Pacific Gas and Electric Company

Curt Russell
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: gcr4@pge.com

January 15, 2020

Pamela Innis
Department of the Interior Topock Remedial Project Manager
United States Department of the Interior,
Office of Environmental Policy and Compliance
P.O. Box 2507-D (D-108)
Denver Federal Center, Building 56
Denver, CO 80225-0007

Subject: *Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report, Interim Measures No. 3, PG&E Topock Compressor Station, Needles, California* (Document ID: PGE20200115A)

Dear Ms. Innis:

Enclosed is the Compliance Monitoring Program (CMP) 2019 Annual Groundwater Monitoring Report for Interim Measures No. 3 (IM-3) at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station site near Needles, California. This report documents the results of compliance monitoring activities conducted during the 2019 annual period (from January 1, 2019 through December 31, 2019) and has been prepared in accordance with the United States Department of the Interior's August 18, 2011 letter stating that the Interim Measures No. 3 Waste Discharge Requirements are applicable or relevant and appropriate requirements.

The current contingency plan specifies the water quality objectives/action levels for hexavalent chromium (Cr[VI]), chromium, total dissolved solids (TDS), and pH, which are used to determine whether contingency plan actions are necessary based on sample results. These threshold concentrations, used to trigger the contingency plan, are as follows: Cr(VI) greater than 32 micrograms per liter (µg/L), chromium greater than 28 µg/L, TDS greater than 10,800 milligrams per liter, and pH outside of the range of 6.2 to 9.2. No samples exceeded the water quality objectives for Cr(VI), chromium, pH, or TDS during the 2019 annual period. The next annual CMP monitoring event is scheduled for the fourth quarter of 2020.

Please contact me at (760) 791-5884 if you have any questions regarding the CMP.

Sincerely,

Curt Russell
Topock Remediation Project Manager

Cc: Scot Stormo, Water Board
Aaron Yue, DTSC
Christopher Guerre, DTSC

Topock Project Executive Abstract

Document Title:

Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report, Interim Measures No. 3, PG&E Topock Compressor Station, Needles, California (PGE20200115A)

Submitting Agency: DOI

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Date of Document: January 15, 2020

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☐ 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 DOI ARARs.

Other Justification/s:
☐ Permit ☐ Other / Explain:

Brief Summary of attached document:

The purpose of the Topock Compliance Monitoring Program (CMP) is twofold: 1) to monitor changes in groundwater hydraulics and/or water quality of the aquifer in the injection well area, and 2) to ensure that the quality of the aquifer is not adversely affected by the injected water. The monitoring network consists of multiple observation wells (OW series) and compliance wells (CW series) screened in the shallow, middle, and/or deep zones of the Alluvial Aquifer. The injection of treated groundwater in the area began in 2005. As of 2019, the majority of the compliance and observation wells demonstrate a treated/injected water signature.

This report presents groundwater analytical results and water level data collected during the 2019 annual period. During the 2019 annual period, no samples exceeded the water quality objectives for hexavalent chromium, chromium, pH, or total dissolved solids. The next CMP event is scheduled to occur in the fourth quarter of 2020.

Written by: PG&E

Recommendations:

This report is for your information only.

How is this information related to the Final Remedy or Regulatory Requirements:

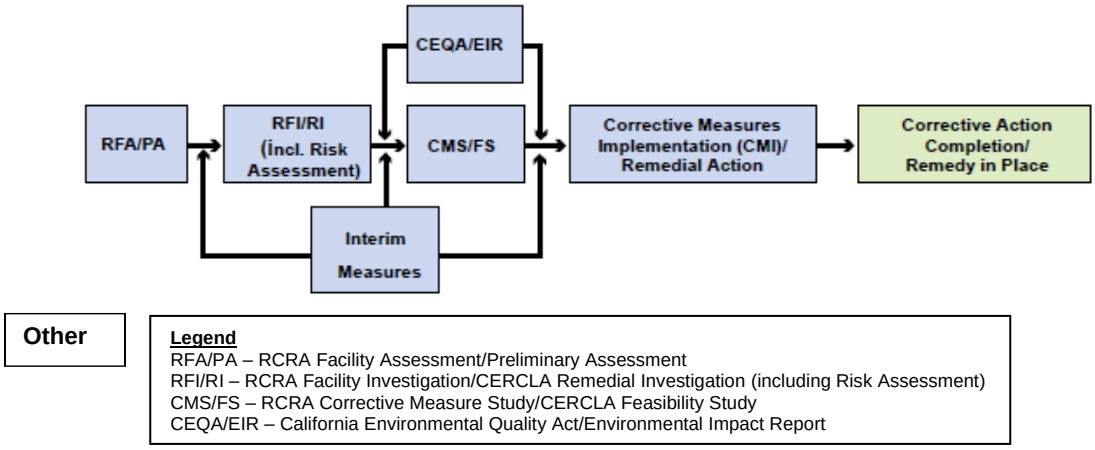
Submittal of this report is a compliance requirement under DOI ARARs beginning August 2011.

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).



Other

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

Version 9

ARCADIS Design & Consultancy for natural and built assets

Pacific Gas and Electric Company

COMPLIANCE MONITORING PROGRAM 2019 ANNUAL GROUNDWATER MONITORING REPORT

Interim Measures No. 3
PG&E Topock Compressor Station
Needles, California
Document ID: PGE20200115A

January 15, 2020

CMP 2019 ANNUAL GROUNDWATER MONITORING REPORT

Interim Measures No. 3

PG&E Topock Compressor Station

Needles, California

Document ID: PGE20200115A

Frederick T. Stanin, P.G., C.H.G.
Principal Geologist



Dan Bush
Project Manager

Prepared for:

Mr. Curt Russell

Topock Remediation Project Manager

Pacific Gas and Electric Company

Prepared by:

Arcadis U.S., Inc.

100 Montgomery Street

Suite 300

San Francisco

California 94104

Tel 415 374 2744

Fax 415 374 2745

Our Ref.:
30036064.4Q19C

Date:
January 15, 2020

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ACRONYMS AND ABBREVIATIONS

µg/L	microgram per liter
ARAR	applicable or relevant and appropriate requirement
Arcadis	Arcadis U.S., Inc.
CMP	Compliance Monitoring Program
Cr(VI)	hexavalent chromium
CW	compliance well
DOI	United States Department of the Interior
DTSC	Department of Toxic Substances Control
IM-3	Interim Measures No. 3
IW	injection well
LCS	laboratory control sample
mg/L	milligram per liter
MRP	Monitoring and Reporting Program
MS	matrix spike
MSD	matrix spike duplicate
OW	observation well
PDS	post-digestion spike
PG&E	Pacific Gas and Electric Company
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RPD	relative percent difference
TDS	total dissolved solids
Water Board	California Regional Water Quality Control Board, Colorado River Basin Region
WDR	Waste Discharge Requirement
WQO	water quality objective

1 INTRODUCTION

This Compliance Monitoring Program (CMP) 2019 Annual Groundwater Monitoring Report has been prepared on behalf of Pacific Gas and Electric Company (PG&E) for the Interim Measures No. 3 (IM-3) injection well field area at the Topock Compressor Station site (the Site) near Needles, California. PG&E is currently implementing IM-3 to mitigate elevated chromium and hexavalent chromium (Cr[VI]) concentrations in groundwater at the Site. The components of IM-3 include groundwater extraction in the Colorado River floodplain, ex-situ treatment of the extracted groundwater, and discharge of the treated groundwater via an onsite injection well field located in the East Mesa Injection Area. Figure 1 shows the locations of the groundwater extraction, conveyance, treatment, and injection facilities associated with the IM-3 system. The objective of this report is to document the results of CMP activities conducted during the 2019 annual period (from January 1, 2019 through December 31, 2019).

1.1 Description of Groundwater Injection Well Field

Treated water from the IM-3 system is pumped through an aboveground pipeline to the injection well field, which is located nearly 1,500 feet west of the treatment plant on what is known as the East Mesa (CH2M HILL 2015a). The injection well field comprises two injection wells (IW-02 and IW-03), which are constructed of 6-inch-diameter stainless-steel louvered screen connected to mild steel risers (CH2M HILL 2015a). The two injection wells are 340 and 330 feet deep, respectively, with a 160-foot screened interval and design injection capacity of 200 gallons per minute.

Three observation well (OW) clusters (OW-01, OW-02, and OW-05) are located between 50 and 100 feet from the injection wells on the East Mesa. Each OW cluster includes wells screened in the shallow, mid-depth, and deep monitoring zones. Four additional monitoring well clusters, known as the compliance well (CW) clusters (CW-01, CW-02, CW-03, and CW-04) surround the East Mesa and are located between 300 and 550 feet from the injection wells. Each CW cluster includes wells screened in the mid-depth and deep monitoring zones. The locations of the injection wells, OW clusters, and CW clusters are shown on Figure 2.

1.2 CMP Background and Objectives

This document satisfies IM-3 injection well field compliance reporting requirements under the CMP. The objectives, proposed sampling plan and data evaluation methods, and reporting requirements for monitoring of the IM-3 injection well field were documented in the Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area, Topock Compressor Station, Needles, California (Compliance Monitoring Plan; CH2M HILL 2005a), which was submitted to the California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) and Department of Toxic Substances Control (DTSC) on June 17, 2005. An addendum to the Compliance Monitoring Plan was subsequently submitted on December 13, 2005 (Compliance Monitoring Plan Addendum; CH2M HILL 2005b). Several modifications to the CMP monitoring and reporting requirements have since been approved as summarized in Exhibit 1 below.

Exhibit 1. Historical Modifications to the CMP

Modification	Approval Date
Modification of reporting requirements	DTSC: June 9, 2006
Reduction of constituents analyzed during quarterly sampling of CMP observation wells	Water Board: January 23, 2007 DTSC: January 22, 2007
Change from laboratory pH to field collected pH for reporting	Water Board: October 16, 2007 DTSC: January 22, 2008
Modification of Cr(VI) analytical methods to extend hold time to 28 days	Water Board: November 13, 2007 DTSC: January 22, 2008
Modification of sampling and reporting frequency and the field pH trigger range for the CMP contingency plan	Water Board: August 28, 2008 DTSC: December 12, 2008 (pH), September 3, 2009
United States Department of the Interior (DOI) adopts waste discharge requirements (WDRs) as applicable or relevant and appropriate requirements (ARARs)	DOI: August 18, 2011 Water Board: July 26, 2011
Modification of sampling and reporting frequency to eliminate the first half semiannual monitoring event and report (DOI 2015)	DOI: March 20, 2015 Water Board: March 16, 2015
Modification of sampling methodology from three-well-volume purge to low-flow for wells OW-01S, OW-01M, OW-01D, OW-02S, OW-02M, OW-02D, and OW-05D	DTSC: April 6, 2017
Note: Information above taken from the Combined Compliance Monitoring Program Semiannual Groundwater Monitoring Report, Second Half 2014, and Performance Assessment Report, Interim Measures No. 3, Injection Well Field, PG&E Topock Compressor Station, Needles, California (CH2M HILL 2015a).	

Before September 2011, PG&E operated the IM-3 injection system under Water Board WDR Order No. R7-2004-0103 (adopted on October 13, 2004), Order No. R7-2006-0060 (issued on September 20, 2006), and the revised Monitoring and Reporting Program (MRP; issued on August 28, 2008 under Order No. R7-2006-0060). After Order No. R7-2006-0060 expired on September 20, 2011, discharge compliance oversight and enforcement were transferred from the Water Board to the United States DOI. As documented in the August 18, 2011 letter from the DOI to the Water Board, the DOI confirmed the following (DOI 2011):

- WDRs are ARARs under the Comprehensive Environmental Response Compensation and Liability Act response action ongoing at the Site.
- DOI will enforce the WDRs pursuant to the Administrative Consent Agreement entered into by DOI and PG&E in 2005 (DOI 2005), in lieu of the Water Board's adoption of a new Order to replace the expiring Order (Order No. R7-2006-0060) that originally established the WDRs.

- DOI concurred with the division of roles and responsibilities between DOI and the Water Board for monitoring and enforcing compliance with the WDRs.

Currently, PG&E operates the IM-3 injection system under the DOI waste discharge ARARs, which specify effluent limitations, prohibitions, specifications, and provisions for subsurface injection. The MRP set forth in the ARARs specifies the requirements for monitoring the area around the IM-3 injection well field (East Mesa Injection Area) to ensure that the injection of treated groundwater does not adversely impact aquifer water quality.

The IM-3 injection system comprises IW-02 and IW-03 (Figure 2). Operation of the treatment system was conditionally approved on July 15, 2005 (DTSC 2005), and injection into IW-02 began on July 31, 2005 (CH2M HILL 2015a). Table 1 provides a chronological summary of injection activities implemented for IM-3 through 2019.

Currently, samples are collected from OWs and CWs according to the following schedule:

- Nine OWs (OW-01S, OW-01M, OW-01D, OW-02S, OW-02M, OW-02D, OW-05S, OW-05M, and OW-05D) in the East Mesa Injection Area are sampled annually during the fourth quarter for a limited suite of constituents.
- In addition, six of the OWs (OW-01M, OW-01D, OW-02M, OW-02D, OW-05M, and OW-05D) are sampled for a full suite of constituents, one cluster at a time, on a triennial (once every 3 years) schedule. By the end of each 3-year period, all middle- and deep-zone OWs are sampled for a full suite of constituents. The triennial sampling occurs during the fourth quarter with the annual sampling.
- Eight CWs are sampled annually during the fourth quarter for a full suite of constituents.

Table 2 summarizes the well construction and sampling method information for the wells in the CMP network. The full suite of constituents includes Cr(VI), chromium, metals, specific conductance, total dissolved solids (TDS), turbidity, alkalinity, ammonia, and major inorganic cations and anions. The limited suite of constituents is similar to the full suite except that several metals/cations, total alkalinity, and ammonia are omitted.

Groundwater elevation data and field water quality data—including specific conductance, temperature, pH, oxidation reduction potential, dissolved oxygen, and turbidity—are also measured during each monitoring event.

2 SUMMARY OF 2019 ACTIVITIES

This section provides an overview of activities completed for the 2019 annual monitoring event, which was conducted between October 1 and 3, 2019. Field activities included the following:

- Manual water level measurements and field water quality parameter data were collected before sampling.
- Water quality samples were collected from nine OWs and eight CWs.
- Field duplicate samples were collected at wells CW-02D, OW-01D, and OW-05M to assess field sampling and analytical quality control (QC).

In addition, groundwater elevation data were collected continuously using pressure transducers installed in five of the 17 CMP wells: OW-01S, OW-02S, OW-05S, OW-05M, and OW-05D. Data from the transducers were downloaded approximately monthly during the 2019 annual period. Manual water level measurements were also collected quarterly from the 17 CMP wells.

Field activities were performed in accordance with existing standard operating procedures for the Site, which are available in the Basis of Design Report/Final (100%) Design Submittal for the Final Groundwater Remedy, PG&E Topock Compressor Station, Needles, California (CH2M HILL 2015b). On April 6, 2017, DTSC approved the use of the minimal drawdown (low-flow) method for groundwater sample collection from seven of the 17 CMP wells—seven of the nine OW wells (OW-01S, OW-01M, OW-01D, OW-02S, OW-02M, OW-02D, and OW-05D) (DTSC 2017), and this change was implemented starting in 2018. In 2017 and 2018, the remaining 10 CMP wells (OW-05S, OW-05M, CW-01M, CW-01D, CW-02M, CW-02D, CW-03M, CW-03D, CW-04M, and CW-04D) continued to be sampled using both the three-well-volume purge and low-flow methods as part of a follow-up sampling method trial with sample collection events in December 2017, June 2018, and December 2018. Results of the follow-up sampling method trials were documented in the technical memorandum, entitled Compliance Monitoring Program Sampling Method Trial Evaluation, that was submitted to DTSC and DOI on August 13, 2019 (Arcadis 2019b). This technical memorandum concluded that the three-well-volume purge and low-flow methods provided comparable analytical results for the 10 CMP wells evaluated; therefore, it was recommended that the sampling method be changed to low-flow for these wells (Arcadis 2019b). In accordance with this recommendation, wells OW-05S, OW-05M, CW-01M, CW-01D, CW-02M, CW-02D, CW-03M, CW-03D, CW-04M, and CW-04D were also sampled using low-flow methodology during the annual monitoring event conducted in October 2019.

CMP groundwater samples were analyzed by Asset Laboratories in Las Vegas, Nevada or Enthalpy Analytical in Berkeley, California, both California-certified analytical laboratories. Analytical methods, sample volumes and containers, sample preservation, and QC sample requirements were in accordance with the PG&E Program Quality Assurance Project Plan, Revision 3 (QAPP; CH2M HILL 2014a) and QAPP Addenda (CH2M HILL 2014b; Critigen 2018). Moreover, data validation and management were conducted in accordance with the quality assurance (QA) and QC requirements set forth in the QAPP and QAPP Addenda.

3 SUMMARY OF 2019 SAMPLING RESULTS

This section summarizes the results of the CMP groundwater sampling activities conducted in 2019. Nine OWs and eight CWs were sampled during the 2019 annual monitoring event. Figure 2 shows the locations of the CMP groundwater monitoring well clusters. Groundwater samples collected from these wells were analyzed for Cr(VI), chromium, specific conductance, metals, TDS, turbidity, alkalinity, ammonia, and/or major inorganic cations and anions.

The analytical results are presented in Section 3.1, and the findings from the laboratory data quality review are provided in Section 3.2. Section 3.3 provides an assessment of the influence of injection operations on aquifer water quality in the East Mesa Injection Area and vicinity based on comparison of groundwater chemistry measured in the OWs and CWs to chemistry of the injected water. Section 3.4 presents the water level measurement and field water quality parameter data collected as part of sampling. Appendices A and B, respectively, contain the laboratory analytical reports and field data collection sheets for the 2019 annual monitoring event.

3.1 Analytical Results

Analytical results for Cr(VI) and chromium, other metals, and general chemistry parameters are presented in Tables 3, 4, and 5, respectively, and are discussed below. Where applicable, these results have been compared to the water quality objectives (WQOs) or action levels set forth in the Compliance Monitoring Plan Addendum (CH2M HILL 2005b) and updated in the revised contingency plan flowchart submitted by PG&E on August 8, 2006 (PG&E 2006). The contingency plan and associated flowchart address groundwater quality changes potentially associated with the IM-3 injection system, and specify threshold concentrations for Cr(VI), chromium, TDS, and pH that would trigger contingency actions. The target pH range for the CMP contingency plan was updated again in 2008 with the approval of the Water Board and DTSC (Water Board 2008; DTSC 2008).

3.1.1 Hexavalent Chromium and Chromium

Table 3 summarizes the Cr(VI) and chromium analytical results for groundwater in the shallow, middle, and deep wells sampled during the 2019 annual monitoring event. These results are discussed below.

- For shallow wells:
    - Cr(VI) was reported at concentrations ranging up to 15 micrograms per liter (µg/L). The maximum Cr(VI) concentration was detected in OW-02S.
    - Chromium was reported at concentrations ranging up to 17 µg/L. The maximum chromium concentration was detected in OW-01S.
- For middle wells:
    - Cr(VI) was reported at concentrations ranging up to 3.7 µg/L. The maximum Cr(VI) concentration was detected in CW-03M.

  - Chromium was reported at concentrations ranging up to 7.8 µg/L. The maximum chromium concentration was detected in CW-04M.

- For deep wells:
  - Cr(VI) was reported at concentrations ranging up to 1.5 µg/L. The maximum Cr(VI) concentration was detected in OW-02D.
  - Chromium was reported at concentrations ranging up to 2.4 µg/L. The maximum chromium concentration was detected in OW-02D.

Cr(VI) and chromium concentrations in samples collected during the 2019 annual monitoring event did not exceed the WQO trigger levels of 32 and 28 µg/L, respectively. Thus, the contingency plan was not triggered for these constituents.

3.1.2 Other Metals and General Chemistry

Other metals results for groundwater samples collected during the 2019 annual monitoring event are summarized in Table 4. Detected metals were aluminum, antimony, arsenic, barium, cobalt, copper, molybdenum, nickel, selenium, vanadium, zinc, boron, calcium, total iron, dissolved iron, potassium, magnesium, and sodium. In general, concentrations of these metals observed during the 2019 annual monitoring event were similar to those observed historically.

