14/2022
N051328-010C	MW-67-185-Q222	Groundwater	6/22/2022 2:30:00 PM	6/22/2022	7/14/2022
N051328-011A	MW-925-Q222	Groundwater	6/22/2022 2:40:00 PM	6/22/2022	7/14/2022
N051328-011B	MW-925-Q222	Groundwater	6/22/2022 2:40:00 PM	6/22/2022	7/14/2022
N051328-011C	MW-925-Q222	Groundwater	6/22/2022 2:40:00 PM	6/22/2022	7/14/2022
N051328-012A	EB-751-Q222	Groundwater	6/22/2022 2:50:00 PM	6/22/2022	7/14/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-110-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 3:20:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220623A** QC Batch: **R163416**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/23/2022 03:59 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A			**EPA 6020**			
RunID: **NV00922-ICP8_220623F** QC Batch: **93479**				PrepDate: **6/23/2022**			Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/24/2022 01:51 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-62-190-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 3:10:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/23/2022 04:18 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/24/2022 02:03 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-090-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 1:18:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220623A** QC Batch: **R163416**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	38	0.25	2.0		µg/L	10	6/23/2022 11:02 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220623F** QC Batch: **93479**				PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	34	0.035	1.0		µg/L	1	6/24/2022 02:15 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-180-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 12:45:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A**	QC Batch: **R163555**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3.7	0.025	0.20		µg/L	1	6/29/2022 01:35 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220623F**	QC Batch: **93479**			PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	4.3	0.035	1.0		µg/L	1	6/24/2022 02:27 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-225-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 12:08:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
		EPA 218.6					
RunID: **NV00922-IC7_220623A** QC Batch: **R163416**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	47	0.13	1.0		µg/L	5	6/23/2022 06:02 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220713A** QC Batch: **93479**				PrepDate:	**6/23/2022**		Analyst: **DJ**
Chromium	42	0.035	1.0		µg/L	1	7/13/2022 03:38 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-83-245-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 11:30:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	2600	13	100		µg/L	500	6/23/2022 05:33 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220707A**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	2600	0.88	25		µg/L	25	7/7/2022 01:01 PM

Qualifiers:

B	Analyte detected in the associated Method Blank
E	Value above quantitation range
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference
	Results are wet unless otherwise specified
DO	Surrogate Diluted Out

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-64BR-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 10:36:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/23/2022 05:14 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	ND	0.035	1.0		µg/L	1	6/30/2022 11:07 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-113-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 9:20:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3.5	0.025	0.20		µg/L	1	6/23/2022 12:19 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	3.7	0.035	1.0		µg/L	1	6/30/2022 11:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-95-157-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 8:42:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	3.7	0.025	0.20		µg/L	1	6/23/2022 12:00 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	7.1	0.035	1.0		µg/L	1	6/30/2022 11:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 2:30:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	5.0	40		µg/L	200	6/23/2022 12:56 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	ND	0.88	25		µg/L	25	6/30/2022 11:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-925-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 2:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A** QC Batch: **R163416**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	5.0	40		µg/L	200	6/23/2022 01:15 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220630E** QC Batch: **93574**				PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	ND	0.88	25		µg/L	25	6/30/2022 11:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-751-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 2:50:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220623A**	QC Batch: **R163416**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/23/2022 06:21 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163416	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	PBW	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692574		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R163416	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	LCSW	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692575		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.089	0.20	5.000	0	102	90	110						

Sample ID	N051327-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692577		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	361.205	10						367.1	1.62	20			

Sample ID	N051327-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692578		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	613.905	10	250.0	367.1	98.7	90	110						

Sample ID	N051327-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416		
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4692580		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	622.540	10	250.0	369.1	101	90	110						

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051329-001BMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692584**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	56.719	1.0	25.00	30.48	105	90	110				

Sample ID **N051328-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692586**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	89.283	2.0	50.00	37.96	103	90	110				

Sample ID **N051328-003AMSD** SampType: **MSD** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692587**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	92.132	2.0	50.00	37.96	108	90	110	89.28	3.14	20	

Sample ID **N051328-009AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	9.148	0.20	5.000	3.747	108	90	110				