General chemistry results—including specific conductance, field pH, TDS, turbidity, alkalinity, ammonia, and major anions—for groundwater samples collected during the 2019 annual monitoring event are summarized in Table 5. TDS concentrations ranged from 2,000 milligrams per liter (mg/L; OW-02S) to 4,300 mg/L (CW-03M, OW-01M, OW-01D field duplicate, and OW-02M), while field pH measurements ranged from 6.77 (OW-01M) to 7.78 (OW-05M). During the 2019 annual monitoring event, analytical results for the sampled wells met the WQOs for TDS (i.e., less than 10,800 mg/L) and field pH (i.e., between 6.2 and 9.2). Thus, the contingency plan was not triggered for these parameters.

3.2 Analytical Data Quality Review

Project chemists independently reviewed the laboratory analytical data generated from the 2019 annual monitoring event to assess data quality and identify deviations from analytical requirements. The QA and QC requirements are outlined in the QAPP (CH2M HILL 2014a) and QAPP Addenda (CH2M HILL 2014b; Critigen 2018). Revised flagging requirements for matrix spike (MS) or matrix spike duplicates (MSDs), post-digestion spikes (PDSs), and serial dilutions, as specified in the 2018 QAPP Addendum, have not yet been implemented. These requirements will be adopted beginning in 2020. A detailed discussion of data quality for CMP sampling data is presented in the data validation reports, which are maintained in the project file and available upon request.

3.2.1 Matrix Spike and Matrix Spike Duplicate Samples

MS/MSD samples were performed as required by the analytical method. In some cases, other project samples were used to fulfil the laboratory's QC batch requirements. When CMP samples were selected for MS/MSD analyses, recoveries were within QC criteria with the following exceptions:

- Dissolved zinc and dissolved manganese were recovered at concentrations less than QC limits in the MS, MSD, and PDS of sample CW-01D-LF-Q419. The associated sample results were qualified as estimated non-detect and flagged “UJ” accordingly.
- The relative percent difference (RPD) for total iron exceeded criteria in the MS/MSD pair of sample CW-04D-LF-Q419. The associated result was qualified as an estimated detect and flagged “J” accordingly.
- Dissolved potassium was recovered at a concentration less than QC limits in the PDS of sample CW-01M-LF-Q419. The associated sample result was qualified as an estimated detect and flagged “J” accordingly.
- The serial dilution performed on sample CW-04D-LF-Q419 did not meet precision criteria for dissolved sodium. The associated sample was qualified as an estimated detect and flagged “J.”

3.2.2 Quantitation and Sensitivity

All method and analyte combinations met the project decision-making requirements.

3.2.3 Holding Time

All samples were analyzed within the QAPP-recommended holding times.

3.2.4 Field Duplicates

Field duplicate samples (MW-903-Q419, MW-904-Q419, and MW-905-Q419) were collected and analyzed, and met QC criteria with the following exception:

- Turbidity and total iron demonstrated RPDs greater than QC limits in the field duplicate pair of samples CW-02D-LF-Q419 and MW-903-Q419. The detected results were qualified as estimated (“J” flagged).

3.2.5 Method Blanks

Method blanks were analyzed at the required frequency and were free of contamination.

3.2.6 Equipment Blanks

Equipment blanks were collected at the frequency required by the QAPP and were free of contamination.

3.2.7 Laboratory Duplicates

Laboratory duplicate acceptance criteria for the analytical methods were met.

3.2.8 Laboratory Control Samples

Laboratory control samples (LCSs) were analyzed as required, and accuracy and precision criteria were met or did not require data qualification with the following exception:

- The ammonia LCS associated with six samples demonstrated a recovery less than QC limits. Samples CW-04M-LF-Q419, CW-04D-LF-Q419, OW-02M-Q419, OW-05M-LF-Q419, MW-905-Q419, and OW-05D-Q419 were qualified as estimated detects and flagged “J” accordingly.

3.2.9 Calibration

Initial calibration curves, blanks, and verification analyses were performed at the required frequency and met QC criteria.

3.2.10 Conclusion

Except as noted above, the analyses and data quality met the QAPP and laboratory method QC criteria. The data are considered usable, as qualified during the data validation process, and are of adequate quantity and quality for the purpose of the CMP.

3.3 Influence of Treated Water on Aquifer Water Quality

The influence of injection operations on aquifer water quality in the East Mesa Injection Area and vicinity is assessed through the comparison of groundwater chemistry measured in the OWs and CWs, both pre-injection (baseline) and post-injection, to chemistry of the injected water.

The subsurface injection of effluent water (treated groundwater) from the IM-3 groundwater treatment system was initiated on July 31, 2005. Since that time, PG&E has conducted routine sampling, including effluent sampling, of the IM-3 treatment system in compliance with the WDRs for IM-3, previously enforced under WDR Order No. R7-2006-0060 and currently enforced under the ARARs. Analytical results from the effluent sampling are used to establish the baseline chemistry for treated water injected into the IM-3 injection well field.

Table 6 provides selected treated water analytical results from system sampling events conducted on August 29, 2005; April 7, 2010; October 6, 2015; and September 29, 2019. As discussed in previous CMP reports, while concentrations of some parameters vary in the effluent samples, a number of constituents have exhibited relatively consistent concentrations over the duration of injection operations (e.g., Cr[VI], chromium, fluoride, dissolved molybdenum, nitrate/nitrite as nitrogen, sulfate, and TDS [CH2M HILL 2015a]). These seven constituents are used to characterize the injected water and serve as a basis for determining whether a given groundwater monitoring well is being affected by injection operations. Based on review of the August 2005 through September 2019 effluent sampling results, the injected water exhibits the following general characteristics:

- Cr(VI): typically non-detect (or less than 1.0 µg/L)
- Chromium: typically non-detect (or less than 1.0 µg/L)
- Fluoride: approximately 2 mg/L
- Dissolved molybdenum: approximately 20 µg/L
- Nitrate/nitrite as nitrogen: approximately 3 mg/L
- Sulfate: approximately 500 mg/L

- TDS: approximately 4,000 mg/L.

These chemistry characteristics serve as a general basis for comparison but should not be considered statistically representative of the effluent water quality over time.

Pre-injection conditions in the East Mesa Injection Area and vicinity were established based on the results of baseline sampling conducted for the OWs (July 27 and 28, 2005) and CWs (September 15, 2005). Analytical results for the baseline samples are presented in Table 6 and are considered representative of groundwater unaffected by injection operations. Comparison of pre-injection groundwater quality to the injected water profile shows that there are some similarities in constituent concentrations. For example, most of the baseline samples collected from deep wells (OW-01D, OW-02D, OW-05D, CW-03D, and CW-04D) contained no detectable Cr(VI) or chromium, similar to the injected water (CH2M HILL 2015a). However, other constituents are present at significantly different concentrations in the injected water versus pre-injection groundwater. Thus, when considering the entire suite of seven constituents, as shown in Table 6, it is evident that the injected water and pre-injection groundwater have distinct chemistries.

In contrast, Table 7 compares constituent concentrations in the injected water (treated groundwater) to those measured in the OWs and CWs during the most recent (2019 annual) monitoring event (i.e., more than 14 years following the initiation of injection operations). Unlike the pre-injection (July through September 2005) well monitoring results, the 2019 annual monitoring results demonstrate that water chemistry measured in a majority of the OWs and CWs either has shifted towards or been replaced by the chemistry of the injected treated water. This conclusion is supported by the concentration versus time plots presented on Figures 3A through 3E for the OWs and CWs. These plots, which include data from baseline through the 2019 annual period, illustrate shifts from baseline concentrations towards the injected treated water chemistry that indicate arrival of the injected water front.

In general, the following 15 wells currently display the characteristics of injected water and are considered to be representative of locations and depths where this water has largely displaced ambient groundwater: OW-01S, OW-01M, OW-01D, OW-02M, OW-02D, OW-05M, OW-05D, CW-01M, CW-01D, CW-02M, CW-02D, CW-03M, CW-03D, CW-04M, and CW-04D. Two additional wells (OW-02S and OW-05S) exhibit gradually increasing trends in groundwater concentrations of sulfate and TDS, approaching the levels observed in the injected water (Figure 3A). This is indicative of potential injected water influence.

3.4 Field Parameter Data

Water level was measured at each well before purging and sampling. In addition, water quality parameters, including specific conductance, temperature, pH, oxidation reduction potential, dissolved oxygen, and turbidity, were measured during purging using a field water quality instrument and flow-through cell to determine sufficient stabilization for sampling. Field water quality data collected during the 2019 annual monitoring event are summarized in Table 8. Field data collection sheets for the 2019 annual monitoring event are provided in Appendix B.

3.5 ARAR Monitoring Requirements

Table 9 identifies the laboratory that performed each analysis and lists the following information for the 2019 annual monitoring event, as required by the ARARs:

- Sample location
- Sample identification number
- Sampler name
- Sample date
- Sample time
- Laboratory performing analysis
- Analysis method
- Parameter
- Analysis date
- Laboratory technician
- Result unit
- Sample result
- Reporting limit
- Method detection limit.

4 SUMMARY OF 2019 WATER LEVEL DATA

Table 10 summarizes the manual water level measurements and calculated groundwater elevations from the quarterly well gauging events conducted in 2019. In compliance with Condition No. 2 of DTSC's 2009 conditional approval letter (DTSC 2009), the IM-3 Plant Manager confirmed that the IM-3 system was operating normally both the day before and the day of manual water level collection, with no injection well backwashing events or unplanned shutdowns.

In addition to the manual water level measurements, water level data were collected continuously (with readings recorded every 30 minutes) using pressure transducers deployed in select wells: OW-1S, OW-2S, OW-5S, OW-5M, and OW-5D. Hydrographs produced using the transducer data are presented on Figures 4A through 4C, and illustrate groundwater elevation trends and vertical hydraulic gradients observed over the 2019 annual period for specific OWs.

Figure 5A shows groundwater elevations for the three shallow wells based on the fourth quarter (November 22, 2019) manual water level measurements. The shallow-zone water level elevations are not contoured due to an insufficient number of wells to satisfactorily illustrate a groundwater potentiometric surface under injection conditions. Groundwater elevation maps for the middle and deep wells are provided as Figures 5B and 5C, respectively. The data that were plotted and/or used for contouring were the November 22, 2019 (fourth quarter) manual water level measurements collected within a 1-hour period.

As shown on Figure 2, the IM-3 injection well field is located in the uplands (East Mesa) area of the Site. Based on site-wide groundwater elevation data, regional groundwater flow in the uplands portion of the Site is generally to the east/northeast (CH2M HILL 2015b). On a local scale, as shown on Figures 5B and 5C, injections of treated water have resulted in a potentiometric mound in the middle and deep zones centered on the IM-3 injections wells. Consistent with previous observations, the potentiometric mound is generally elliptical in shape, with the major axis running from approximately southwest to northeast (CH2M HILL 2015a; Arcadis 2016, 2017, 2018, 2019a). The potentiometric mound appears to be stable at a height of approximately 1 foot or less above the surrounding water level (based on the November 22, 2019 manual water level measurements [see Figures 5B and 5C]), which is consistent with information reported previously (CH2M HILL 2015a; Arcadis 2016, 2017, 2018, 2019a).

Table 11 summarizes the vertical gradients calculated using the November 22, 2019 manual water level measurement data. In general, average vertical gradients have been upward at the OW and CW clusters since injection began (CH2M HILL 2015a). As shown in Table 11, upward vertical gradients were generally observed between depth intervals (i.e., deep to middle and middle to shallow) in a given well cluster, consistent with historical data.

Calculated vertical gradients were generally of the same order of magnitude between well clusters or between the different depth intervals (Table 11). Because the injection wells are screened in the deeper portions of the aquifer, the head increase resulting from the injection of treated groundwater is typically greater in the deep and middle zones compared to the shallow zone (CH2M HILL 2015a).

5 STATUS OF MONITORING ACTIVITIES

The next annual CMP monitoring event will occur in the fourth quarter of 2020, and the groundwater monitoring report for this event will be submitted by January 15, 2021. No additional sampling method trials are planned for the CMP wells, although future sampling results will continue to be evaluated against the historical datasets to confirm that data collected using the low-flow method are appropriate for decision making.

6 REFERENCES

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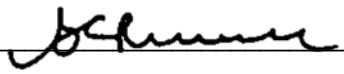
7 CERTIFICATION

PG&E submitted a signature delegation letter to the DOI and the Water Board on February 27, 2013 (PG&E 2013). The letter delegated PG&E signature authority to Ms. Sheryl Bilbrey, Ms. Yvonne Meeks, and Mr. Curt Russell for correspondence regarding required ARARs.

Certification Statement:

I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature: 

Name: Curt Russell

Company: Pacific Gas and Electric Company

Title: Topock Environmental Remediation Project Manager

Date: January 15, 2020

TABLES

Table 1

Operational Status of Interim Measures No. 3 Injection Wells from July 2005 through December 2019

Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report

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

Time Period	Injection Status
July 31, 2005 to Fourth Quarter 2005	Injection occurred at IW-02.
First Quarter 2006	Injection occurred primarily at IW-02, except during intervals of operational testing, when injection was divided equally between IW-02 and IW-03.
Second Quarter 2006	Injection occurred at IW-02.
Third Quarter 2006	In August 2006, IW-02 went offline for routine maintenance, and injection commenced at IW-03.
Fourth Quarter 2006	Injection occurred at IW-03, except during routine maintenance.
First Quarter 2007	Injection occurred at IW-03 and transitioned over to IW-02 on March 8.
Second Quarter 2007	Injection occurred at IW-03 from April 3 through June 20. Injection switched to IW-02 on June 20 and continued through July 20, 2007.
Third Quarter 2007	Injection occurred at IW-03 after July 20. Injection occurred at IW-02 on August 30 for an injection test and then returned to IW-03 after August 31.
Fourth Quarter 2007	Injection occurred at IW-03 and then switched to IW-02 on September 25 for routine maintenance. Injection returned to IW-03 after October 9.
First Quarter 2008	Injection occurred at IW-03 only. From February 5 through February 13, well maintenance activities were conducted at IW-02.
Second Quarter 2008	Injection occurred at IW-03 only. IM-3 system offline from April 21 through April 28 due to routine maintenance. Backwashing was performed at IW-03 on April 9, May 7, May 15, May 22, June 3, and June 4, 2008.
Third Quarter 2008	Injection occurred primarily at IW-03. Injection also occurred at IW-02 for short interval on July 25 and from August 12 through August 31, 2008. Backwashing was performed at IW-03 on June 17, June 27, July 9, July 15, July 17, July 18, August 12, August 13, September 2, and September 3, 2008. Backwashing was performed at IW-02 on September 9 - September 11, 2008.
Fourth Quarter 2008	Injection occurred at IW-03 and then switched to IW-02 on September 23. Injection returned to IW-03 on October 7 and switched back to IW-02 on October 21. Injection primarily occurred at IW-02 until November 11 when it switched to IW-03 until December 3, 2008. Injection continued at IW-02 until December 16, 2008 and occurred concurrently and continued at IW-03 on December 11, 2008.
First Quarter 2009	Injection switched to IW-02 on December 30, 2008. On January 13, 2009 injection transitioned to IW-03. Backwashing events were performed periodically during the intervals when each injection well was offline. Routine and scheduled maintenance occurred December 18, 2008 and January 21, 2009 at which time both wells were offline.
Second Quarter 2009	Injection continued at IW-03 until April 20, 2009. Injection ceased from April 20, 2009 to April 27, 2009 due to routine maintenance after which injection continued at IW-03 until May 26, 2009 when it transitioned to IW-02. Injection continued at IW-02 until June 9, 2009 when it switched to IW-03. Injection returned to IW-02 on June 24, 2009.
Third Quarter 2009	IM-3 injection alternates between the two wells approximately every two weeks. Injection continued at IW-02 until July 8, when it transitioned to IW-03. Injection ceased from July 23 to 27, 2009 when it continued at IW-03 until September 9, 2009. Unplanned downtime occurred from September 9 - 14, 2009. On September 16, 2009 injection continued at IW-02, except during times of routine maintenance or otherwise mentioned.
Fourth Quarter 2009	Injection occurred at IW-02 until November 25, 2009 when it switched to IW-03. Injection continued at IW-03, except during times of routine maintenance.

Table 1

Operational Status of Interim Measures No. 3 Injection Wells from July 2005 through December 2019

Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report

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

Time Period	Injection Status
First Half 2010	Injection occurred mainly at IW-03 until March 3, 2010. Beginning March 3, 2010, IM-3 injection alternated between the two wells approximately every two weeks until April 20, 2010 for a planned shutdown. On April 22, 2010, injection resumed at IW-03 and alternated between the two wells approximately every two weeks. Backwashing was performed periodically during the intervals when each injection well was offline.
Second Half 2010	Injection occurred primarily at IW-02 with the exception of the following periods when it primarily occurred at IW-03: July 22 through August 25, August 30 through September 7, September 16 through October 15, November 5 through 18, and December 17 through 31, 2010.
First Half 2011	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: January 27 through February 10, February 23 through March 7, March 30 through April 20, May 6 through June 7, and June 22 through 28, 2011. Backwashing was performed periodically during the intervals when each injection well was offline. A planned shutdown occurred April 25 through 29 and June 28 through
Second Half 2011	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: July 14 through August 3, August 10 through 13, September 11 through 22, October 6 through10; and October 27 through December 31. Backwashing was performed periodically during the intervals when each injection well
First Half 2012	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: January 1 through January 6, 2012; February 2 through February 16, 2012; March 2 through April 5, 2012; May 10 through May 21, 2012; May 29 through June 1, 2012; June 14, 2012; and June 21 through June 27, 2012.
Second Half 2012	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: July 18 through July 25, 2012; August 1 through August 13, 2012; August 17 through August 22, 2012; August 31 through September 26, 2012; and September 29 through October 9, 2012.
First Half 2013	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: March 5 through March 14, 2013; April 8 through May 22, 2013; June 24 through June 25, 2013; and June 29 through June 30, 2013.
Second Half 2013	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: July 1 through 9, 2013; July 31 through August 12, 2013; October 22 through November 6, 2013; November 26 through December 12, 2013; and December 28 through 31, 2013.
First Half 2014	Injection occurred primarily at IW-02 with the exception of the following periods when it primarily occurred at IW-03: January 6, 2014; January 16 through January 29, 2014; April 17 through 23, 2014; and May 10 through June 22, 2014, and June 25, 2014.
Second Half 2014	Injection occurred primarily at IW-02 with the exception of the following periods when it primarily occurred at IW-03: July 21 through 30, 2014; September 23 through 25, 2014; and November 19 through 24, 2014.
First Half 2015	Injection occurred primarily at IW-03 with the exception of the following periods when it occurred primarily at IW-02: January 1 through 14, 2015; March 5 through 31, 2015; April 7 and 8, 2015; June 11, 2015; and June 26, 2015. The system was shut down from April 28, 2015 to May 4, 2015 for scheduled semiannual facility maintenance.
Second Half 2015	Injection occurred primarily at IW-02 with the exception of the following periods when it occurred primarily at IW-03: July 1 through 19, 2015; August 31 through September 1, 2015; and September 26 through October 13, 2015.

Table 1

Operational Status of Interim Measures No. 3 Injection Wells from July 2005 through December 2019

Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report

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

Time Period	Injection Status
First Half 2016	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: January 1 through 31, 2016; February 1 through 25, 2016; and March 1 through 4, 2016.
Second Half 2016	Injection occurred primarily at IW-02 with the exception of the following periods when it primarily occurred at IW-03: July 1 through 31, 2016; August 1, 2016; November 12, 2016; and December 1 through 11, 2016.
First Half 2017	Injection occurred primarily at IW-02 with the exception of the following periods when it primarily occurred at IW-03: January 28, 2017; April 7 through 27, 2017; and April 29 through June 30, 2017.
Second Half 2017	Injection occurred primarily at IW-02 with the exception of the following periods when it primarily occurred at IW-03: July 1 through August 14, 2017; August 26 through 27, 2017; and November 18 through December 31, 2017.
First Half 2018	Injection occurred primarily at IW-03 with the exception of the following periods when it primarily occurred at IW-02: March 16, 2018; March 18 through April 2, 2018; and April 6 through May 6, 2018.
Second Half 2018	Injection occurred primarily at IW-03 with the exception of the following period when it primarily occurred at IW-02: December 14 through December 28, 2018.
First Half 2019	Injection occurred primarily at IW-03 with the exception of the following period when it primarily occurred at IW-02: June 30, 2019.
Second Half 2019	Injection occurred primarily at IW-03 with the exception of the following period when it primarily occurred at IW-02: July 1 through July 15, 2019.

Acronyms and Abbreviations:

IW = injection well

Table 2
Well Construction and Sampling Summary for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well ID	Site Area	Measuring Point Elevation (feet amsl)	Screen Interval (feet bgs)	Well Casing (inches)	Depth to Water (feet btoc)	Sampling System	Typical Purge Rate	Typical Purge Volume (gallons)	Pump Depth (feet btoc)	Transducer Status
CW-01M	East Mesa	566.07	140 - 190	2 (PVC)	109.88	Grundfos RF2	500 mL/min	low-flow	160	
CW-01D	East Mesa	566.46	250 - 300	2 (PVC)	109.86	Grundfos RF2	500 mL/min	low-flow	275	
CW-02M	East Mesa	549.45	152 - 202	2 (PVC)	93.46	Grundfos RF2	500 mL/min	low-flow	177	
CW-02D	East Mesa	549.43	285 - 335	2 (PVC)	92.99	Grundfos RF2	500 mL/min	low-flow	310	
CW-03M	East Mesa	534.10	172 - 222	2 (PVC)	78.27	Grundfos RF2	500 mL/min	low-flow	197	
CW-03D	East Mesa	534.14	270 - 320	2 (PVC)	77.62	Grundfos RF2	500 mL/min	low-flow	295	
CW-04M	East Mesa	518.55	119.5 - 169.5	2 (PVC)	62.27	Grundfos RF2	500 mL/min	low-flow	142	
CW-04D	East Mesa	518.55	233 - 283	2 (PVC)	62.04	Grundfos RF2	500 mL/min	low-flow	253	
OW-01S	East Mesa	550.21	83.5 - 113.5	2 (PVC)	94.31	Grundfos RF2	500 mL/min	low-flow	103.5	Active
OW-01M	East Mesa	550.36	165 - 185	2 (PVC)	94.14	Grundfos RF2	500 mL/min	low-flow	175	
OW-01D	East Mesa	550.36	257 - 277	2 (PVC)	93.77	Grundfos RF2	500 mL/min	low-flow	267	
OW-02S	East Mesa	548.88	71 - 101	2 (PVC)	93.01	Grundfos RF2	500 mL/min	low-flow	96	Active
OW-02M	East Mesa	548.52	190 - 210	2 (PVC)	92.30	Grundfos RF2	500 mL/min	low-flow	200	
OW-02D	East Mesa	549.01	310 - 330	2 (PVC)	92.12	Grundfos RF2	500 mL/min	low-flow	310	
OW-05S	East Mesa	551.83	70 - 110	2 (PVC)	95.80	Grundfos RF2	500 mL/min	low-flow	102	Active
OW-05M	East Mesa	551.81	210 - 250	2 (PVC)	94.78	Grundfos RF2	500 mL/min	low-flow	230	Active
OW-05D	East Mesa	552.41	300 - 320	2 (PVC)	95.11	Grundfos RF2	500 mL/min	low-flow	310	Active

Notes:
Depth to water in each well was measured on November 22, 2019.

Acronyms and Abbreviations:
amsl = above mean sea level
bgs = below ground surface
btoc = below top of casing
CW = compliance well
ID = identification
IM = Interim Measures
mL/min = milliliters per minute
OW = observation well
PVC = polyvinyl chloride

Table 3
Chromium Results for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample Date	Hexavalent Chromium, USEPA 218.6 (µg/L)	Chromium, USEPA 200.8 (µg/L)
CW-01M	10/02/19	0.72	ND (1.0)
CW-01D	10/02/19	0.49	ND (1.0)
CW-02M	10/02/19	1.2	1.1
CW-02D	10/02/19	0.88	1.7
CW-02D	10/02/19 (FD)	0.84	1.5
CW-03M	10/02/19	3.7	7.3
CW-03D	10/02/19	0.56	ND (1.0)
CW-04M	10/01/19	0.97	7.8
CW-04D	10/01/19	0.43	ND (1.0)
OW-01S	10/03/19	7.4	17
OW-01M	10/03/19	2.5	2.8
OW-01D	10/03/19	0.57	ND (1.0)
OW-01D	10/03/19 (FD)	0.54	ND (1.0)
OW-02S	10/03/19	15	16
OW-02M	10/03/19	1.9	1.5
OW-02D	10/03/19	1.5	2.4
OW-05S	10/03/19	12	12
OW-05M	10/03/19	0.50	ND (1.0)
OW-05M	10/03/19 (FD)	0.50	ND (1.0)
OW-05D	10/03/19	0.29	ND (1.0)

Note:
Hexavalent chromium and chromium samples are field filtered.

Acronyms and Abbreviations:
µg/L = micrograms per liter
CW = compliance well
FD = field duplicate
ID = identification
ND = parameter not detected at the listed reporting limit
OW = observation well
USEPA = United States Environmental Protection Agency

Table 4
Metals Results for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample Date	Aluminum, µg/L	Antimony, µg/L	Arsenic, µg/L	Barium, µg/L	Beryllium, µg/L	Cadmium, µg/L	Cobalt, µg/L	Copper, µg/L	Lead, µg/L	Manganese, µg/L	Mercury, µg/L	Molybdenum, µg/L	Nickel, µg/L	Selenium, µg/L	Silver, µg/L	Thallium, µg/L	Vanadium, µg/L	Zinc, µg/L	Boron, mg/L	Calcium, mg/L	Iron, total, mg/L	Iron, dissolved, mg/L	Potassium, mg/L	Magnesium, mg/L	Sodium, mg/L
CW-01M	10/02/19	ND (50)	ND (0.5)	1.2	85	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	16	ND (1.0)	3.6	ND (0.5)	ND (0.5)	2.6	ND (10)	1.0	170	0.020	0.021	11 J	12	1,200
CW-01D	10/02/19	ND (50)	ND (0.5)	1.2	25	ND (0.5)	ND (0.5)	ND (0.5)	2.8	ND (1.0)	ND (0.5 J)	ND (0.2)	22	ND (1.0)	3.9	ND (0.5)	ND (0.5)	2.2	ND (10 J)	0.91	160	0.027	0.020	12	18	1,400
CW-02M	10/02/19	ND (50)	ND (0.5)	2.0	57	ND (2.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	16	ND (1.0)	2.9	ND (0.5)	ND (0.5)	3.8	ND (10)	1.1	140	0.090	ND (0.02)	11	8.6	1,300
CW-02D	10/02/19	87	ND (0.5)	3.4	26	ND (0.5)	ND (0.5)	ND (0.5)	1.3	ND (1.0)	ND (0.5)	ND (0.2)	13	1.0	3.5	ND (0.5)	ND (0.5)	4.5	ND (10)	0.99	87	0.023 J	0.11	11	4.0	1,400
CW-02D	10/02/19 (FD)	78	0.62	3.4	27	ND (0.5)	ND (0.5)	0.73	2.1	ND (1.0)	ND (0.5)	ND (0.2)	13	1.1	3.8	ND (0.5)	ND (0.5)	5.0	ND (10)	0.97	86	1.1 J	0.072	11	4.0	1,300
CW-03M	10/02/19	ND (50)	ND (0.5)	1.4	41	ND (0.5)	ND (0.5)	ND (0.5)	1.5	ND (1.0)	ND (0.5)	ND (0.2)	30	1.5	2.6	ND (0.5)	ND (0.5)	3.3	ND (10)	1.1	170	0.30	0.070	9.0	11	1,100
CW-03D	10/02/19	ND (50)	ND (0.5)	1.4	15	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	15	ND (1.0)	3.4	ND (0.5)	ND (0.5)	2.7	ND (10)	0.93	65	0.065	0.026	11	4.2	1,200
CW-04M	10/01/19	ND (50)	ND (0.5)	2.2	100	ND (2.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (5.0)	ND (0.5)	ND (0.2)	14	7.8	3.6	ND (0.5)	ND (2.5)	3.3	ND (10)	0.93	180	4.5	0.074	13	13	1,300
CW-04D	10/01/19	ND (50)	ND (0.5)	2.8	21	ND (2.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (5.0)	ND (0.5)	ND (0.2)	18	ND (1.0)	4.1	ND (0.5)	ND (2.5)	2.6	ND (10)	1.0	140	0.031 J	ND (0.02)	9.7	8.5	1,100 J
OW-01S	10/03/19	--	--	--	--	--	--	--	--	--	--	--	7.6	--	--	--	--	--	--	--	--	--	0.081	--	--	680
OW-01M	10/03/19	ND (50)	ND (0.5)	1.8	80	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	13	1.1	3.7	ND (0.5)	ND (0.5)	4.0	ND (10)	1.3	180	0.37	0.024	13	28	1,200
OW-01D	10/03/19	ND (50)	ND (0.5)	1.3	34	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	20	ND (1.0)	4.0	ND (0.5)	ND (0.5)	3.3	ND (10)	0.94	160	ND (0.02)	0.020	12	23	1,100
OW-01D	10/03/19 (FD)	ND (50)	ND (0.5)	1.2	33	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	20	ND (1.0)	3.8	ND (0.5)	ND (0.5)	3.3	ND (10)	0.97	170	ND (0.02)	0.022	12	24	1,100
OW-02S	10/03/19	--	--	--	--	--	--	--	--	--	--	--	23	--	--	--	--	--	--	--	--	--	--	--	--	560
OW-02M	10/03/19	ND (50)	ND (0.5)	1.6	45	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	19	ND (1.0)	4.3	ND (0.5)	ND (0.5)	3.4	ND (10)	1.1	170	0.044	0.022	11	27	1,100
OW-02D	10/03/19	ND (50)	0.95	1.9	44	ND (2.5)	ND (0.5)	ND (0.5)	6.6	ND (1.0)	ND (0.5)	ND (0.2)	22	3.9	4.2	ND (0.5)	ND (0.5)	2.0	17	0.95	140	1.1	0.056	14	24	1,300
OW-05S	10/03/19	--	--	--	--	--	--	--	--	--	--	--	12	--	--	--	--	--	--	--	--	--	--	--	--	520
OW-05M	10/03/19	ND (50)	ND (0.5)	1.0	37	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	24	ND (1.0)	3.7	ND (0.5)	ND (0.5)	2.3	ND (10)	1.0	140	ND (0.02)	ND (0.02)	13	22	1,400
OW-05M	10/03/19 (FD)	ND (50)	ND (0.5)	0.94	36	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	24	ND (1.0)	3.6	ND (0.5)	ND (0.5)	2.3	ND (10)	1.0	140	ND (0.02)	ND (0.02)	11	23	1,200
OW-05D	10/03/19	ND (50)	ND (0.5)	4.2	26	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)	ND (1.0)	ND (0.5)	ND (0.2)	21	ND (1.0)	4.3	ND (0.5)	ND (0.5)	3.7	ND (10)	0.93	120	ND (0.02)	0.021	13	23	1,300

Note:
Metals were analyzed using USEPA Methods 200.7, 200.8, 245.1, or 6010B/6020.

Acronyms and Abbreviations:
-- = data not collected or available
µg/L = micrograms per liter
CW = compliance well
FD = field duplicate
ID = identification
J = concentration or reporting limit estimated by laboratory or data validation
mg/L = milligrams per liter
ND = parameter not detected at the listed reporting limit
OW = observation well
USEPA = United States Environmental Protection Agency

Table 5
Other Inorganics Results for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample Date	Specific Conductance, USEPA 120.1 (µmhos/cm)	pH, field (pH units)	Total Dissolved Solids, SM2540C (mg/L)	Turbidity, SM2130B (NTU)	Chloride, USEPA 300.0 (mg/L)	Fluoride, USEPA 300.0 (mg/L)	Sulfate, USEPA 300.0 (mg/L)	Nitrate/Nitrite as Nitrogen, SM4500-NO3F (mg/L)	Alkalinity, total as $CaCO_3$, SM2320B (mg/L)	Ammonia as Nitrogen, SM4500-NH3C (mg/L)
CW-01M	10/02/19	7,500	7.54	4,200	0.14	2,200	2.2	490	3.0	82	0.09 J
CW-01D	10/02/19	7,300	7.25	4,100	0.45	2,100	3.0	490	2.7	67	0.13
CW-02M	10/02/19	7,300	7.55	4,100	2.1	2,100	3.1	460	2.9	62	0.14
CW-02D	10/02/19	7,400	7.60	4,100	0.78 J	2,100	2.0	470	2.9	65	0.06 J
CW-02D	10/02/19 (FD)	7,400	--	3,900	27 J	2,100	2.1	470	3.0	68	0.11
CW-03M	10/02/19	8,000	7.35	4,300	4.0	2,300	4.2	490	2.4	55	0.07 J
CW-03D	10/02/19	7,400	7.48	4,100	2.8	2,100	2.8	460	3.3	66	0.09 J
CW-04M	10/01/19	7,000	7.50	4,200	52	2,100	2.6	470	3.4	63	0.05 J
CW-04D	10/01/19	7,400	7.76	4,200	0.53	2,200	3.3	480	2.7	66	0.07 J
OW-01S	10/03/19	5,700	6.97	3,600	4.4	1,800	1.5	350	3.2	--	--
OW-01M	10/03/19	7,500	6.77	4,300	6.1	2,100	2.3	490	3.0	280	0.04 J
OW-01D	10/03/19	7,500	7.21	4,000	0.39	2,200	2.8	500	2.9	61	0.04 J
OW-01D	10/03/19 (FD)	7,400	--	4,300	0.33	2,200	2.8	510	2.9	73	0.03 J
OW-02S	10/03/19	3,500	7.67	2,000	1.2	990	3.5	160	3.1	--	--
OW-02M	10/03/19	7,400	7.44	4,300	0.53	2,100	2.2	450	2.8	130	0.09 J
OW-02D	10/03/19	7,200	7.25	4,100	24	2,100	2.5	470	3.1	74	0.04 J
OW-05S	10/03/19	5,000	7.31	3,600	0.77	1,500	1.8	320	3.0	--	--
OW-05M	10/03/19	7,300	7.78	4,200	0.29	2,100	2.5	480	2.8	81	0.08 J
OW-05M	10/03/19 (FD)	7,300	--	4,200	0.48	2,100	2.4	480	2.8	79	0.08 J
OW-05D	10/03/19	7,300	7.74	4,100	0.25	2,100	2.3	480	2.6	79	0.15 J

Acronyms and Abbreviations:
-- = data not collected or not applicable
µmhos/cm = micro-mhos per centimeter
$CaCO_3$ = calcium carbonate
CW = compliance well
FD = field duplicate
ID = identification
J = concentration estimated by laboratory or data validation
mg/L = milligrams per liter
ND = parameter not detected at the listed reporting limit
NTU = nephelometric turbidity unit
OW = observation well
SM = Standard Method
USEPA = United States Environmental Protection Agency

Table 6
Treated Water Quality Compared to OW and CW Pre-injection Water Quality
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample Date	Hexavalent Chromium (µg/L)	Chromium (µg/L)	Fluoride (mg/L)	Dissolved Molybdenum (µg/L)	Nitrate/Nitrite as Nitrogen (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
Treated Water	08/29/05	ND (1.0)	ND (2.1)	1.95	8.3	3.70	450	3,620
Treated Water	04/07/10	0.29	ND (1.0)	1.82	18.6	2.87	512	4,270
Treated Water	10/06/15	0.24	ND (1.0)	2.1	21	2.60	480	4,200
Treated Water	09/29/19	ND (0.2)	ND (1.0)	3.0	24	3.1	460	4,000
CW-01M	09/15/05	18.1	17.8	2.34	21.6	1.11	318	2,990
CW-01D	09/15/05	ND (1.0)	1.6	0.951	32.1	0.972	379	6,230
CW-02M	09/15/05	15.6	15.5	2.30	23.1	0.908	342	3,500
CW-02M	09/15/05 (FD)	15.8	14.7	2.30	21.1	0.96	341	3,440
CW-02D	09/15/05	ND (1.0)	1.6	0.982	41.6	0.28	601	8,770
CW-03M	09/16/05	8.8	8.1	2.57	24.2	0.642	464	4,740
CW-03D	09/16/05	ND (1.0)	ND (1.0)	1.40	29.2	0.304	672	9,550
CW-04M	09/13/05	19.2	19	1.50	12.3	1.18	240	3,310
CW-04D	09/13/05	ND (1.0)	ND (1.0)	1.01	26	0.188	534	7,470
OW-01S	07/28/05	18.7	18.8 J	2.45	15.7	3.20	114	1,320
OW-01S	07/28/05 (FD)	19.4	23.5 J	2.44	17.2	3.15	114	1,260
OW-01M	07/27/05	16.3	18.9	2.31	27	1.01	311	3,450 J
OW-01D	07/27/05	ND (1.0)	ND (1.3)	1.14	46.1	0.321	441	6,170 J
OW-02S	07/28/05	15.3	14.8	3.79	35.6	3.81	126	1,090
OW-02M	07/28/05	5.4	5.7	2.19	32.4	0.735	342	4,380
OW-02D	07/28/05	ND (1.0)	ND (1.2)	0.966	51.2	ND (0.1)	616	9,550

Table 6
Treated Water Quality Compared to OW and CW Pre-injection Water Quality
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample Date	Hexavalent Chromium (µg/L)	Chromium (µg/L)	Fluoride (mg/L)	Dissolved Molybdenum (µg/L)	Nitrate/Nitrite as Nitrogen (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
OW-05S	07/28/05	23.4	25.6	2.30	17.1	3.55	105	1,060
OW-05M	07/28/05	8.6 J	8.8	2.74	35.4	0.621	417	5,550
OW-05D	07/28/05	ND (1.0)	ND (1.2)	1.11	57	0.151	480	8,970

Acronyms and Abbreviations:
µg/L = micrograms per liter
CW = compliance well
FD = field duplicate
J = concentration estimated by laboratory or data validation
ID = identification
mg/L = milligrams per liter
ND = parameter not detected at the listed reporting limit
OW = observation well

Table 7
Treated Water Quality Compared to 2019 Annual Monitoring Event Water Quality
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample Date	Hexavalent Chromium (µg/L)	Chromium (µg/L)	Fluoride (mg/L)	Dissolved Molybdenum (µg/L)	Nitrate/Nitrite as Nitrogen (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
Treated Water	10/01/17	ND (0.2)	ND (1.0)	2.6	19	2.7	460	4,100
Treated Water	09/30/18	ND (0.2)	ND (1.0)	2.2	21	2.8	490	4,200
Treated Water	09/29/19	ND (0.2)	ND (1.0)	3.0	24	3.1	460	4,000
CW-01M	10/02/19	0.72	ND (1.0)	2.2	16	3.0	490	4,200
CW-01D	10/02/19	0.49	ND (1.0)	3.0	22	2.7	490	4,100
CW-02M	10/02/19	1.2	1.1	3.1	16	2.9	460	4,100
CW-02D	10/02/19	0.88	1.7	2.0	13	2.9	470	4,100
CW-02D	10/02/19 (FD)	0.84	1.5	2.1	13	3.0	470	3,900
CW-03M	10/02/19	3.7	7.3	4.2	30	2.4	490	4,300
CW-03D	10/02/19	0.56	ND (1.0)	2.8	15	3.3	460	4,100
CW-04M	10/01/19	0.97	7.8	2.6	14	3.4	470	4,200
CW-04D	10/01/19	0.43	ND (1.0)	3.3	18	2.7	480	4,200
OW-01S	10/03/19	7.4	17	1.5	7.6	3.2	350	3,600
OW-01M	10/03/19	2.5	2.8	2.3	13	3.0	490	4,300
OW-01D	10/03/19	0.57	ND (1.0)	2.8	20	2.9	500	4,000
OW-01D	10/03/19 (FD)	0.54	ND (1.0)	2.8	20	2.9	510	4,300
OW-02S	10/03/19	15	16	3.5	23	3.0	160	2,000
OW-02M	10/03/19	1.9	1.5	2.2	19	2.8	450	4,300
OW-02D	10/03/19	1.5	2.4	2.5	22	3.1	470	4,100
OW-05S	10/03/19	12	12	1.8	12	3.0	320	3,600
OW-05M	10/03/19	0.50	ND (1.0)	2.5	24	2.8	480	4,200
OW-05M	10/03/19 (FD)	0.50	ND (1.0)	2.4	24	2.8	480	4,200
OW-05D	10/03/19	0.29	ND (1.0)	2.3	21	2.6	480	4,100

Acronyms and Abbreviations:
µg/L = micrograms per liter
CW = compliance well
FD = field duplicate
ID = identification
mg/L = milligrams per liter
ND = parameter not detected at the listed reporting limit
OW = observation well

Table 8
Field Parameters and Manual Water Level Measurements for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample Date	Specific Conductance (µS/cm)	Temperature (°C)	pH (pH units)	ORP (mV)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Salinity (%)	Depth to Water (feet btoc)
CW-01M	10/02/19	8,340	31.1	7.5	130	8.25	2.0	0.54	108.88
CW-01D	10/02/19	8,030	29.3	7.3	140	8.6	2.0	0.52	108.85
CW-02M	10/02/19	8,060	29.5	7.6	170	8.07	2.0	0.52	92.51
CW-02D	10/02/19	8,110	28.9	7.6	160	7.81	4.0	0.52	92.09
CW-03M	10/02/19	8,560	27.5	7.4	170	6.25	3.0	0.55	77.33
CW-03D	10/02/19	8,050	26.8	7.5	170	8.4	2.0	0.52	76.60
CW-04M	10/01/19	7,950	29.8	7.5	130	7.55	3.0	0.51	61.15
CW-04D	10/01/19	8,070	29.5	7.8	130	8.37	5.0	0.52	60.90
OW-01S	10/03/19	6,410	30.1	7.0	74	3.55	5.0	0.41	93.26
OW-01M	10/03/19	8,390	28.7	6.8	68	3.92	9.0	0.54	93.18
OW-01D	10/03/19	8,160	28.2	7.2	45	2.8	2.0	0.53	92.89
OW-02S	10/03/19	3,880	31.2	7.7	79	3.8	3.0	0.25	91.99
OW-02M	10/03/19	8,120	30.3	7.4	63	2.46	5.0	0.53	91.20
OW-02D	10/03/19	8,000	28.1	7.3	72	4.22	7.0	0.52	91.26
OW-05S	10/03/19	6,070	30.3	7.3	62	2.75	2.0	0.39	94.62
OW-05M	10/03/19	7,630	29.2	7.8	74	8.17	1.0	0.49	93.66
OW-05D	10/03/19	7,490	30.2	7.7	71	8.41	1.0	0.48	94.16

Note:
Salinity is calculated using the specific conductance field measurement.