Sample ID **N051328-008AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.597	0.20	1.000	3.531	107	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051328-010AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	199.300	40	200.0	0	99.6	90	110				

Sample ID **N051328-011AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4692597**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	206.120	40	200.0	0	103	90	110				

Sample ID **N051328-012AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4693846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.080	0.20	1.000	0	108	90	110				

Sample ID **N051328-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4693848**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.478	1.0	5.000	0	110	90	110				

Sample ID **N051328-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **163416**
Client ID: **ZZZZZZ** Batch ID: **R163416** TestNo: **EPA 218.6** Analysis Date: **6/23/2022** SeqNo: **4693850**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.998	1.0	5.000	0.8485	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051328-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4693856

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.261	1.0	5.000	0	105	90	110				

Sample ID	N051328-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4693858

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5221.200	100	2500	2638	103	90	110				

Sample ID	N051328-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163416
Client ID:	ZZZZZZ	Batch ID:	R163416	TestNo:	EPA 218.6			Analysis Date:	6/23/2022	SeqNo:	4693860

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	72.998	1.0	25.00	46.69	105	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163555	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	PBW	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701533		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	ND	0.20											

Sample ID	LCS-R163555	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	LCSW	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701534		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	5.235	0.20	5.000	0	105	90	110						

Sample ID	N051343-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701536		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	66.907	1.0	25.00	41.31	102	90	110						

Sample ID	N051343-006AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701537		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	66.406	1.0	25.00	41.31	100	90	110	66.91	0.752	20			

Sample ID	N051343-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701539		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Hexavalent Chromium	18.809	1.0						19.20	2.04	20			

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051343-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701540

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.233	1.0	25.00	19.20	96.1	90	110				

Sample ID	N051343-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701544

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.579	1.0	5.000	0.7875	95.8	90	110				

Sample ID	N051343-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	476.185	10	250.0	216.7	104	90	110				

Sample ID	N051343-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701548

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10226.000	200	5000	5048	104	90	110				

Sample ID	N051343-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701550

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	556.275	10	250.0	305.4	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out
- Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N051343-007AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163555**
Client ID: **ZZZZZZ**	Batch ID: **R163555**	TestNo: **EPA 218.6**		Analysis Date: **6/29/2022**	SeqNo: **4701552**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.027	0.20	1.000	0	103	90	110				

Sample ID **N051328-004AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **163555**
Client ID: **ZZZZZZ**	Batch ID: **R163555**	TestNo: **EPA 218.6**		Analysis Date: **6/29/2022**	SeqNo: **4701556**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.855	0.20	5.000	3.680	103	90	110				

Qualifiers:

B Analyte detected in the associated Method Blank
ND Not Detected at the Reporting Limit
DO Surrogate Diluted Out
E Value above quantitation range
R RPD outside accepted recovery limits
Calculations are based on raw values
H Holding times for preparation or analysis exceeded
S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93479	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	PBW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695757		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		ND	1.0										

Sample ID	LCS-93479	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	LCSW	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695758		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		9.300	1.0	10.00	0	93.0	85	115					

Sample ID	N051301-005CMS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/23/2022	SeqNo:	4695785		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		3304.209	25	10.00	3097	2070	75	125				S	

Sample ID	N051301-005CMSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/23/2022	RunNo:	163479		
Client ID:	ZZZZZZ	Batch ID:	93479	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/24/2022	SeqNo:	4695787		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Chromium		3301.478	25	10.00	3097	2040	75	125	3304	0.0827	20	S	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93574	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	PBW	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705404

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93574	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	LCSW	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705405

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.310	1.0	10.00	0	93.1	85	115				

Sample ID	N051328-006B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	ZZZZZZ	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705417

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3106.951	25	10.00	2605	5020	75	125				S

Sample ID	N051328-006B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	ZZZZZZ	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2895.204	25	10.00	2605	2900	75	125	3107	7.06	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N051301-005C-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **163479**
Client ID:	**ZZZZZZ**	Batch ID: **93479**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/23/2022**	SeqNo: **4695783**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3305.862	25	10.00	3097	2090	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	N051328-006B-PS	SampType:	PS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:		RunNo:	163636
Client ID:	ZZZZZZ	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705415