Acronyms and Abbreviations:
°C = degrees Celsius
µS/cm = micro-Siemens per centimeter
btoc = below top of casing
CW = compliance well
ID = identification
mg/L = milligrams per liter
mV = millivolt
NTU = nephelometric turbidity unit
ORP = oxidation reduction potential
OW = observation well

Table 9
ARAR Monitoring Information for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.09 J	0.1	0.02
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 120.1	SC	10/3/2019	LR	µS/cm	7,500	0.1	0.1
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	1.0	0.1	0.074
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	170	0.5	0.085
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	12	0.1	0.048
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	21	20	18
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	11 J	2.5	0.43
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,200	25	4.8
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	BAD	10/15/2019	CEI	µg/L	85	1	0.15
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	BED	10/15/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.2	0.1	0.081
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	16	0.5	0.21
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	3.6	0.5	0.36
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	2.6	1	0.28
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 218.6	CR6	10/8/2019	HG	µg/L	0.72	0.2	0.033
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.2	0.5	0.048
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	490	25	2
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,200	250	17
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	SM 2130 B	TRB	10/3/2019	LR	NTU	0.14	0.1	0.1
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	82	5	1.2
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	SM 2540 C	TDS	10/3/2019	LR	mg/L	4,200	50	50
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	3.0	0.25	0.16
CW-01M	CW-01M-LF-Q419	Kevin Thompson	10/2/2019	14:18	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	20	20	18

Table 9
ARAR Monitoring Information for Groundwater Samples, 2019
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Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.13	0.1	0.02
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 120.1	SC	10/3/2019	LR	µS/cm	7,300	0.1	0.1
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.91	0.1	0.074
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	160	0.5	0.085
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	18	0.1	0.048
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.7	ALD	10/7/2019	DJ	µg/L	ND (50)	50	40
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	20	20	18
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	12	2.5	0.43
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,400	25	4.8
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	BAD	10/15/2019	CEI	µg/L	25	1	0.15
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	BED	10/15/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.2	0.1	0.081
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5 J)	0.5	0.26
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	22	0.5	0.21
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10 J)	10	2.3
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	2.8	1	0.55
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	2.2	1	0.28
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 200.8	SED	10/17/2019	CEI	µg/L	3.9	0.5	0.36
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 218.6	CR6	10/8/2019	HG	µg/L	0.49	0.2	0.033
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	3.0	0.5	0.048
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	490	25	2
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	SM 2130 B	TRB	10/3/2019	LR	NTU	0.45	0.1	0.1
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	67	5	1.2
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	SM 2540 C	TDS	10/3/2019	LR	mg/L	4,100	50	50
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	2.7	0.25	0.16

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

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-01D	CW-01D-LF-Q419	Kevin Thompson	10/2/2019	13:18	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	27	20	18
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.14	0.1	0.02
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 120.1	SC	10/3/2019	LR	µS/cm	7,300	0.1	0.1
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	1.1	0.1	0.074
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	140	0.5	0.085
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	8.6	0.1	0.048
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	ND (20)	20	18
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	11	2.5	0.43
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,300	25	4.8
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	BAD	10/15/2019	CEI	µg/L	57	1	0.15
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	BED	10/15/2019	CEI	µg/L	ND (2.5)	2.5	0.21
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	2.0	0.1	0.081
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	1.1	1	0.13
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	16	0.5	0.21
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	2.9	0.5	0.36
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	3.8	1	0.28
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 218.6	CR6	10/8/2019	HG	µg/L	1.2	0.2	0.033
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	3.1	0.5	0.048
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	460	25	2
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	SM 2130 B	TRB	10/3/2019	LR	NTU	2.1	0.1	0.1
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	62	5	1.2
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	SM 2540 C	TDS	10/3/2019	LR	mg/L	4,100	50	50

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Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	2.9	0.25	0.16
CW-02M	CW-02M-LF-Q419	Kevin Thompson	10/2/2019	10:28	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	90	20	18
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.06 J	0.1	0.02
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 120.1	SC	10/3/2019	LR	µS/cm	7,400	0.1	0.1
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	87	50	40
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.99	0.1	0.074
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	87	0.5	0.085
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	4.0	0.1	0.048
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	110	20	18
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	11	2.5	0.43
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,400	25	4.8
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	BAD	10/15/2019	CEI	µg/L	26	1	0.15
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	BED	10/15/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	3.4	0.1	0.081
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	1.7	1	0.13
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	13	0.5	0.21
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	1.3	1	0.55
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	1.0	1	0.26
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	4.5	1	0.28
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 200.8	SED	10/17/2019	CEI	µg/L	3.5	0.5	0.36
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 218.6	CR6	10/8/2019	HG	µg/L	0.88	0.2	0.033
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.0	0.5	0.048
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	470	25	2
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	SM 2130 B	TRB	10/3/2019	LR	NTU	0.78 J	0.1	0.1
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	65	5	1.2

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ARAR Monitoring Information for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	SM 2540 C	TDS	10/3/2019	LR	mg/L	4,100	50	50
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	2.9	0.25	0.16
CW-02D	CW-02D-LF-Q419	Kevin Thompson	10/2/2019	11:50	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	23 J	20	18
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.11	0.1	0.02
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 120.1	SC	10/3/2019	LR	µS/cm	7,400	0.1	0.1
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	78	50	40
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.97	0.1	0.074
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	86	0.5	0.085
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	4.0	0.1	0.048
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	72	20	18
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	11	2.5	0.43
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,300	25	4.8
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	BAD	10/15/2019	CEI	µg/L	27	1	0.15
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	BED	10/15/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	3.4	0.1	0.081
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	0.73	0.5	0.042
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	1.5	1	0.13
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	13	0.5	0.21
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	0.62	0.5	0.16
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	3.8	0.5	0.36
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	2.1	1	0.55
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	1.1	1	0.26
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	5.0	1	0.28
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 218.6	CR6	10/8/2019	HG	µg/L	0.84	0.2	0.033
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.1	0.5	0.048
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	470	25	2
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	SM 2130 B	TRB	10/3/2019	LR	NTU	27 J	0.1	0.1

Table 9
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Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	68	5	1.2
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	SM 2540 C	TDS	10/3/2019	LR	mg/L	3,900	50	50
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	3.0	0.25	0.16
CW-02D	MW-903-Q419	Kevin Thompson	10/2/2019	12:00	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	1,100 J	20	18
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.07 J	0.1	0.02
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 120.1	SC	10/3/2019	LR	µS/cm	8,000	0.1	0.1
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	1.1	0.1	0.074
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	170	0.5	0.085
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	11	0.1	0.048
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	70	20	18
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	9.0	2.5	0.43
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,100	25	4.8
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	BAD	10/15/2019	CEI	µg/L	41	1	0.15
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	BED	10/15/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.4	0.1	0.081
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	7.3	1	0.13
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	30	0.5	0.21
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	1.5	1	0.55
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	1.5	1	0.26
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	3.3	1	0.28
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 200.8	SED	10/17/2019	CEI	µg/L	2.6	0.5	0.36
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 218.6	CR6	10/8/2019	HG	µg/L	3.7	0.2	0.033
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	4.2	0.5	0.048
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	490	25	2
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,300	250	17

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CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	SM 2130 B	TRB	10/3/2019	LR	NTU	4.0	0.1	0.1
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	55	5	1.2
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	SM 2540 C	TDS	10/3/2019	LR	mg/L	4,300	50	50
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	2.4	0.25	0.16
CW-03M	CW-03M-LF-Q419	Kevin Thompson	10/2/2019	09:36	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	300	20	18
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.09 J	0.1	0.02
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 120.1	SC	10/3/2019	LR	µS/cm	7,400	0.1	0.1
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.93	0.1	0.074
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	65	0.5	0.085
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	4.2	0.1	0.048
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	26	20	18
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	11	2.5	0.43
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,200	25	4.8
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	BAD	10/15/2019	CEI	µg/L	15	1	0.15
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	BED	10/15/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.4	0.1	0.081
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	15	0.5	0.21
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	2.7	1	0.28
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 200.8	SED	10/17/2019	CEI	µg/L	3.4	0.5	0.36
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 218.6	CR6	10/8/2019	HG	µg/L	0.56	0.2	0.033
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.8	0.5	0.048
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	460	25	2

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CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	SM 2130 B	TRB	10/3/2019	LR	NTU	2.8	0.1	0.1
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	66	5	1.2
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	SM 2540 C	TDS	10/3/2019	LR	mg/L	4,100	50	50
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	3.3	0.25	0.16
CW-03D	CW-03D-LF-Q419	Kevin Thompson	10/2/2019	08:30	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	65	20	18
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.05 J	0.1	0.02
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 120.1	SC	10/2/2019	LR	µS/cm	7,000	0.1	0.1
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.93	0.1	0.074
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	180	0.5	0.085
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	13	0.1	0.048
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	74	20	18
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.7	KD	10/18/2019	DJ	mg/L	13	2.5	0.43
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.7	NAD	10/18/2019	DJ	mg/L	1,300	25	4.8
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	AGD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	ASD	10/7/2019	CEI	µg/L	2.2	0.1	0.081
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	BAD	10/7/2019	CEI	µg/L	100	1	0.15
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	CDD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	COBD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	CRTD	10/7/2019	CEI	µg/L	7.8	1	0.13
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	MOD	10/7/2019	CEI	µg/L	14	0.5	0.21
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	NID	10/7/2019	CEI	µg/L	7.8	1	0.26
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	SBD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	VD	10/7/2019	CEI	µg/L	3.3	1	0.28
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	ZND	10/7/2019	CEI	µg/L	ND (10)	10	2.3
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	BED	10/7/2019	CEI	µg/L	ND (2.5)	2.5	0.21
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	PBD	10/7/2019	CEI	µg/L	ND (5.0)	5	0.64
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	TLD	10/7/2019	CEI	µg/L	ND (2.5)	2.5	0.96
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	CUD	10/7/2019	CEI	µg/L	ND (1.0)	1	0.55
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	MND	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 200.8	SED	10/8/2019	CEI	µg/L	3.6	0.5	0.36
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 218.6	CR6	10/3/2019	HG	µg/L	0.97	0.2	0.033
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 245.1	HGD	10/3/2019	DJ	µg/L	ND (0.2)	0.2	0.13
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.6	0.5	0.048

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ARAR Monitoring Information for Groundwater Samples, 2019
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Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	470	25	2
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	SM 2130 B	TRB	10/2/2019	LR	NTU	52	0.1	0.1
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	63	5	1.2
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	SM 2540 C	TDS	10/2/2019	LR	mg/L	4,200	50	50
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	3.4	0.25	0.16
CW-04M	CW-04M-LF-Q419	Kevin Thompson	10/1/2019	13:57	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	4,500	20	18
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ENT	A4500NH	NH3N	10/8/2019	EGS	mg/L	0.07 J	0.1	0.02
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 120.1	SC	10/2/2019	LR	µS/cm	7,400	0.1	0.1
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	1.0	0.1	0.074
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	140	0.5	0.085
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	8.5	0.1	0.048
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	ND (20)	20	18
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	9.7	2.5	0.43
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,100 J	25	4.8
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	AGD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.23
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	ASD	10/7/2019	CEI	µg/L	2.8	0.1	0.081
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	BAD	10/7/2019	CEI	µg/L	21	1	0.15
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	CDD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.053
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	COBD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.042
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	CRTD	10/7/2019	CEI	µg/L	ND (1.0)	1	0.13
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	MOD	10/7/2019	CEI	µg/L	18	0.5	0.21
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	NID	10/7/2019	CEI	µg/L	ND (1.0)	1	0.26
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	SBD	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.16
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	VD	10/7/2019	CEI	µg/L	2.6	1	0.28
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	ZND	10/7/2019	CEI	µg/L	ND (10)	10	2.3
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	BED	10/7/2019	CEI	µg/L	ND (2.5)	2.5	0.21
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	PBD	10/7/2019	CEI	µg/L	ND (5.0)	5	0.64
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	TLD	10/7/2019	CEI	µg/L	ND (2.5)	2.5	0.96
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	CUD	10/7/2019	CEI	µg/L	ND (1.0)	1	0.55
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	MND	10/7/2019	CEI	µg/L	ND (0.5)	0.5	0.26
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 200.8	SED	10/7/2019	CEI	µg/L	4.1	0.5	0.36
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 218.6	CR6	10/3/2019	HG	µg/L	0.43	0.2	0.033
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 245.1	HGD	10/3/2019	DJ	µg/L	ND (0.2)	0.2	0.13

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Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	3.3	0.5	0.048
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	480	25	2
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,200	250	17
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	SM 2130 B	TRB	10/2/2019	LR	NTU	0.53	0.1	0.1
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	SM 2320 B	ALKT	10/3/2019	LR	mg/L	66	5	1.2
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	SM 2540 C	TDS	10/2/2019	LR	mg/L	4,200	50	50
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	SM 4500-NO3 F	NO3NO2N	10/12/2019	MBC	mg/L	2.7	0.25	0.16
CW-04D	CW-04D-LF-Q419	Kevin Thompson	10/1/2019	15:08	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	31 J	20	18
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	5,700	0.1	0.1
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	81	20	18
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	680	25	4.8
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	17	1	0.13
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	7.6	0.5	0.21
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	7.4	0.2	0.033
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	1.5	0.5	0.048
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	1,800	250	17
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	350	25	2
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	4.4	0.1	0.1
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	3,600	50	50
OW-01S	OW-01S-Q419	Kevin Thompson	10/3/2019	10:36	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	3.2	0.25	0.16
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ENT	A4500NH	NH3N	10/10/2019	EGS	mg/L	0.04 J	0.1	0.02
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,500	0.1	0.1
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	1.3	0.1	0.074
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	180	0.5	0.085
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	28	0.1	0.048
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	24	20	18
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	13	2.5	0.43
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,200	25	4.8
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	80	1	0.15
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.8	0.1	0.081
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042

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Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	2.8	1	0.13
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	13	0.5	0.21
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	3.7	0.5	0.36
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	1.1	1	0.26
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	4.0	1	0.28
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	2.5	0.2	0.033
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.3	0.5	0.048
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	EPA 300.0	SO4	10/8/2019	RAB	mg/L	490	25	2
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	6.1	0.1	0.1
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	280	5	1.2
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,300	50	50
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	3.0	0.25	0.16
OW-01M	OW-01M-Q419	Kevin Thompson	10/3/2019	08:48	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	370	20	18
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ENT	A4500NH	NH3N	10/10/2019	EGS	mg/L	0.04 J	0.1	0.02
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,500	0.1	0.1
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.94	0.1	0.074
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	160	0.5	0.085
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	23	0.1	0.048
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	20	20	18
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	12	2.5	0.43
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,100	25	4.8
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	34	1	0.15
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.3	0.1	0.081
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053

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ARAR Monitoring Information for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	20	0.5	0.21
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	4.0	0.5	0.36
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	3.3	1	0.28
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	0.57	0.2	0.033
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.8	0.5	0.048
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	2,200	250	17
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	500	25	2
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	0.39	0.1	0.1
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	61	5	1.2
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,000	50	50
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	2.9	0.25	0.16
OW-01D	OW-01D-Q419	Kevin Thompson	10/3/2019	09:41	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	ND (20)	20	18
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ENT	A4500NH	NH3N	10/10/2019	EGS	mg/L	0.03 J	0.1	0.02
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,400	0.1	0.1
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.97	0.1	0.074
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	170	0.5	0.085
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	24	0.1	0.048
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	22	20	18
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	12	2.5	0.43
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,100	25	4.8
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	33	1	0.15
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.2	0.1	0.081

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Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	20	0.5	0.21
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	3.8	0.5	0.36
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	3.3	1	0.28
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	0.54	0.2	0.033
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.8	0.5	0.048
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	2,200	250	17
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	510	25	2
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	0.33	0.1	0.1
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	73	5	1.2
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,300	50	50
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	2.9	0.25	0.16
OW-01D	MW-904-Q419	Kevin Thompson	10/3/2019	09:51	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	ND (20)	20	18
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	3,500	0.1	0.1
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	560	25	4.8
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	16	1	0.13
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	23	0.5	0.21
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	15	1	0.17
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	3.5	0.5	0.048
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	990	100	7
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	160	5	0.4
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	1.2	0.1	0.1
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	2,000	25	25
OW-02S	OW-02S-Q419	Kevin Thompson	10/3/2019	12:25	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	3.1	0.25	0.16
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ENT	A4500NH	NH3N	10/15/2019	EGS	mg/L	0.09 J	0.1	0.02

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OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,400	0.1	0.1
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	1.1	0.1	0.074
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	170	0.5	0.085
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	27	0.1	0.048
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	22	20	18
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	11	2.5	0.43
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,100	25	4.8
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	45	1	0.15
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.6	0.1	0.081
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	1.5	1	0.13
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	19	0.5	0.21
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	4.3	0.5	0.36
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	3.4	1	0.28
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	1.9	0.2	0.033
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.2	0.5	0.048
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	2,100	250	17
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	450	25	2
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	0.53	0.1	0.1
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	130	5	1.2
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,300	50	50
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	2.8	0.25	0.16
OW-02M	OW-02M-Q419	Kevin Thompson	10/3/2019	13:40	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	44	20	18

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OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ENT	A4500NH	NH3N	10/10/2019	EGS	mg/L	0.04 J	0.1	0.02
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,200	0.1	0.1
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.95	0.1	0.074
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	140	0.5	0.085
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	24	0.1	0.048
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	56	20	18
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	14	2.5	0.43
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,300	25	4.8
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	44	1	0.15
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (2.5)	2.5	0.21
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.9	0.1	0.081
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	2.4	1	0.13
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	22	0.5	0.21
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	0.95	0.5	0.16
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	17	10	2.3
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	6.6	1	0.55
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	3.9	1	0.26
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	2.0	1	0.28
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 200.8	SED	10/17/2019	CEI	µg/L	4.2	0.5	0.36
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	1.5	0.2	0.033
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.5	0.5	0.048
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	2,100	250	17
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	470	25	2
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	24	0.1	0.1
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	74	5	1.2
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,100	50	50
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	3.1	0.25	0.16

Table 9
ARAR Monitoring Information for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-02D	OW-02D-Q419	Kevin Thompson	10/3/2019	11:30	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	1,100	20	18
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	5,000	0.1	0.1
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	520	25	4.8
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	12	1	0.13
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	12	0.5	0.21
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	12	0.2	0.033
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 300.0	FL	10/8/2019	RAB	mg/L	1.8	0.5	0.048
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	1,500	250	17
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	320	25	2
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	0.77	0.1	0.1
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	3,600	50	50
OW-05S	OW-05S-LF-Q419	Kevin Thompson	10/3/2019	14:33	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	3.0	0.25	0.16
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ENT	A4500NH	NH3N	10/15/2019	EGS	mg/L	0.08 J	0.1	0.02
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,300	0.1	0.1
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.7	ALD	10/5/2019	DJ	µg/L	ND (50)	50	40
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.7	BD	10/5/2019	DJ	mg/L	1.0	0.1	0.074
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.7	CAD	10/5/2019	DJ	mg/L	140	0.5	0.085
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.7	MGD	10/5/2019	DJ	mg/L	22	0.1	0.048
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	ND (20)	20	18
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	13	2.5	0.43
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,400	25	4.8
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	37	1	0.15
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	1.0	0.1	0.081
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	24	0.5	0.21
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	3.7	0.5	0.36
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3

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

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	2.3	1	0.28
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	0.5	0.2	0.033
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.5	0.5	0.048
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 300.0	CL	10/8/2019	RAB	mg/L	2,100	250	17
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	480	25	2
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	0.29	0.1	0.1
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	81	5	1.2
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,200	50	50
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	2.8	0.25	0.16
OW-05M	OW-05M-LF-Q419	Nara Tep	10/3/2019	14:42	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	ND (20)	20	18
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ENT	A4500NH	NH3N	10/15/2019	EGS	mg/L	0.08 J	0.1	0.02
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,300	0.1	0.1
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.7	ALD	10/5/2019	DJ	µg/L	ND (50)	50	40
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.7	BD	10/5/2019	DJ	mg/L	1.0	0.1	0.074
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.7	CAD	10/5/2019	DJ	mg/L	140	0.5	0.085
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.7	MGD	10/5/2019	DJ	mg/L	23	0.1	0.048
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	ND (20)	20	18
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	11	2.5	0.43
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,200	25	4.8
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	36	1	0.15
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	0.94	0.1	0.081
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	24	0.5	0.21
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	3.6	0.5	0.36
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19

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Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	2.3	1	0.28
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	0.5	0.2	0.033
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.4	0.5	0.048
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	2,100	250	17
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	480	25	2
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	0.48	0.1	0.1
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	79	5	1.2
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,200	50	50
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	2.8	0.25	0.16
OW-05M	MW-905-Q419	Nara Tep	10/3/2019	14:52	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	ND (20)	20	18
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ENT	A4500NH	NH3N	10/15/2019	EGS	mg/L	0.15 J	0.1	0.02
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 120.1	SC	10/4/2019	LR	µS/cm	7,300	0.1	0.1
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.7	ALD	10/4/2019	DJ	µg/L	ND (50)	50	40
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.7	BD	10/4/2019	DJ	mg/L	0.93	0.1	0.074
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.7	CAD	10/4/2019	DJ	mg/L	120	0.5	0.085
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.7	MGD	10/4/2019	DJ	mg/L	23	0.1	0.048
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.7	FETD	10/7/2019	DJ	µg/L	21	20	18
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.7	KD	10/10/2019	DJ	mg/L	13	2.5	0.43
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.7	NAD	10/10/2019	DJ	mg/L	1,300	25	4.8
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	BAD	10/16/2019	CEI	µg/L	26	1	0.15
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	BED	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	AGD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.23
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	ASD	10/16/2019	CEI	µg/L	4.2	0.1	0.081
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	CDD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.053
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	COBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.042
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	CRTD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	MND	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.26
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	MOD	10/16/2019	CEI	µg/L	21	0.5	0.21
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	PBD	10/16/2019	CEI	µg/L	ND (1.0)	1	0.13
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	SBD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.16
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	SED	10/16/2019	CEI	µg/L	4.3	0.5	0.36

Table 9
ARAR Monitoring Information for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician	Units	Result	RL	MDL
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	TLD	10/16/2019	CEI	µg/L	ND (0.5)	0.5	0.19
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	ZND	10/16/2019	CEI	µg/L	ND (10)	10	2.3
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	CUD	10/17/2019	CEI	µg/L	ND (1.0)	1	0.55
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	NID	10/17/2019	CEI	µg/L	ND (1.0)	1	0.26
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 200.8	VD	10/17/2019	CEI	µg/L	3.7	1	0.28
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 218.6	CR6	10/12/2019	RAB	µg/L	0.29	0.2	0.033
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 245.1	HGD	10/7/2019	DJ	µg/L	ND (0.2)	0.2	0.13
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 300.0	FL	10/7/2019	RAB	mg/L	2.3	0.5	0.048
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 300.0	CL	10/9/2019	RAB	mg/L	2,100	250	17
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	EPA 300.0	SO4	10/9/2019	RAB	mg/L	480	25	2
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	SM 2130 B	TRB	10/4/2019	LR	NTU	0.25	0.1	0.1
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	SM 2320 B	ALKT	10/4/2019	LR	mg/L	79	5	1.2
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	SM 2540 C	TDS	10/7/2019	LR	mg/L	4,100	50	50
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	SM 4500-NO3 F	NO3NO2N	10/14/2019	MBC	mg/L	2.6	0.25	0.16
OW-05D	OW-05D-Q419	Nara Tep	10/3/2019	13:36	ASSET	SW 6010B	FE	10/7/2019	DJ	µg/L	ND (20)	20	18

Acronyms and Abbreviations:
µg/L = micrograms per liter
µS/cm = microSiemens per centimeter
AGD = silver, dissolved
ALD = aluminum, dissolved
ALKB = alkalinity, bicarbonate as CaCO3
ALKC = alkalinity, as carbonate
ALKT = alkalinity, total as CaCO3
ARAR = applicable or relevant and appropriate requirement
ASD = arsenic, dissolved
ASSET = Asset Laboratories
BAD = barium, dissolved
BD = boron, dissolved
BED = beryllium, dissolved
CAD = calcium, dissolved
CDD = cadmium, dissolved
CL = chloride
COBD = cobalt, dissolved
CR6 = hexavalent chromium
CRTD = chromium, dissolved
CUD = copper, dissolved
ENT = Enthalpy Laboratories
FE = iron
FETD = iron, dissolved
FL = fluoride

Table 9
ARAR Monitoring Information for Groundwater Samples, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Acronyms and Abbreviations, continued:
HGD = mercury, dissolved
HYDX = alkalinity, hydroxide
J = concentration or reporting limit estimated by laboratory or data validation
KD = potassium, dissolved
MDL = method detection limit corrected for sample dilution
mg/L = milligrams per liter
MGD = magnesium, dissolved
MND = manganese, dissolved
MOD = molybdenum, dissolved
NAD = sodium, dissolved
ND = parameter not detected at the listed reporting limit
NH3N = ammonia (as nitrogen)
NID = nickel, dissolved
NO3NO2N = nitrate/nitrite (as nitrogen)
NTU = Nephelometric Turbidity Unit
PBD = lead, dissolved
RL = reporting limit corrected for sample dilution
SBD = antimony, dissolved
SC = specific conductance
SED = selenium, dissolved
SO4 = sulfate
TDS = total dissolved solids
TLD = thallium, dissolved
TRB = turbidity
VD = vanadium, dissolved
ZND = zinc, dissolved

Table 10
Manual Water Level Measurements and Elevations, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Well Depth (feet btoc)	Measuring Point Elevation (feet amsl)	Date	Time	Water Level Measurement (feet btoc)	Salinity (%)	Groundwater/Water Elevation Adjusted for Salinity and Temperature (feet amsl)
CW-01M	190.0	566.07	2/11/2019	13:06	110.55	0.52	455.50
CW-01M	190.0	566.07	5/23/2019	7:43	108.84	0.52	457.21
CW-01M	190.0	566.07	9/30/2019	12:34	108.77	0.52	457.28
CW-01M	190.0	566.07	11/22/2019	7:33	109.88	0.54	456.13
CW-01D	300.2	566.46	2/11/2019	13:08	110.52	0.51	456.04
CW-01D	300.2	566.46	5/23/2019	7:38	108.90	0.51	457.66
CW-01D	300.2	566.46	9/30/2019	12:31	108.78	0.51	457.78
CW-01D	300.2	566.46	11/22/2019	7:29	109.86	0.52	456.54
CW-02M	208.3	549.45	2/11/2019	13:27	94.02	0.54	455.39
CW-02M	208.3	549.45	5/23/2019	8:05	92.30	0.54	457.11
CW-02M	208.3	549.45	9/30/2019	12:49	92.36	0.54	457.05
CW-02M	208.3	549.45	11/22/2019	7:40	93.46	0.52	455.95
CW-02D	355.0	549.43	2/11/2019	13:25	93.58	0.53	455.92
CW-02D	355.0	549.43	5/23/2019	8:00	91.92	0.53	457.58
CW-02D	355.0	549.43	9/30/2019	12:46	91.90	0.53	457.60
CW-02D	355.0	549.43	11/22/2019	7:37	92.99	0.52	456.40
CW-03M	222.0	534.10	2/11/2019	13:34	78.81	0.60	455.32
CW-03M	222.0	534.10	5/23/2019	7:54	77.11	0.60	457.02
CW-03M	222.0	534.10	9/30/2019	12:43	77.14	0.60	456.99
CW-03M	222.0	534.10	11/22/2019	7:46	78.27	0.55	455.89
CW-03D	340.0	534.14	2/11/2019	13:31	78.19	0.54	455.96
CW-03D	340.0	534.14	5/23/2019	7:48	76.56	0.54	457.59
CW-03D	340.0	534.14	9/30/2019	12:40	76.56	0.54	457.59
CW-03D	340.0	534.14	11/22/2019	7:43	77.62	0.52	456.63
CW-04M	169.8	518.55	2/11/2019	13:15	62.82	0.54	455.75
CW-04M	169.8	518.55	5/23/2019	8:17	61.18	0.54	457.39
CW-04M	169.8	518.55	9/30/2019	12:25	61.15	0.54	457.42
CW-04M	169.8	518.55	11/22/2019	7:55	62.27	0.51	456.23
CW-04D	303.0	518.55	2/11/2019	13:12	62.61	0.55	455.93
CW-04D	303.0	518.55	5/23/2019	8:13	61.01	0.55	457.53
CW-04D	303.0	518.55	9/30/2019	12:22	60.96	0.55	457.58
CW-04D	303.0	518.55	11/22/2019	7:52	62.04	0.52	456.42
OW-01S	113.5	550.21	2/11/2019	12:42	94.96	0.49	455.24
OW-01S	113.5	550.21	5/23/2019	7:40	93.25	0.49	456.95
OW-01S	113.5	550.21	9/30/2019	12:09	93.25	0.50	456.95
OW-01S	113.5	550.21	11/22/2019	8:09	94.31	0.43	455.88
OW-01M	185.8	550.36	2/11/2019	12:45	94.78	0.51	455.59
OW-01M	185.8	550.36	5/23/2019	7:46	93.18	0.51	457.19
OW-01M	185.8	550.36	9/30/2019	12:15	93.14	0.51	457.23
OW-01M	185.8	550.36	11/22/2019	8:06	94.14	0.54	456.22

Table 10
Manual Water Level Measurements and Elevations, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Location ID	Well Depth (feet btoc)	Measuring Point Elevation (feet amsl)	Date	Time	Water Level Measurement (feet btoc)	Salinity (%)	Groundwater/Water Elevation Adjusted for Salinity and Temperature (feet amsl)
OW-01D	277.3	550.36	2/11/2019	12:47	94.37	0.51	456.25
OW-01D	277.3	550.36	5/23/2019	7:48	92.88	0.51	457.74
OW-01D	277.3	550.36	9/30/2019	12:08	92.71	0.51	457.91
OW-01D	277.3	550.36	11/22/2019	8:03	93.77	0.53	456.60
OW-02S	103.6	548.88	2/11/2019	12:55	93.61	0.26	455.25
OW-02S	103.6	548.88	5/23/2019	7:53	91.83	0.26	457.03
OW-02S	103.6	548.88	9/30/2019	12:23	91.86	0.27	457.00
OW-02S	103.6	548.88	11/22/2019	8:18	93.01	0.25	455.84
OW-02M	210.3	548.52	2/11/2019	12:52	92.89	0.52	455.83
OW-02M	210.3	548.52	5/23/2019	7:55	91.24	0.52	457.48
OW-02M	210.3	548.52	9/30/2019	12:26	91.27	0.52	457.45
OW-02M	210.3	548.52	11/22/2019	8:15	92.30	0.53	456.15
OW-02D	340.0	549.01	2/11/2019	12:50	92.80	0.53	456.55
OW-02D	340.0	549.01	5/23/2019	7:57	91.20	0.53	458.15
OW-02D	340.0	549.01	9/30/2019	12:20	91.19	0.53	458.16
OW-02D	340.0	549.01	11/22/2019	8:12	92.12	0.52	456.89
OW-05S	110.3	551.83	2/11/2019	13:03	96.43	0.41	455.39
OW-05S	110.3	551.83	5/23/2019	8:02	94.75	0.44	457.07
OW-05S	110.3	551.83	9/30/2019	12:40	94.75	0.42	457.07
OW-05S	110.3	551.83	11/22/2019	8:27	95.80	0.38	456.01
OW-05M	250.3	551.81	2/11/2019	13:01	95.32	0.53	456.45
OW-05M	250.3	551.81	5/23/2019	8:05	93.76	0.54	458.02
OW-05M	250.3	551.81	9/30/2019	12:36	93.74	0.53	458.03
OW-05M	250.3	551.81	11/22/2019	8:24	94.78	0.51	456.97
OW-05D	350.0	552.41	2/11/2019	12:58	95.87	0.54	456.63
OW-05D	350.0	552.41	5/23/2019	8:08	94.30	0.53	458.20
OW-05D	350.0	552.41	9/30/2019	12:31	94.08	0.54	458.43
OW-05D	350.0	552.41	11/22/2019	8:21	95.11	0.52	457.14

Note:
Salinity and temperature data were used to adjust water levels to freshwater equivalents.

Acronyms and Abbreviations:
amsl = above mean sea level
btoc = below top of casing
CW = compliance well
ID = identification
OW = observation well

Table 11
Vertical Gradients within the OW and CW Clusters, 2019
Compliance Monitoring Program 2019 Annual Groundwater Monitoring Report
Pacific Gas and Electric Company, Topock Compressor Station, Needles, California

Well Pairs	Vertical Gradient [(a)] (foot/foot)
CW-01D to CW-01M	0.0037
CW-02D to CW-02M	0.0034
CW-03D to CW-03M	0.0074
CW-04D to CW-04M	0.0017
OW-01M to OW-01S	0.0045
OW-01D to OW-01M	0.0041
OW-02M to OW-02S	0.0027
OW-02D to OW-02M	0.0061
OW-05M to OW-05S	0.0069
OW-05D to OW-05M	0.0021

Notes:
Gradients were calculated using November 22, 2019 groundwater elevation data.
[(a)] Positive value signifies an upward gradient.

Acronyms and Abbreviations:
CW = compliance well
OW = observation well

FIGURES

For additional assistance with the information provided in the figures, please contact Emily Sheu with Arcadis (emily.sheu@arcadis.com)



LEGEND

- Existing IM-3 Extraction Well
- Existing IM-3 Injection Well
- Influent Treatment Facility Pipeline (below ground)
- Effluent Treatment Facility Pipeline (above ground)
- Property Line

Notes:
Location map shows IM-3 facilities as of of January 2006.
Aerial photography taken November 2011.

BLM = Bureau of Land Management
IM-3 = Interim Measures No. 3
PG&E = Pacific Gas and Electric Company

N

0 250 500
Feet

VICINITY MAP

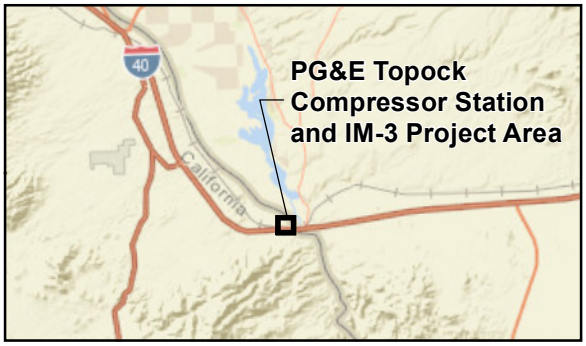
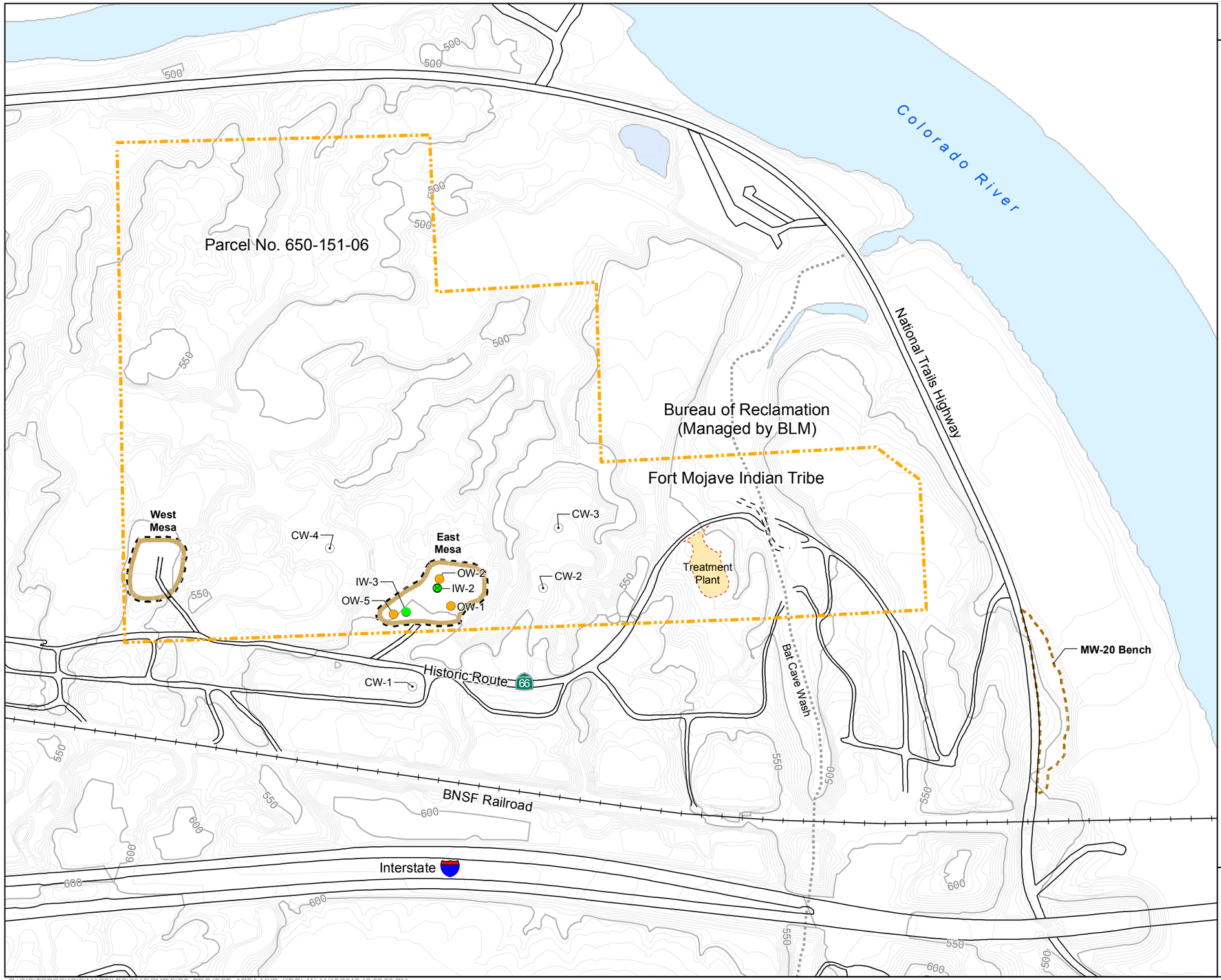


FIGURE 1
SITE LOCATION AND INTERIM MEASURES NO. 3 TREATMENT SYSTEM

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

Created by: CRITIGEN



ARCADIS Design & Consultancy for natural and built assets

LEGEND

- IM-3 Injection Well
- Observation Well Cluster
- Compliance Well Cluster
- Property Line
- Contingency Area

Notes:
IM-3 = Interim Measures No. 3
BLM = Bureau of Land Management
PG&E = Pacific Gas and Electric Company