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3021.307	25	10.00	2605	4170	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 2:30:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220623A**	QC Batch: **R163447**			PrepDate:			Analyst: **RAB**
Nitrate as N	10	1.9	10		mg/L	200	6/23/2022 09:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-925-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 2:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_220623A**	QC Batch: **R163447**			PrepDate:			Analyst: **RAB**
Nitrate as N	9.4	1.9	10		mg/L	200	6/23/2022 10:39 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 300WLLNO3PGE

Sample ID	MB-R163447_NO3	SampType:	MBLK	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163447
Client ID:	PBW	Batch ID:	R163447	TestNo:	EPA 300.0			Analysis Date:	6/23/2022	SeqNo:	4693657

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	ND	0.050									

Sample ID	LCS-R163447_NO3	SampType:	LCS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163447
Client ID:	LCSW	Batch ID:	R163447	TestNo:	EPA 300.0			Analysis Date:	6/23/2022	SeqNo:	4693658

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	1.191	0.050	1.250	0	95.3	90	110				

Sample ID	N051328-010BMS	SampType:	MS	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163447
Client ID:	ZZZZZZ	Batch ID:	R163447	TestNo:	EPA 300.0			Analysis Date:	6/23/2022	SeqNo:	4693660

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	251.380	10	250.0	10.26	96.4	80	120				

Sample ID	N051328-010BMSD	SampType:	MSD	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163447
Client ID:	ZZZZZZ	Batch ID:	R163447	TestNo:	EPA 300.0			Analysis Date:	6/23/2022	SeqNo:	4693661

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	250.120	10	250.0	10.26	95.9	80	120	251.4	0.502	20	

Sample ID	N051328-011BDUP	SampType:	DUP	TestCode:	300WLLNO3	Units:	mg/L	Prep Date:		RunNo:	163447
Client ID:	ZZZZZZ	Batch ID:	R163447	TestNo:	EPA 300.0			Analysis Date:	6/23/2022	SeqNo:	4693663

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate as N	10.920	10						9.400	15.0	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-67-185-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 2:30:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**	Analyst: **DJ**	
Manganese	1600	0.66	12		µg/L	25	6/30/2022 11:37 PM
Molybdenum	40	3.0	12		µg/L	25	6/30/2022 11:37 PM
Selenium	58	1.1	12		µg/L	25	6/30/2022 11:37 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-925-Q222
Lab Order:	N051328	**Collection Date:**	6/22/2022 2:40:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051328-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP-MS							
EPA 3010A			**EPA 6020**				
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**	Analyst: **DJ**	
Manganese	1700	0.66	12		µg/L	25	6/30/2022 11:49 PM
Molybdenum	42	3.0	12		µg/L	25	6/30/2022 11:49 PM
Selenium	64	1.1	12		µg/L	25	6/30/2022 11:49 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **MB-93574**	SampType: **MBLK**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163636**
Client ID: **PBW**	Batch ID: **93574**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4705515**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									

Sample ID: **LCS-93574**	SampType: **LCS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163636**
Client ID: **LCSW**	Batch ID: **93574**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4705516**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	93.251	0.50	100.0	0	93.3	85	115				
Molybdenum	9.681	0.50	10.00	0	96.8	85	115				
Selenium	8.656	0.50	10.00	0	86.6	85	115				

Sample ID: **N051328-006B-MS**	SampType: **MS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163636**
Client ID: **ZZZZZZ**	Batch ID: **93574**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4705527**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	106.162	0.50	100.0	20.82	85.3	75	125				
Molybdenum	69.101	0.50	10.00	56.12	130	75	125				S
Selenium	10.757	0.50	10.00	2.739	80.2	75	125				

Sample ID: **N051328-006B-MSD**	SampType: **MSD**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date: **6/30/2022**	RunNo: **163636**
Client ID: **ZZZZZZ**	Batch ID: **93574**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4705529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	104.720	0.50	100.0	20.82	83.9	75	125	106.2	1.37	20	
Molybdenum	67.492	0.50	10.00	56.12	114	75	125	69.10	2.36	20	
Selenium	11.275	0.50	10.00	2.739	85.4	75	125	10.76	4.70	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051328
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_DIS_TPK