N

0 200 400
Feet

FIGURE 2
MONITORING LOCATIONS FOR CMP AND INJECTION WELL FIELD

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION, NEEDLES, CALIFORNIA

Created by: CRITIGEN

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LEGEND

- OW-1S
- OW-2S
- OW-5S
- System Start-up
- Treated Water

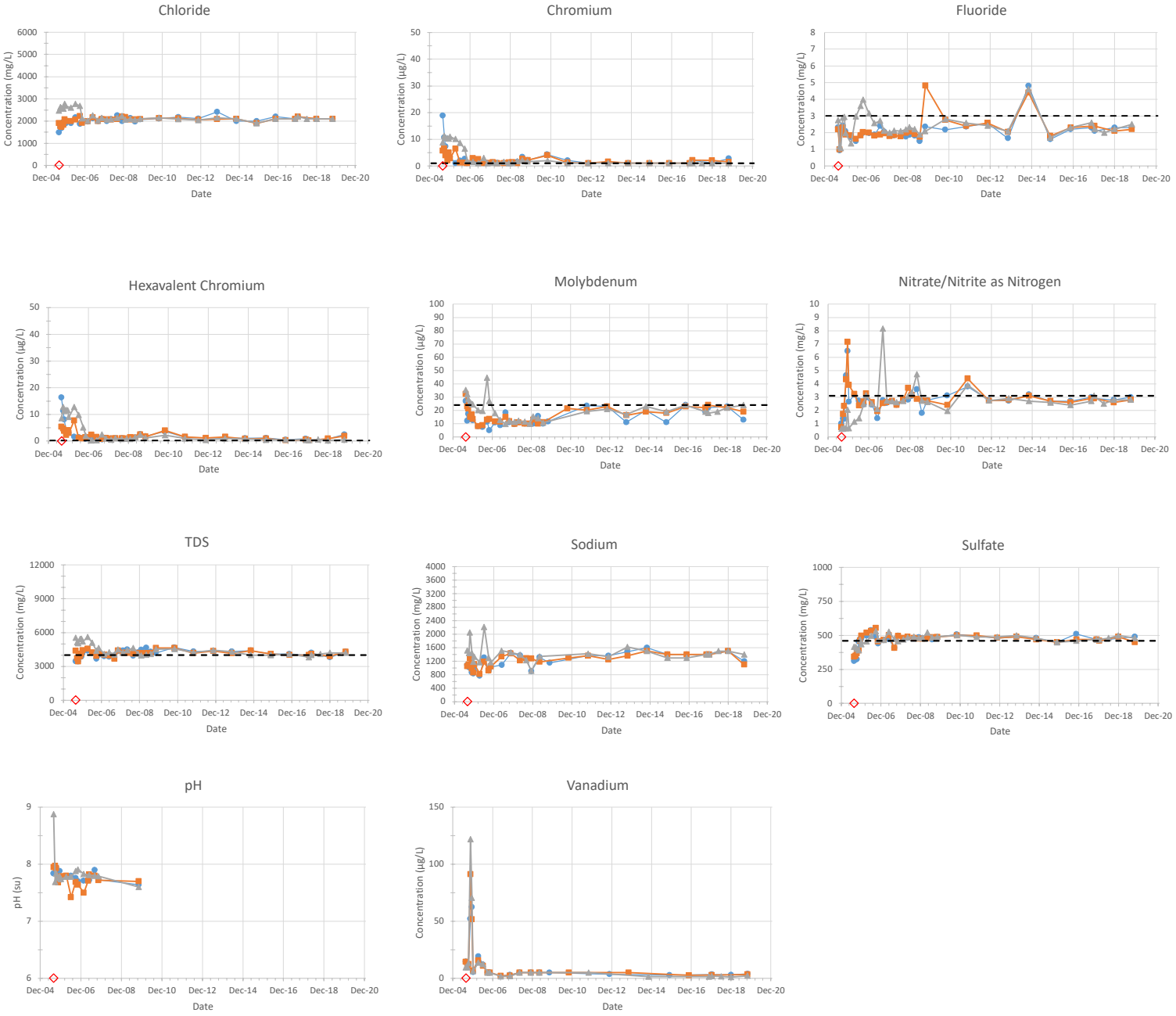
Notes:
µg/L = micrograms per liter
mg/L = miligrams per liter
TDS = total dissolved solids

Treated water only on select analytes.

FIGURE 3A
OW-1S, OW-2S, OW-5S CONCENTRATION VERSUS TIME PLOTS

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS



LEGEND

- OW-1M
- OW-2M
- OW-5M
- System Start-up
- Treated Water

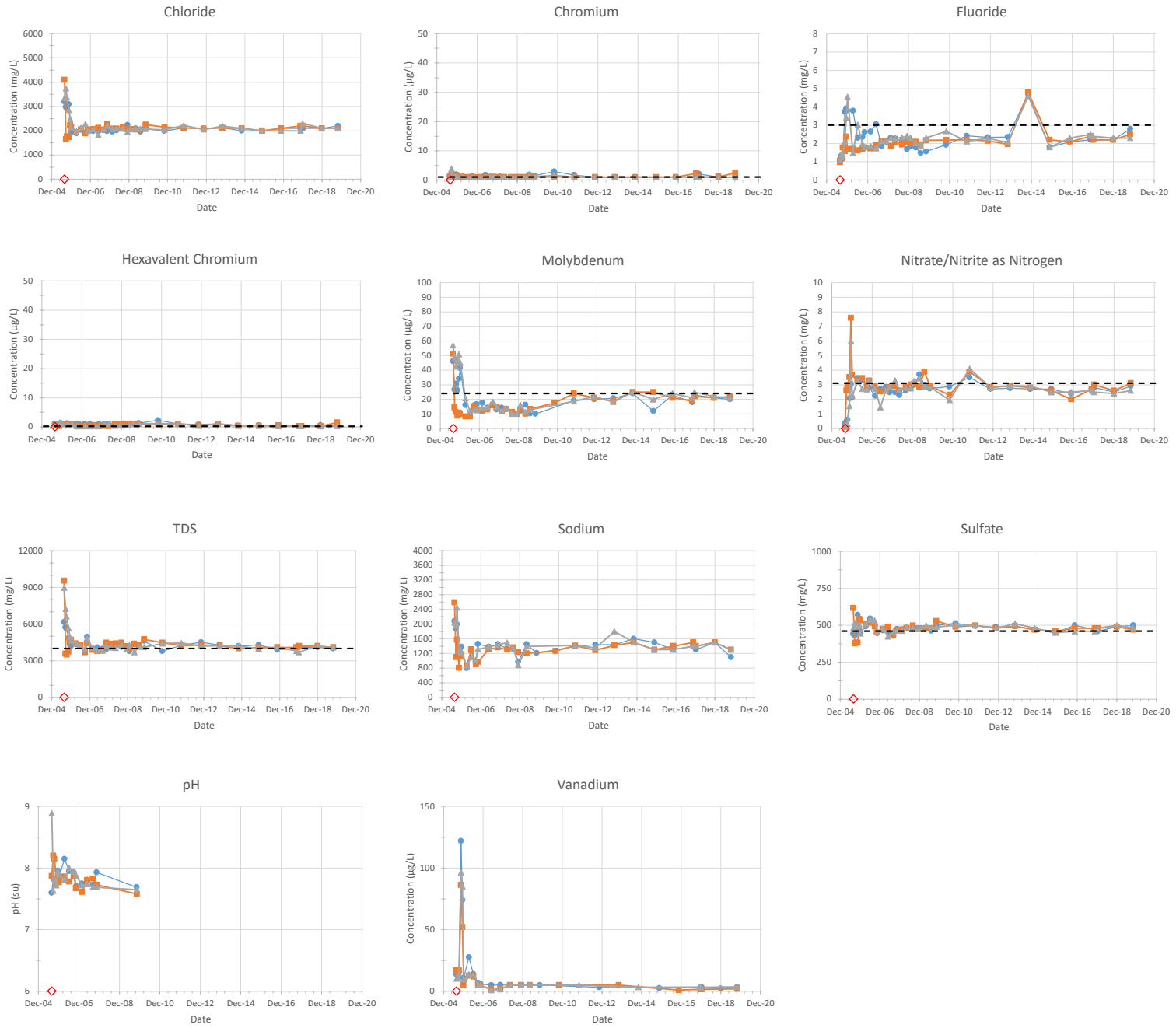
Notes:
µg/L = micrograms per liter
mg/L = miligrams per liter
TDS = total dissolved solids

Treated water only on select analytes.

FIGURE 3B
OW-1M, OW-2M, OW-5M CONCENTRATION VERSUS TIME PLOTS

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS



LEGEND

- OW-1D
- OW-2D
- OW-5D
- System Start-up
- Treated Water

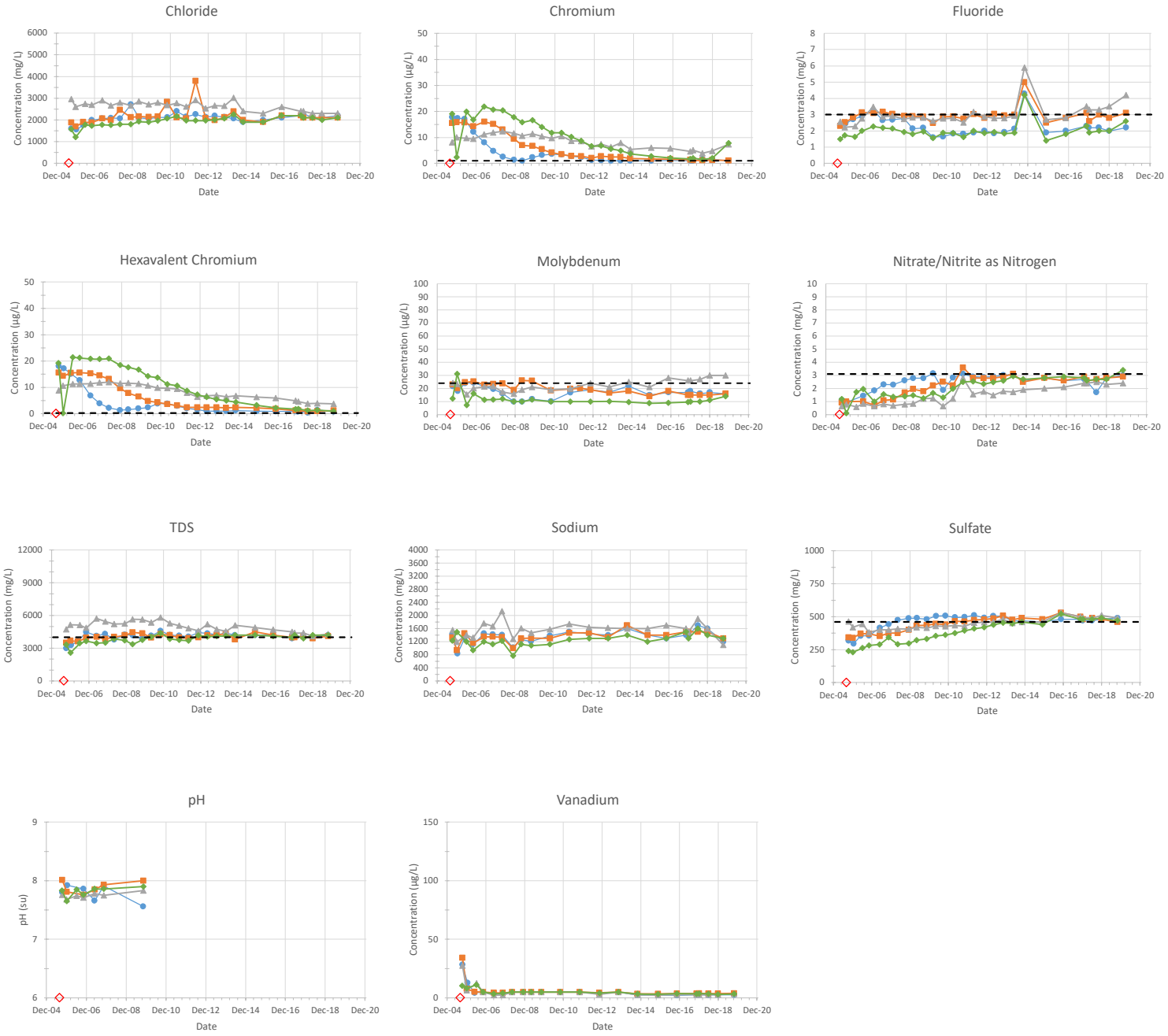
Notes:
µg/L = micrograms per liter
mg/L = miligrams per liter
TDS = total dissolved solids

Treated water only on select analytes.

FIGURE 3C
OW-1D, OW-2D, OW-5D CONCENTRATION VERSUS TIME PLOTS

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS



LEGEND

- CW-1M
- CW-2M
- CW-3M
- CW-4M
- System Start-up
- Treated Water

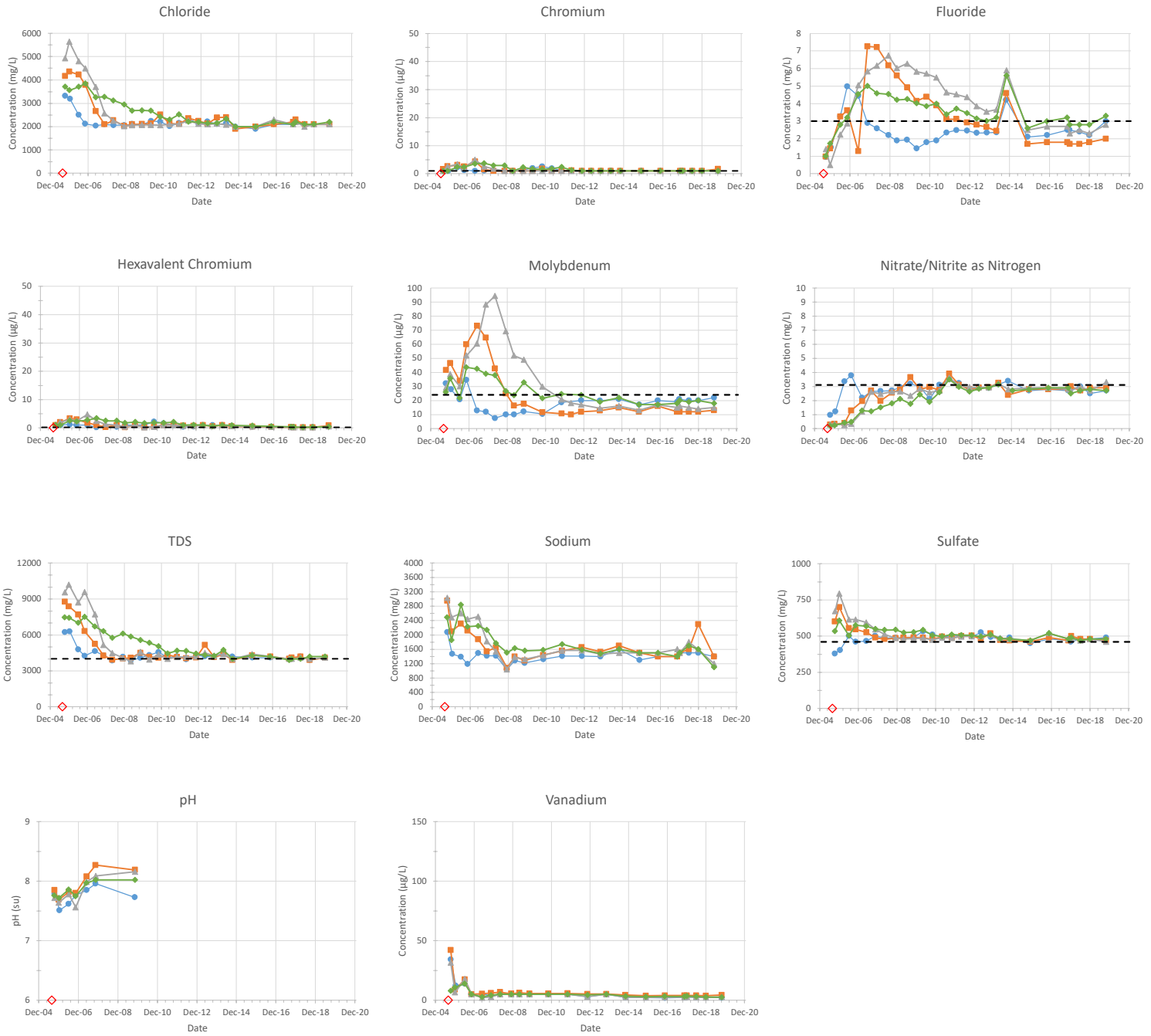
Notes:
µg/L = micrograms per liter
mg/L = miligrams per liter
TDS = total dissolved solids

Treated water only on select analytes.

FIGURE 3D
CW-1M, CW-2M, CW-3M, CW-4M
CONCENTRATION VERSUS TIME PLOTS

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS



LEGEND

- CW-1D
- CW-2D
- CW-3D
- CW-4D
- System Start-up
- Treated Water

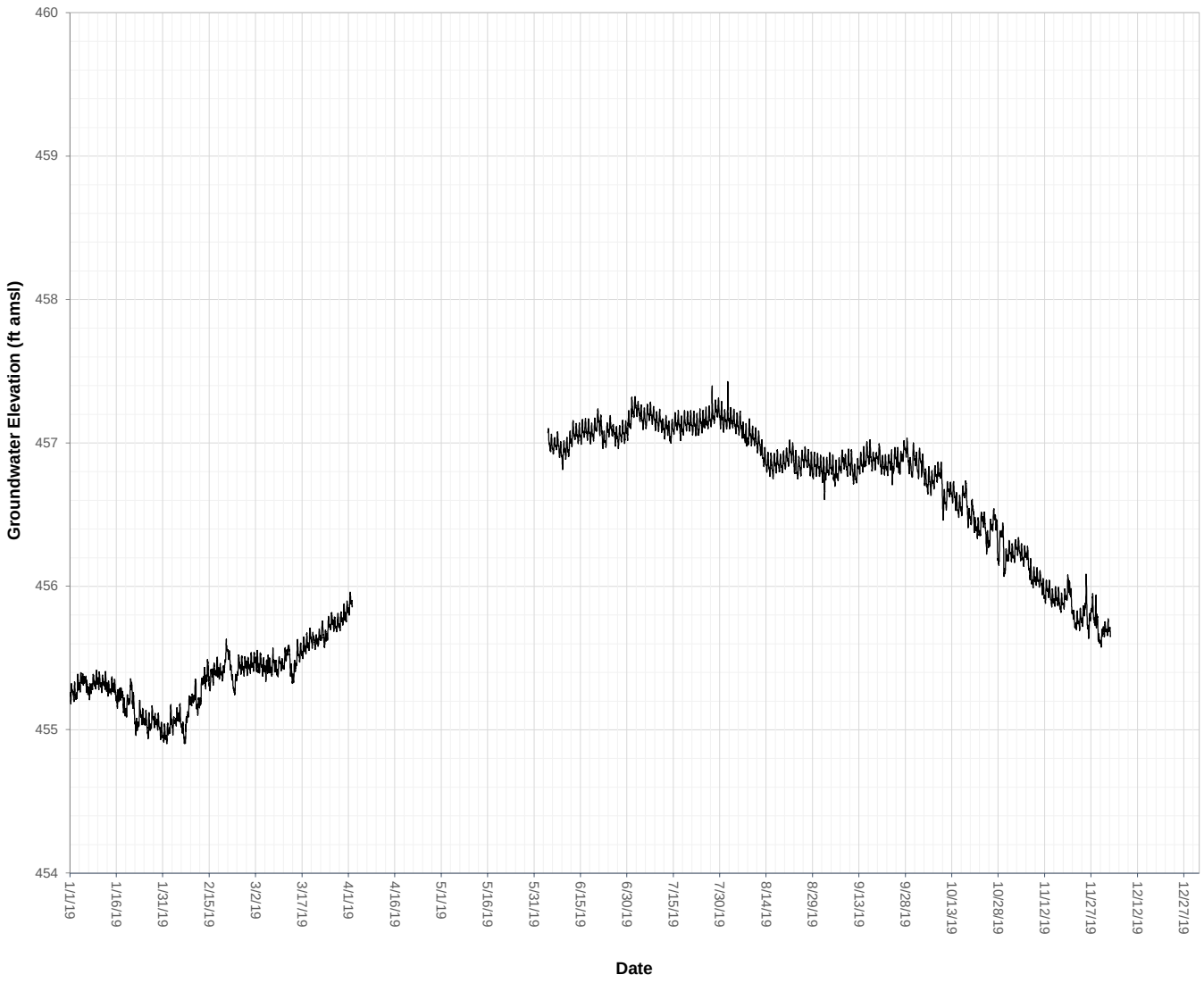
Notes:
µg/L = micrograms per liter
mg/L = miligrams per liter
TDS = total dissolved solids

Treated water only on select analytes.

FIGURE 3E
CW-1D, CW-2D, CW-3D, CW-4D
CONCENTRATION VERSUS TIME PLOTS

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS



LEGEND

OW-01S

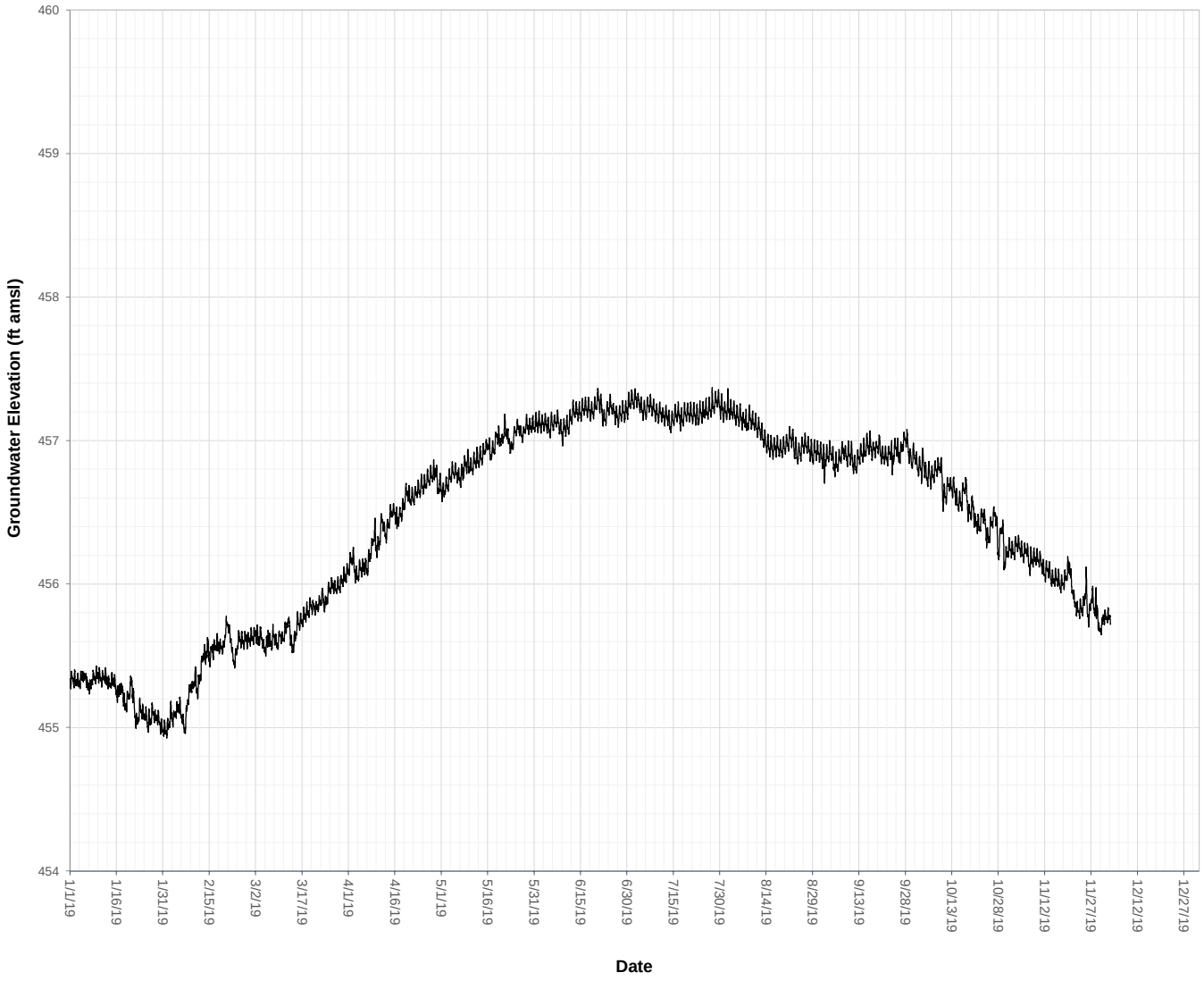
Notes:
ft amsl = feet above mean sea level

Data are unavailable between April 3 and June 3, 2019 due to transducer malfunction or failure.

FIGURE 4A
OW-1S GROUNDWATER ELEVATION HYDROGRAPH

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS



LEGEND

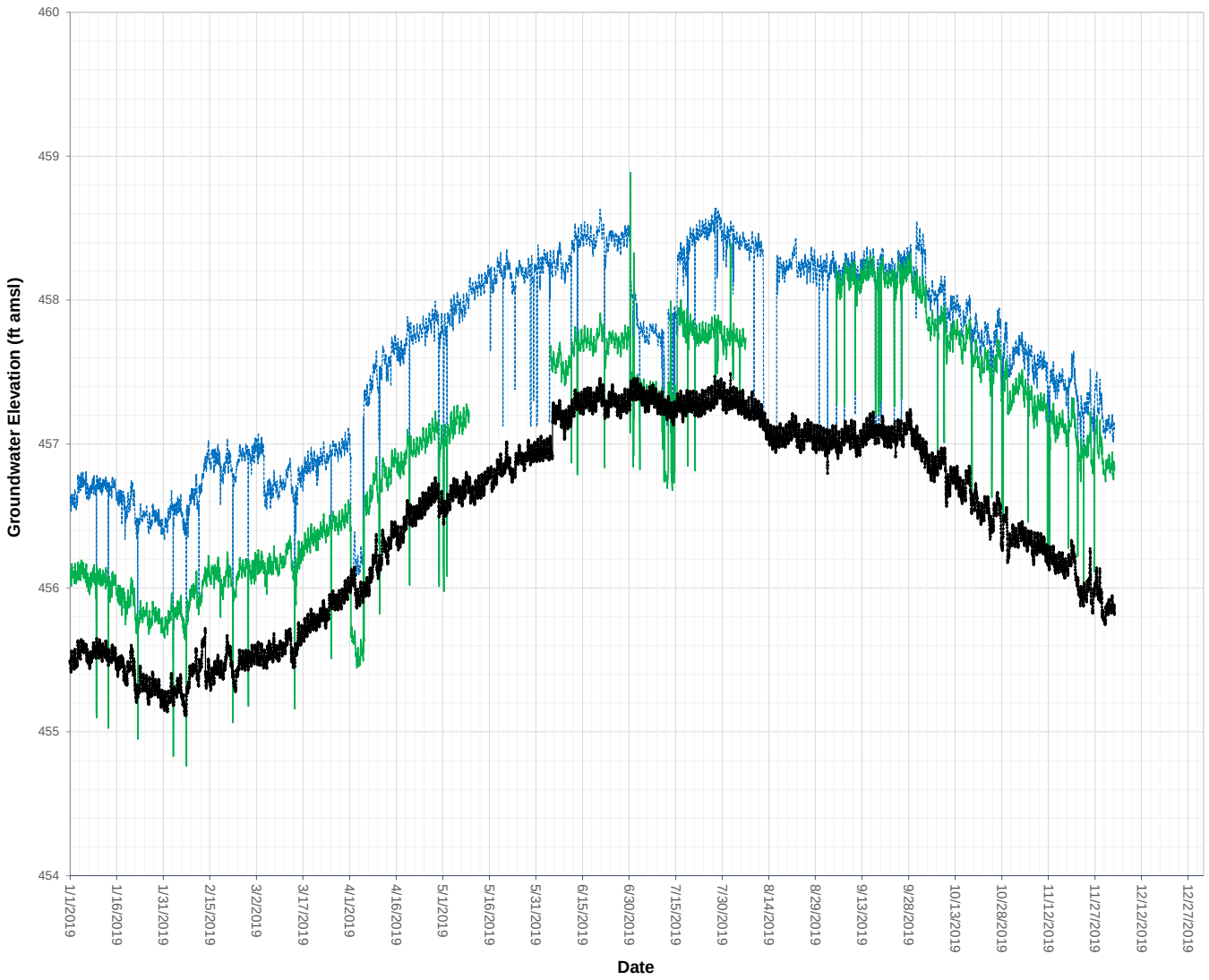
OW-02S

Notes:
ft amsl = feet above mean sea level

FIGURE 4B
OW-2S GROUNDWATER ELEVATION HYDROGRAPH

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS



LEGEND

OW-05D

OW-05M

OW-05S

Notes:
ft amsl = feet above mean sea level

Data are unavailable for OW-05M between May 10 and June 3, 2019 and between August 7 and September 3, 2019 due to transducer malfunction or failure.

FIGURE 4C
OW-5 GROUNDWATER ELEVATION HYDROGRAPHS

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSION STATION, NEEDLES, CALIFORNIA

ARCADIS

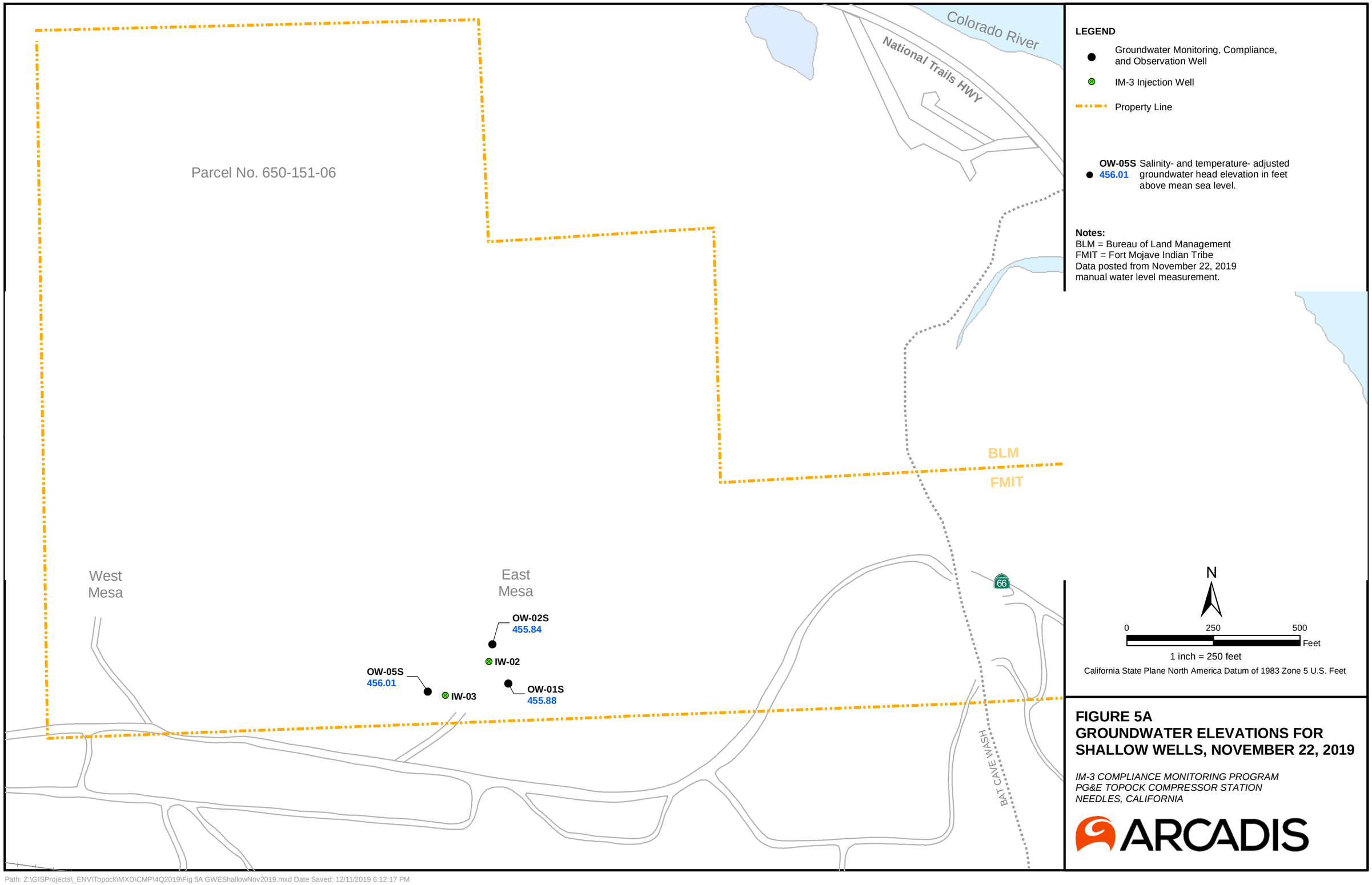
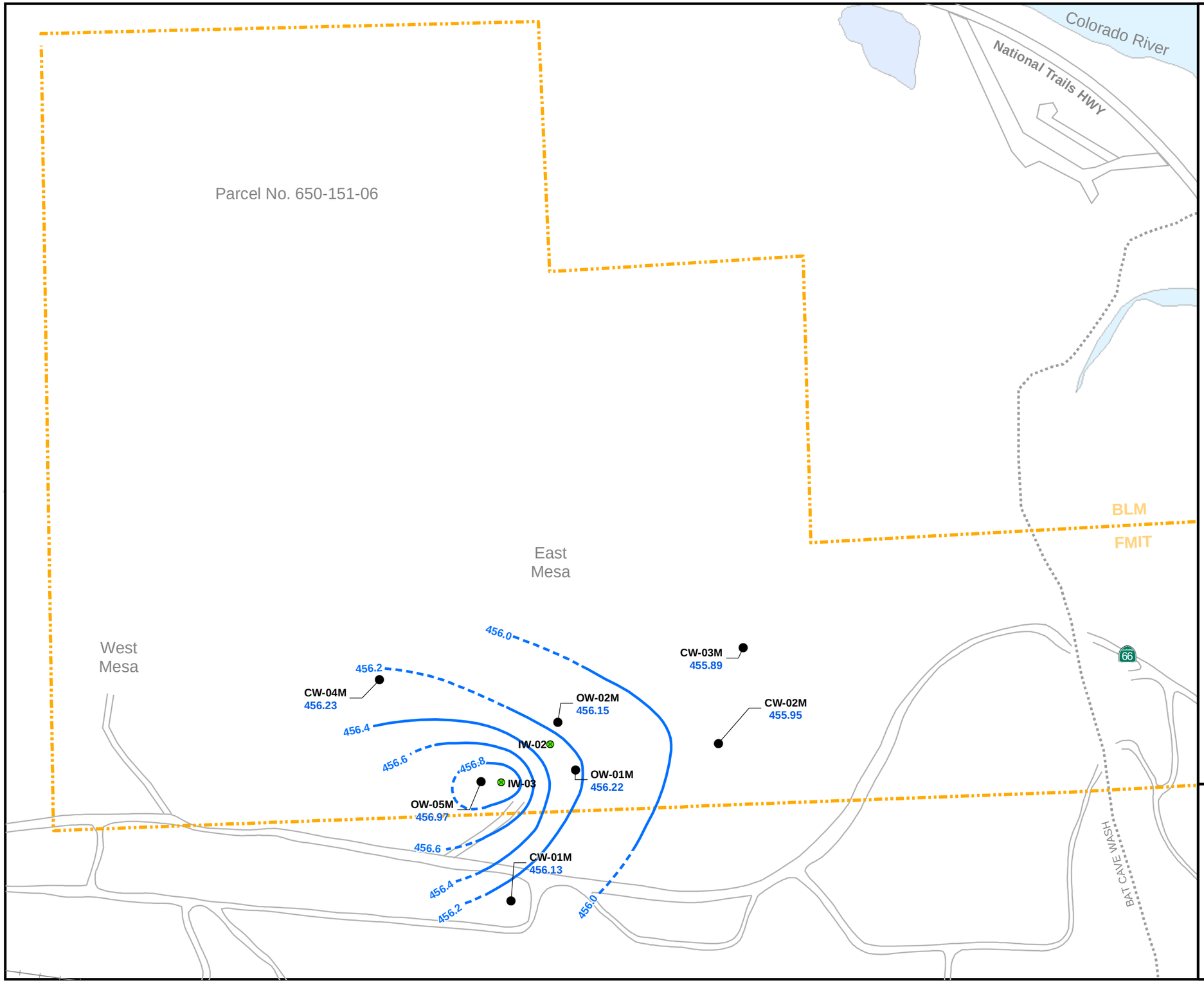


FIGURE 5A
GROUNDWATER ELEVATIONS FOR SHALLOW WELLS, NOVEMBER 22, 2019

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

ARCADIS

Path: Z:\GISProjects_ENV\Topock\MXD\CMP\4Q2019\Fig 5A GWEShallowNov2019.mxd Date Saved: 12/11/2019 6:12:17 PM



LEGEND

- Groundwater Monitoring, Compliance, and Observation Well
- IM-3 Injection Well
- Property Line
- **OW-05M** 456.97 — Salinity- and temperature- adjusted groundwater head elevation in feet above mean sea level (AMSL).
- Groudwater elevation contour in feet above AMSL (0.2 foot interval). Dashed where inferred.

Notes:
BLM = Bureau of Land Management
FMIT = Fort Mojave Indian Tribe
Data posted and contoured from November 22, 2019 manual water level measurement.

N

0 250 500 Feet

1 inch = 250 feet

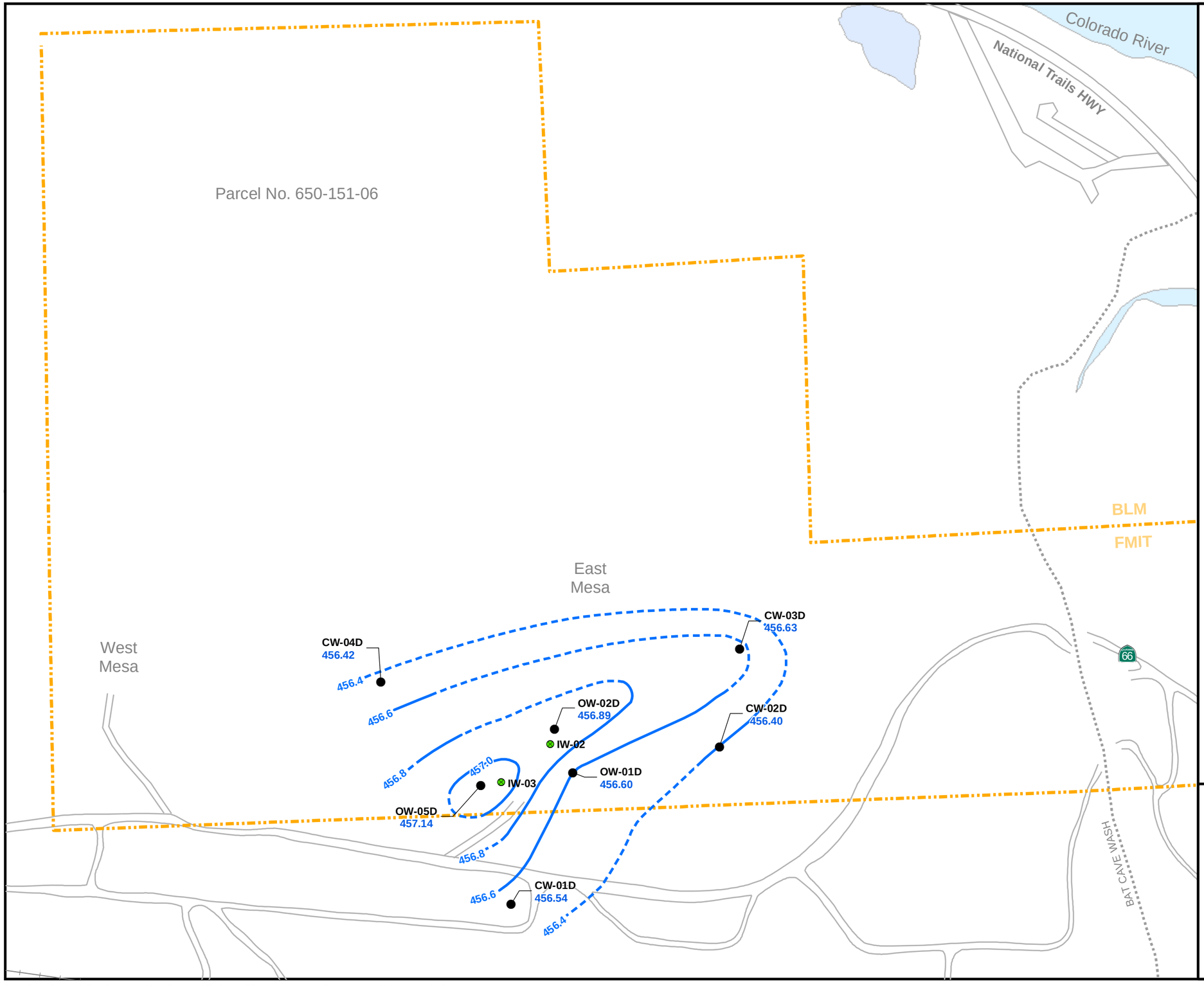
California State Plane North America Datum of 1983 Zone 5 U.S. Feet

FIGURE 5B
GROUNDWATER ELEVATION CONTOURS FOR MID-DEPTH WELLS, NOVEMBER 22, 2019

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

ARCADIS

Path: Z:\GISProjects_ENV\Topock\MXD\CMP\4Q2019\Fig 5B GWEMidDepthNov2019.mxd Date Saved: 12/12/2019 9:33:03 AM



LEGEND

- Groundwater Monitoring, Compliance, and Observation Well
- IM-3 Injection Well
- Property Line
- **OW-05D** 457.14 Salinity- and temperature- adjusted groundwater head elevation in feet above mean sea level (AMSL).
- Groudwater elevation contour in feet above AMSL (0.2 foot interval). Dashed where inferred.