Sample ID: **N051328-006B-PS**	SampType: **PS**	TestCode: **6020_DIS_TP**	Units: **µg/L**	Prep Date:	RunNo: **163636**
Client ID: **ZZZZZZ**	Batch ID: **93574**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4705525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	105.714	0.50	100.0	20.82	84.9	80	120				
Molybdenum	67.390	0.50	10.00	56.12	113	80	120				
Selenium	11.497	0.50	10.00	2.739	87.6	80	120				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

| | | |

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/22/2022	Workorder:	N051328
Rep sample Temp (Deg C):	4.2/2.7	IR Gun ID:	3

Temp Blank: ☑ Yes ☐ No

Carrier name: ASSET

Last 4 digits of Tracking No.: NA Packing Material Used: None

Cooling process: ☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Checklist Completed By: YR YRJ 6/23/2022

Reviewed By: MBC 6/28/2022

ASSET Laboratories

WORK ORDER Summary

23-Jun-22

WorkOrder: N051328

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/22/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051328-001A	MW-62-110-Q222	6/22/2022 3:20:00 PM	7/7/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-001B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-002A	MW-62-190-Q222	6/22/2022 3:10:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-002B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-003A	MW-83-090-Q222	6/22/2022 1:18:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-003B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-004A	MW-83-180-Q222	6/22/2022 12:45:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-004B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-005A	MW-83-225-Q222	6/22/2022 12:08:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-005B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-006A	MW-83-245-Q222	6/22/2022 11:30:00 AM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-006B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-007A	MW-64BR-Q222	6/22/2022 10:36:00 AM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-007B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-008A	MW-95-113-Q222	6/22/2022 9:20:00 AM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

23-Jun-22

WorkOrder: N051328

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/22/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051328-008B	MW-95-113-Q222	6/22/2022 9:20:00 AM	7/7/2022	Groundwater	EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-009A	MW-95-157-Q222	6/22/2022 8:42:00 AM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-009B			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-010A	MW-67-185-Q222	6/22/2022 2:30:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-010B			7/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051328-010C			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-011A	MW-925-Q222	6/22/2022 2:40:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-011B			7/7/2022		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N051328-011C			7/7/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			7/7/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051328-012A	EB-751-Q222	6/22/2022 2:50:00 PM	7/7/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051328-013A	FOLDER	7/7/2022	7/7/2022		Folder	Folder	☐	☐	☐	LAB
			7/7/2022		Folder	Level IV Report	☐	☐	☐	LAB
			7/7/2022		Folder	Folder	☐	☐	☐	LAB

July 13, 2022

Dan Bush
ARCADIS U.S., Inc. - California
1410 Rocky Ridge Dr #330
Roseville, CA 95661

TEL: (916) 786-3302
FAX:

Workorder No.: N051343

RE: PG&E Topock - RCM, 30121866.2Q22GW

Attention: Dan Bush

Enclosed are the results for sample(s) received on June 23, 2022 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (702) 307-2659 if I can be of further assistance to your company.

Sincerely,

Nancy Sibucao
Laboratory Director

The cover letter is an integral part of this analytical report. This Laboratory Report cannot be reproduced in part or in its entirety without written permission from the client and ASSET Laboratories - Las Vegas.

SAMPLE RECEIVING/GENERAL COMMENTS:

All sample containers were received intact with proper chain of custody documentation.

Information on sample receipt conditions including discrepancies can be found in attached Sample Receipt Checklist Form.

Cooler temperature and sample preservation were verified upon receipt of samples if applicable.

Samples were analyzed within method holding time.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N051343-002 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

Because the results for total dissolved chromium (1.6 ug/L) and hexavalent chromium (0 ug/L) for sample N051343-002 (MW-93-213-Q222) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6020_Dissolved:

Because the results for total dissolved chromium (1.6 ug/L) and hexavalent chromium (0 ug/L) for sample N051343-002 (MW-93-213-Q222) are discrepant, sample from both the total dissolved chromium and hexavalent chromium containers were redigested and analyzed for total dissolved chromium. The results from the redigested samples were 1.4 and 1.2 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N051328-006B-MS and N051328-006B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *13-Jul-22*

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - RCM, 30121866.2Q22GW
Lab Order: N051343
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N051343-001A	MW-93-050-Q222	Groundwater	6/23/2022 8:56:00 AM	6/23/2022	7/13/2022
N051343-001B	MW-93-050-Q222	Groundwater	6/23/2022 8:56:00 AM	6/23/2022	7/13/2022
N051343-002A	MW-93-213-Q222	Groundwater	6/23/2022 8:22:00 AM	6/23/2022	7/13/2022
N051343-002B	MW-93-213-Q222	Groundwater	6/23/2022 8:22:00 AM	6/23/2022	7/13/2022
N051343-003A	PT8D-Q222	Groundwater	6/23/2022 10:00:00 AM	6/23/2022	7/13/2022
N051343-003B	PT8D-Q222	Groundwater	6/23/2022 10:00:00 AM	6/23/2022	7/13/2022
N051343-004A	PT9D-Q222	Groundwater	6/23/2022 11:58:00 AM	6/23/2022	7/13/2022
N051343-004B	PT9D-Q222	Groundwater	6/23/2022 11:58:00 AM	6/23/2022	7/13/2022
N051343-005A	PT9M-Q222	Groundwater	6/23/2022 11:16:00 AM	6/23/2022	7/13/2022
N051343-005B	PT9M-Q222	Groundwater	6/23/2022 11:16:00 AM	6/23/2022	7/13/2022
N051343-006A	PT9S-Q222	Groundwater	6/23/2022 10:42:00 AM	6/23/2022	7/13/2022
N051343-006B	PT9S-Q222	Groundwater	6/23/2022 10:42:00 AM	6/23/2022	7/13/2022
N051343-007A	EB-752-Q222	Groundwater	6/23/2022 12:10:00 PM	6/23/2022	7/13/2022

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-93-050-Q222
Lab Order:	N051343	**Collection Date:**	6/23/2022 8:56:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051343-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A** QC Batch: **R163555**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	19	0.13	1.0		µg/L	5	6/28/2022 10:36 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220630E** QC Batch: **93574**				PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	18	0.035	1.0		µg/L	1	7/1/2022 12:01 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-93-213-Q222
Lab Order:	N051343	**Collection Date:**	6/23/2022 8:22:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051343-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A**	QC Batch: **R163555**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.13	1.0		µg/L	5	6/28/2022 11:42 PM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	1.6	0.035	1.0		µg/L	1	7/1/2022 12:07 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT8D-Q222
Lab Order:	N051343	**Collection Date:**	6/23/2022 10:00:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051343-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A**	QC Batch: **R163555**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	220	1.3	10		µg/L	50	6/29/2022 12:01 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A	**EPA 6020**				
RunID: **NV00922-ICP8_220707A**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	250	0.18	5.0		µg/L	5	7/7/2022 01:13 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT9D-Q222
Lab Order:	N051343	**Collection Date:**	6/23/2022 11:58:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051343-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A**	QC Batch: **R163555**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	5000	25	200		µg/L	1000	6/29/2022 12:20 AM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A		**EPA 6020**			
RunID: **NV00922-ICP8_220630E**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	5500	4.4	120		µg/L	125	7/1/2022 12:31 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT9M-Q222
Lab Order:	N051343	**Collection Date:**	6/23/2022 11:16:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051343-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A**	QC Batch: **R163555**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	310	1.3	10		µg/L	50	6/29/2022 12:39 AM
DISSOLVED METALS BY ICP-MS							
	EPA 3010A		**EPA 6020**				
RunID: **NV00922-ICP8_220707A**	QC Batch: **93574**			PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	340	0.18	5.0		µg/L	5	7/7/2022 01:19 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	PT9S-Q222
Lab Order:	N051343	**Collection Date:**	6/23/2022 10:42:00 AM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051343-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A** QC Batch: **R163555**				PrepDate:			Analyst: **RAB**
Hexavalent Chromium	41	0.13	1.0		µg/L	5	6/28/2022 10:07 PM
DISSOLVED METALS BY ICP-MS							
		EPA 3010A			**EPA 6020**		
RunID: **NV00922-ICP8_220630E** QC Batch: **93574**				PrepDate:	**6/30/2022**		Analyst: **DJ**
Chromium	40	0.035	1.0		µg/L	1	7/1/2022 01:00 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
DO	Surrogate Diluted Out		

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-752-Q222
Lab Order:	N051343	**Collection Date:**	6/23/2022 12:10:00 PM
Project:	PG&E Topock - RCM, 30121866.2Q22GW	**Matrix:**	GROUNDWATER
Lab ID:	N051343-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_220628A**	QC Batch: **R163555**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.025	0.20		µg/L	1	6/29/2022 12:58 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
	S	Spike/Surrogate outside of limits due to matrix interference		Results are wet unless otherwise specified
	DO	Surrogate Diluted Out		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051343
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R163555	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	PBW	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701533		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		ND	0.20										

Sample ID	LCS-R163555	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	LCSW	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701534		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		5.235	0.20	5.000	0	105	90	110					

Sample ID	N051343-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701536		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		66.907	1.0	25.00	41.31	102	90	110					

Sample ID	N051343-006AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701537		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		66.406	1.0	25.00	41.31	100	90	110	66.91	0.752	20		

Sample ID	N051343-001ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555		
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701539		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Hexavalent Chromium		18.809	1.0						19.20	2.04	20		

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051343
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051343-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701540

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	43.233	1.0	25.00	19.20	96.1	90	110				

Sample ID	N051343-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/28/2022	SeqNo:	4701544

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.579	1.0	5.000	0.7875	95.8	90	110				

Sample ID	N051343-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	476.185	10	250.0	216.7	104	90	110				

Sample ID	N051343-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701548

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	10226.000	200	5000	5048	104	90	110				

Sample ID	N051343-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701550

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	556.275	10	250.0	305.4	100	90	110				

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike/Surrogate outside of limits due to matrix interference
- DO Surrogate Diluted Out

Calculations are based on raw values

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051343
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N051343-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701552

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.027	0.20	1.000	0	103	90	110				

Sample ID	N051328-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	163555
Client ID:	ZZZZZZ	Batch ID:	R163555	TestNo:	EPA 218.6			Analysis Date:	6/29/2022	SeqNo:	4701556

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	8.855	0.20	5.000	3.680	103	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051343
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	MB-93574	SampType:	MBLK	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	PBW	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705404

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-93574	SampType:	LCS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	LCSW	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705405

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.310	1.0	10.00	0	93.1	85	115				

Sample ID	N051328-006B-MS	SampType:	MS	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	ZZZZZZ	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705417

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3106.951	25	10.00	2605	5020	75	125				S

Sample ID	N051328-006B-MSD	SampType:	MSD	TestCode:	6020DIS_CrP	Units:	µg/L	Prep Date:	6/30/2022	RunNo:	163636
Client ID:	ZZZZZZ	Batch ID:	93574	TestNo:	EPA 6020	EPA 3010A		Analysis Date:	6/30/2022	SeqNo:	4705419

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	2895.204	25	10.00	2605	2900	75	125	3107	7.06	20	S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N051343
Project: PG&E Topock - RCM, 30121866.2Q22GW

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020DIS_CrPGE_TPK

Sample ID	**N051328-006B-PS**	SampType: **PS**	TestCode: **6020DIS_CrP**	Units: **µg/L**	Prep Date:	RunNo: **163636**
Client ID:	**ZZZZZZ**	Batch ID: **93574**	TestNo: **EPA 6020**	**EPA 3010A**	Analysis Date: **6/30/2022**	SeqNo: **4705415**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	3021.307	25	10.00	2605	4170	80	120				S

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits	S	Spike/Surrogate outside of limits due to matrix interference
DO	Surrogate Diluted Out		Calculations are based on raw values		

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

Contact us:
Nevada: 3151 W. Post Road, Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691
California: 11060 Artesia Blvd., Ste C, Cerritos, CA 90703
P: 562.219.7435 F:562.219.7436
www.assetlaboratories.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	EDD Requirement	QA/QC	Sample Receipt Condition
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	Excel EDD	RTNE	Y N
Address: Roseville, CA 95661	Email: dan.bush@arcadis.com; daniel.m[illegible]@critigen.com	Address:	Geotracker	RWQCB ✓	1. Chilled
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@pivox.com P.O.#	Labspec	CalTrans	2. Headspace
Submitted By: Nara Tay			Others ✓	LEVEL III	3. Container Intact
Title: Project Manager	Phone: 916-786-3302 Fax:	Phone: 949-727-1400, ext 200 Fax:	Specify: RWQCB	LEVEL IV	4. Seal Present
Signature: Date: 6/23/22	Sampled By: Nara Tay		Global ID:	Regulatory	5. IR number
I hereby authorize ASSET Labs to perform the tests indicated below.	*I attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for*			Specify State:	6. Method of Cooling: ICE
Project Name: PG&E Topock - RCM	Signature: Date: 6/23/22				Sample Temp: 3.0 °C
Project Number: 30121866.2Q22GW					Courier: Tracking No.:

Matrix: Ground X | Potable | NPDES | Surface; Sediment | Soil | Other Solid

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2, SO4, NH4, OH 250 mL poly	Nitrate (EPA 300.0) 1 L poly	Dissolved metals (SW6020) FF; HNO3 Manganese 500mL poly	Dissolved metals (SW6020) FF; HNO3 Total Dissolved Chromium, 500mL poly	Dissolved metals (SW6020) FF; HNO3 Molybdenum, Selenium 500mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N051343-01	MW-93-050-Q222	6/23/2022	8:56		X			X		E	2	P	BNS	
2	-02	MW-93-213-Q222	6/23/2022	8:22		X			X		E	3	P	BNS	
3	-03	PT8D-Q222	6/23/2022	10:00		X			X		E	2	P	BNS	
4	-04	PT9D-Q222	6/23/2022	11:58		X			X		E	2	P	BNS	
5	-05	PT9M-Q222	6/23/2022	11:16		X			X		E	2	P	BNS	
	-06	PT9S-Q222	6/23/2022	10:42		X			X		E	2	P	BNS	
7	-07	EB-752-Q222	6/23/2022	12:10		X					E	2	P	BNS	MS/MSD
8											E	2	P	BNS	
9											E	3	P	BNS	
10											E	3	P	BNS	
11											E	3	P	BNS	
12											E	3	P	BNS	
13											E	1	P	BNS	
14															

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Nara Tay	6/23/22 1530	FERN RIVERA	6/23/22 1530
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:

Turn Around Time (TAT)

	A	< 24 Hrs or Same Day TAT
	B	= Next Workday
	C	= 2 Workdays
	D	= 3 Workdays
X	E	= Routine 5-7 Workdays

TAT Starts at 8 AM the following day if samples received after 3:00PM.

Special Instruction:

Terms
1. All samples will be disposed in 45 days and records will be destroyed in 5 years upon submission of final report.
2. Regular TAT is 5-7 business days, surcharges will apply for rush analysis
Less than 24 Hrs.=200% Next Day=100% 2 Workdays=50% 3 Workdays=35 % 4 Workdays=20%
3. Custom EDD formats will be an additional 3% of the total project price.
4. Add 10% surcharge for Level III Data Packages, 15% for Level IV Data Packages. Surcharge applied on total project price.
5. Trip Blanks and Equipment Blanks are billable sample.
6. Asset Laboratories is not responsible for samples collected using incorrect methodology.
7. Terms are net 30 days.
8. All reports are submitted in electronic format. Please inform ASSET Laboratories if hard copy of report is needed.
9. For subcontract analysis, TAT and Surcharges will vary.

Preservatives:				Container Type:		
H=HCL	N=HNO_3	S=H_2SO_4	C=4°C	T=Tube	V=VOA	P=Pint
Z=Zn(AC)$_2$	O=NaOH	T=$Na_2S_2O_3$		J=Jar	B=Tedlar	G=Glass
Others/Specify:	B (NH4)2SO4/NH4OH			M=Metal	M=Metal	C=Can

White=Laboratory Copy
Yellow=Customer's Copy

ASSET Laboratories

Please review the checklist below. Any NO signifies non-compliance. Any non-compliance will be noted and must be understood as having an impact on the quality of the data. All tests will be performed as requested regardless of any compliance issues.

If you have any questions or further instruction, please contact our Project Coordinator at (702) 307-2659.

Cooler Received/Opened On:	6/23/2022	Workorder:	N051343
Rep sample Temp (Deg C):	3.0	IR Gun ID:	1
Temp Blank:	☐ Yes ☑ No		
Carrier name:	Walk-In		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☑	No ☐	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☑	No ☐	NA ☐
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: FR YRJ 6/23/2022

Reviewed By: 7/1/2022

ASSET Laboratories

WORK ORDER Summary

23-Jun-22

WorkOrder: N051343

Client ID: ARCUS02

Project: PG&E Topock - RCM, 30121866.2Q22GW **QC Level:** Level IV **Date Received:** 6/23/2022

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N051343-001A	MW-93-050-Q222	6/23/2022 8:56:00 AM	7/8/2022	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051343-001B			7/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051343-002A	MW-93-213-Q222	6/23/2022 8:22:00 AM	7/8/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051343-002B			7/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051343-003A	PT8D-Q222	6/23/2022 10:00:00 AM	7/8/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051343-003B			7/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051343-004A	PT9D-Q222	6/23/2022 11:58:00 AM	7/8/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051343-004B			7/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051343-005A	PT9M-Q222	6/23/2022 11:16:00 AM	7/8/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051343-005B			7/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051343-006A	PT9S-Q222	6/23/2022 10:42:00 AM	7/8/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051343-006B			7/8/2022		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			7/8/2022		EPA 6020	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N051343-007A	EB-752-Q222	6/23/2022 12:10:00 PM	7/8/2022		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N051343-008A	FOLDER	7/8/2022	7/8/2022		Folder	Folder	☐	☐	☐	LAB
			7/8/2022		Folder	Level IV Report	☐	☐	☐	LAB
			7/8/2022		Folder	Folder	☐	☐	☐	LAB

Appendix D

Referenced Documents

Schaffer, Alison

From:	Gentile, Margaret
Sent:	Monday, July 25, 2022 5:48 PM
To:	Yue, Aaron@DTSC; Guerre, Christopher@DTSC; Innis, Pamela; Dickerson, Veronica L
Cc:	Iain Baker; Glass, John; KABY; Bush, Dan; Hohman, Treck; Schaffer, Alison; Hong, Christina/LAC
Subject:	Topock-Second Quarter 2022 COPC Verification Sample Result Notification: Exceedance

ARCADIS

This email provides a follow-up notification to the California Department of Toxic Substances (DTSC) and U.S. Department of the Interior (DOI) regarding the March 2022 nitrate detection in a Perimeter Assessment Plan (PAP) monitoring well exceeding the COPC PAP trigger level.

In First Quarter 2022, PAP monitoring well MW-90-031 yielded a nitrate concentration of 0.66 milligrams per liter as nitrogen (mg/L N), which exceeded the trigger level concentration of 0.22 mg/L N. The trigger level was calculated for the baseline dataset using nitrate/nitrite analytical results since nitrate was not historically analyzed at this monitoring well. According to the PAP procedures, the next step was to conduct resampling for verification, which was performed on May 5, 2022 (within 45 days of validated results). Both nitrate/nitrite (Method 353.2) and nitrate (Method 300.0) were analyzed.

The May 2022 nitrate/nitrite and nitrate results were non-detect at a reporting limit of 0.1 mg/L N and 0.5 mg/L N, respectively. These results do not confirm the exceedance of a trigger level observed in First Quarter 2022. These results will be reported in the Second Quarter 2022 Quarterly Progress Report. In addition, groundwater samples collected from MW-90-031 will continue to be analyzed for both nitrate/nitrite (Method 353.2) and nitrate (Method 300.0) until sufficient nitrate data are collected to establish a nitrate COPC PAP trigger level.

Please let us know if you have questions or concerns.

Thank you,
Margy

Margaret Gentile PE, PhD
Technical Expert
Arcadis U.S., Inc.
100 Montgomery St, Ste 300 | San Francisco, CA | 94104 | USA
M +1 510 432 6251
www.arcadis.com

Arcadis U.S., Inc.
100 Montgomery Street, Suite 300
San Francisco
California 94104
Phone: 415 374 2744
Fax: 415 374 2745
www.arcadis.com

Arcadis. Improving quality of life.