Notes:
BLM = Bureau of Land Management
FMIT = Fort Mojave Indian Tribe
Data posted and contoured from November 22, 2019 manual water level measurement.

N

0 250 500 Feet

1 inch = 250 feet

California State Plane North America Datum of 1983 Zone 5 U.S. Feet

FIGURE 5C
GROUNDWATER ELEVATION CONTOURS FOR DEEP WELLS, NOVEMBER 22, 2019

IM-3 COMPLIANCE MONITORING PROGRAM
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

ARCADIS

Path: Z:\GISProjects_ENV\Topock\MXD\CMP\4Q2019\Fig 5C GWEDeepNov2019.mxd Date Saved: 12/11/2019 8:01:51 PM

APPENDIX A

Laboratory Reports, 2019 (provided on CD-ROM only)

For additional assistance with the information provided in the appendix, please contact Emily Sheu with Arcadis (emily.sheu@arcadis.com)

October 21, 2019

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

TEL: (916) 786-3302
FAX:

Workorder No.: N037722

RE: PG&E Topock - CMP, 30019131

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 01, 2019 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 Liburdi for

Puri Romualdo
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 Enthalpy Analytical- Berkeley, CA.

Analytical Comments for EPA 200.7_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Sodium in QC samples N037722-001C-MS2 and N037722-001C-MSD2 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 200.8_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N037759-001A-MS and N037759-001A-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.

Because the results for total dissolved chromium (7.8 ug/L) and hexavalent chromium (0.97 ug/L) for sample N037722-002 (CW-04M-LF-Q419) 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 7.3 and 3.6 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Dilution was necessary on some analytes for all samples due to associated internal standard not meeting method criteria possibly due to matrix interference. Samples were analyzed with dilution and internal

standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (7.8 ug/L) and hexavalent chromium (0.97 ug/L) for sample N037722-002 (CW-04M-LF-Q419) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6010B_Total:

RPD for Matrix Spike(MS) and Matrix Spike Duplicate(MSD) is outside criteria for Iron ; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - CMP, 30019131
Lab Order: N037722
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N037722-001A	CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	10/1/2019	10/21/2019
N037722-001B	CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	10/1/2019	10/21/2019
N037722-001C	CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	10/1/2019	10/21/2019
N037722-001D	CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	10/1/2019	10/21/2019
N037722-001E	CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	10/1/2019	10/21/2019
N037722-001F	CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	10/1/2019	10/21/2019
N037722-002A	CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	10/1/2019	10/21/2019
N037722-002B	CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	10/1/2019	10/21/2019
N037722-002C	CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	10/1/2019	10/21/2019
N037722-002D	CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	10/1/2019	10/21/2019
N037722-002E	CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	10/1/2019	10/21/2019
N037722-002F	CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	10/1/2019	10/21/2019

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191002C**	QC Batch: **R136731**			PrepDate			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	10/2/2019 02:10 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191002C**	QC Batch: **R136731**			PrepDate			Analyst: **LR**
Specific Conductance	7000	0.10	0.10		umhos/cm	1	10/2/2019 02:10 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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID	**N037718-003ADUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:	RunNo: **136731**
Client ID:	**ZZZZZZ**	Batch ID: **R136731**	TestNo: **EPA 120.1**		Analysis Date: **10/2/2019**	SeqNo: **3524286**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	37400.000	0.10						37500	0.267	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191002G**	QC Batch: **75537**			PrepDate	**10/2/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	10/2/2019 01:18 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191002G**	QC Batch: **75537**			PrepDate	**10/2/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	10/2/2019 01:18 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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID **LCS-75537**	SampType: **LCS**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **10/2/2019**	RunNo: **136757**
Client ID: **LCSW**	Batch ID: **75537**	TestNo: **SM2540C**		Analysis Date: **10/2/2019**	SeqNo: **3525817**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	946.000	10	1000	0	94.6	80	120				

Sample ID **MB-75537**	SampType: **MBLK**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **10/2/2019**	RunNo: **136757**
Client ID: **PBW**	Batch ID: **75537**	TestNo: **SM2540C**		Analysis Date: **10/2/2019**	SeqNo: **3525818**

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

Sample ID **N037718-003ADUP**	SampType: **DUP**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **10/2/2019**	RunNo: **136757**
Client ID: **ZZZZZZ**	Batch ID: **75537**	TestNo: **SM2540C**		Analysis Date: **10/2/2019**	SeqNo: **3525823**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	27900.000	500						28300	1.42	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75559**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/4/2019 08:34 PM
Boron	1000	74	100		µg/L	1	10/4/2019 08:34 PM
Calcium	140000	85	500		µg/L	1	10/4/2019 08:34 PM
Iron	ND	18	20		µg/L	1	10/7/2019 05:55 PM
Magnesium	8500	48	100		µg/L	1	10/4/2019 08:34 PM
Potassium	9700	430	2500		µg/L	5	10/10/2019 10:32 AM
Sodium	1100000	4800	25000		µg/L	50	10/10/2019 01:55 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75559**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/4/2019 08:40 PM
Boron	930	74	100		µg/L	1	10/4/2019 08:40 PM
Calcium	180000	85	500		µg/L	1	10/4/2019 08:40 PM
Iron	74	18	20		µg/L	1	10/7/2019 06:01 PM
Magnesium	13000	48	100		µg/L	1	10/4/2019 08:40 PM
Potassium	13000	430	2500		µg/L	5	10/18/2019 02:45 PM
Sodium	1300000	4800	25000		µg/L	50	10/18/2019 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
Work Order: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **MB-75559**	SampType: **MBLK**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **PBW**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527440**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Boron	ND	100									
Calcium	ND	500									
Magnesium	ND	100									

Sample ID **LCS1-75559**	SampType: **LCS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **LCSW**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527441**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10028.218	50	10000	0	100	85	115				
Boron	4902.611	100	5000	0	98.1	85	115				
Calcium	9869.332	500	10000	0	98.7	85	115				
Magnesium	9613.291	100	10000	0	96.1	85	115				

Sample ID **N037759-001A-MS1**	SampType: **MS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527449**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9423.331	50	10000	71.71	93.5	75	125				
Boron	5306.692	100	5000	552.3	95.1	75	125				
Calcium	51801.712	500	10000	41520	103	75	125				
Magnesium	9301.712	100	10000	639.0	86.6	75	125				

Sample ID **N037759-001A-MSD**	SampType: **MSD**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527450**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9409.863	50	10000	71.71	93.4	75	125	9423	0.143	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037759-001A-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789
Client ID:	ZZZZZZ	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/4/2019	SeqNo:	3527450

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5301.930	100	5000	552.3	95.0	75	125	5307	0.0898	20	
Calcium	51406.428	500	10000	41520	98.9	75	125	51800	0.766	20	
Magnesium	9282.561	100	10000	639.0	86.4	75	125	9302	0.206	20	

Sample ID	MB-75559	SampType:	MBLK	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	PBW	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529918

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS1-75559	SampType:	LCS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	LCSW	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529919

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	103.198	20	100.0	0	103	85	115				

Sample ID	N037759-001A-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529925

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	121.485	20	100.0	35.74	85.7	75	125				

Sample ID	N037759-001A-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529926

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.682	20	100.0	35.74	84.9	75	125	121.5	0.663	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	MB-75559	SampType:	MBLK	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	PBW	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532382

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	500									
Sodium	ND	500									

Sample ID	LCS2-75559	SampType:	LCS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	LCSW	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532383

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18684.979	500	20000	0	93.4	85	115				
Sodium	19329.927	500	20000	0	96.6	85	115				

Sample ID	N037722-001C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	ZZZZZZ	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532437

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	30199.475	2500	20000	9684	103	75	125				

Sample ID	N037722-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	ZZZZZZ	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	31168.575	2500	20000	9684	107	75	125	30200	3.16	20	

Sample ID	N037722-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	ZZZZZZ	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532440

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1353392.647	25000	20000	1055000	1490	75	125	1411000	4.17	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037722-001C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	ZZZZZZ	Batch ID:	75559	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532795

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1410975.812	25000	20000	1055000	1780	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **N037759-001A-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527448**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9397.810	50	10000	71.71	93.3	80	120				
Boron	5272.782	100	5000	552.3	94.4	80	120				
Calcium	50818.186	500	10000	41520	93.0	80	120				
Magnesium	9256.922	100	10000	639.0	86.2	80	120				

Sample ID **N037759-001A-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136819**
Client ID: **ZZZZZZ**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/7/2019**	SeqNo: **3529924**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.058	20	100.0	35.74	84.3	80	120				

Sample ID **N037722-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136882**
Client ID: **ZZZZZZ**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/10/2019**	SeqNo: **3532435**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	9269.843	2500	20000	9684	-2.07	80	120				S

Sample ID **N037722-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136882**
Client ID: **ZZZZZZ**	Batch ID: **75559**	TestNo: **EPA 200.7**		Analysis Date: **10/10/2019**	SeqNo: **3532436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1098970.218	25000	20000	1055000	218	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: N037722
Project: PG&E Topock - CMP, 30019131
Lab ID: N037722-001

Client Sample ID: CW-04D-LF-Q419
Collection Date: 10/1/2019 3:08:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191007B** QC Batch: **75558** PrepDate **10/4/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/7/2019 01:49 PM
Arsenic	2.8	0.081	0.10		µg/L	1	10/7/2019 01:49 PM
Barium	21	0.15	1.0		µg/L	1	10/7/2019 01:49 PM
Beryllium	ND	0.21	2.5		µg/L	5	10/7/2019 01:55 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/7/2019 01:49 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/7/2019 01:49 PM
Copper	ND	0.55	1.0		µg/L	1	10/7/2019 08:08 PM
Lead	ND	0.64	5.0		µg/L	5	10/7/2019 01:55 PM
Manganese	ND	0.26	0.50		µg/L	1	10/7/2019 08:08 PM
Molybdenum	18	0.21	0.50		µg/L	1	10/7/2019 01:49 PM
Nickel	ND	0.26	1.0		µg/L	1	10/7/2019 01:49 PM
Selenium	4.1	0.36	0.50		µg/L	1	10/7/2019 08:08 PM
Silver	ND	0.23	0.50		µg/L	1	10/7/2019 01:49 PM
Thallium	ND	0.96	2.5		µg/L	5	10/7/2019 01:55 PM
Vanadium	2.6	0.28	1.0		µg/L	1	10/7/2019 01:49 PM
Zinc	ND	2.3	10		µg/L	1	10/7/2019 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_191007B**	QC Batch: **75558**				PrepDate	**10/4/2019**	Analyst: **CEI**
Antimony	ND	0.16	0.50		µg/L	1	10/7/2019 02:00 PM
Arsenic	2.2	0.081	0.10		µg/L	1	10/7/2019 02:00 PM
Barium	100	0.15	1.0		µg/L	1	10/7/2019 02:00 PM
Beryllium	ND	0.21	2.5		µg/L	5	10/7/2019 02:05 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/7/2019 02:00 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/7/2019 02:00 PM
Copper	ND	0.55	1.0		µg/L	1	10/7/2019 07:52 PM
Lead	ND	0.64	5.0		µg/L	5	10/7/2019 02:05 PM
Manganese	ND	0.26	0.50		µg/L	1	10/7/2019 07:52 PM
Molybdenum	14	0.21	0.50		µg/L	1	10/7/2019 02:00 PM
Nickel	7.8	0.26	1.0		µg/L	1	10/7/2019 02:00 PM
Selenium	3.6	0.36	0.50		µg/L	1	10/8/2019 11:40 AM
Silver	ND	0.23	0.50		µg/L	1	10/7/2019 02:00 PM
Thallium	ND	0.96	2.5		µg/L	5	10/7/2019 02:05 PM
Vanadium	3.3	0.28	1.0		µg/L	1	10/7/2019 02:00 PM
Zinc	ND	2.3	10		µg/L	1	10/7/2019 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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **MB-75558** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/4/2019** RunNo: **136811**
Client ID: **PBW** Batch ID: **75558** TestNo: **EPA 200.8** Analysis Date: **10/7/2019** SeqNo: **3528756**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Arsenic	ND	0.10									
Barium	ND	1.0									
Beryllium	ND	0.50									
Cadmium	ND	0.50									
Cobalt	ND	0.50									
Lead	ND	1.0									
Molybdenum	ND	0.50									
Nickel	ND	1.0									
Silver	ND	0.50									
Thallium	ND	0.50									
Vanadium	0.464	1.0									
Zinc	ND	10									

Sample ID **LCS-75558** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/4/2019** RunNo: **136811**
Client ID: **LCSW** Batch ID: **75558** TestNo: **EPA 200.8** Analysis Date: **10/7/2019** SeqNo: **3528757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.699	0.50	10.00	0	107	85	115				
Arsenic	10.646	0.10	10.00	0	106	85	115				
Barium	10.631	1.0	10.00	0	106	85	115				
Beryllium	10.121	0.50	10.00	0	101	85	115				
Cadmium	10.410	0.50	10.00	0	104	85	115				
Cobalt	10.144	0.50	10.00	0	101	85	115				
Lead	10.326	1.0	10.00	0	103	85	115				
Molybdenum	10.465	0.50	10.00	0	105	85	115				
Nickel	10.260	1.0	10.00	0	103	85	115				
Silver	10.034	0.50	10.00	0	100	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	LCS-75558	SampType:	LCS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136811
Client ID:	LCSW	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3528757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	10.084	0.50	10.00	0	101	85	115				
Vanadium	11.083	1.0	10.00	0	111	85	115				
Zinc	10.392	10	10.00	0	104	85	115				

Sample ID	N037759-001A-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136811
Client ID:	ZZZZZZ	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3528761

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.961	0.50	10.00	0.4777	105	75	125				
Arsenic	11.349	0.10	10.00	1.148	102	75	125				
Barium	89.479	1.0	10.00	82.16	73.2	75	125				S
Beryllium	12.067	0.50	10.00	0	121	75	125				
Cadmium	10.288	0.50	10.00	0	103	75	125				
Cobalt	9.546	0.50	10.00	0.5057	90.4	75	125				
Lead	10.001	1.0	10.00	0	100	75	125				
Molybdenum	50.815	0.50	10.00	41.86	89.5	75	125				
Nickel	8.919	1.0	10.00	0	89.2	75	125				
Silver	10.089	0.50	10.00	0	101	75	125				
Thallium	10.044	0.50	10.00	0	100	75	125				
Vanadium	19.710	1.0	10.00	10.32	93.9	75	125				
Zinc	7.887	10	10.00	0	78.9	75	125				

Sample ID	N037759-001A-MSD	SampType:	MSD	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136811
Client ID:	ZZZZZZ	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3528762

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.096	0.50	10.00	0.4777	106	75	125	10.96	1.22	20	
Arsenic	11.573	0.10	10.00	1.148	104	75	125	11.35	1.96	20	
Barium	89.364	1.0	10.00	82.16	72.0	75	125	89.48	0.129	20	S
Beryllium	12.304	0.50	10.00	0	123	75	125	12.07	1.95	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037759-001A-MSD** SampType: **MSD** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/4/2019** RunNo: **136811**
Client ID: **ZZZZZZ** Batch ID: **75558** TestNo: **EPA 200.8** Analysis Date: **10/7/2019** SeqNo: **3528762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	10.184	0.50	10.00	0	102	75	125	10.29	1.01	20	
Cobalt	9.476	0.50	10.00	0.5057	89.7	75	125	9.546	0.728	20	
Lead	9.922	1.0	10.00	0	99.2	75	125	10.00	0.796	20	
Molybdenum	50.787	0.50	10.00	41.86	89.3	75	125	50.81	0.0545	20	
Nickel	9.055	1.0	10.00	0	90.5	75	125	8.919	1.52	20	
Silver	9.980	0.50	10.00	0	99.8	75	125	10.09	1.09	20	
Thallium	10.061	0.50	10.00	0	101	75	125	10.04	0.172	20	
Vanadium	19.458	1.0	10.00	10.32	91.4	75	125	19.71	1.28	20	
Zinc	8.141	10	10.00	0	81.4	75	125	7.887	0	20	

Sample ID **MB-75558** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/4/2019** RunNo: **136822**
Client ID: **PBW** Batch ID: **75558** TestNo: **EPA 200.8** Analysis Date: **10/7/2019** SeqNo: **3529753**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	1.0									
Manganese	ND	0.50									
Selenium	ND	0.50									

Sample ID **LCS-75558** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/4/2019** RunNo: **136822**
Client ID: **LCSW** Batch ID: **75558** TestNo: **EPA 200.8** Analysis Date: **10/7/2019** SeqNo: **3529754**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	9.969	1.0	10.00	0	99.7	85	115				
Manganese	107.204	0.50	100.0	0	107	85	115				
Selenium	11.030	0.50	10.00	0	110	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	N037759-001A-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136822
Client ID:	ZZZZZZ	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3529758

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.167	1.0	10.00	0	71.7	75	125				S
Manganese	81.035	0.50	100.0	0	81.0	75	125				
Selenium	11.409	0.50	10.00	1.167	102	75	125				

Sample ID	N037759-001A-MSD	SampType:	MSD	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136822
Client ID:	ZZZZZZ	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3529759

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	7.049	1.0	10.00	0	70.5	75	125	7.167	1.66	20	S
Manganese	81.832	0.50	100.0	0	81.8	75	125	81.04	0.978	20	
Selenium	10.178	0.50	10.00	1.167	90.1	75	125	11.41	11.4	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037759-001A-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **136811**
Client ID: **ZZZZZZ** Batch ID: **75558** TestNo: **EPA 200.8** Analysis Date: **10/7/2019** SeqNo: **3528765**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.035	0.50	10.00	0.4777	106	80	120				
Arsenic	11.437	0.10	10.00	1.148	103	80	120				
Barium	89.394	1.0	10.00	82.16	72.3	80	120				S
Beryllium	11.517	0.50	10.00	0	115	80	120				
Cadmium	10.274	0.50	10.00	0	103	80	120				
Cobalt	9.623	0.50	10.00	0.5057	91.2	80	120				
Lead	10.001	1.0	10.00	0	100	80	120				
Molybdenum	51.151	0.50	10.00	41.86	92.9	80	120				
Nickel	9.307	1.0	10.00	0	93.1	80	120				
Silver	9.954	0.50	10.00	0	99.5	80	120				
Thallium	10.078	0.50	10.00	0	101	80	120				
Vanadium	19.591	1.0	10.00	10.32	92.7	80	120				
Zinc	8.128	10	10.00	0	81.3	80	120				

Sample ID **N037759-001A-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **136822**
Client ID: **ZZZZZZ** Batch ID: **75558** TestNo: **EPA 200.8** Analysis Date: **10/7/2019** SeqNo: **3529757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	6.839	1.0	10.00	0	68.4	80	120				S
Manganese	86.452	0.50	100.0	0	86.5	80	120				
Selenium	10.356	0.50	10.00	1.167	91.9	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	**Client Sample ID:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191003A**	QC Batch: **R136776**			PrepDate			Analyst: **HG**
Hexavalent Chromium	0.43	0.033	0.20		µg/L	1	10/3/2019 01:36 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191007A**	QC Batch: **75558**			PrepDate	**10/4/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/7/2019 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191003A**	QC Batch: **R136776**			PrepDate			Analyst: **HG**
Hexavalent Chromium	0.97	0.033	0.20		µg/L	1	10/3/2019 01:55 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191007A**	QC Batch: **75558**			PrepDate	**10/4/2019**		Analyst: **CEI**
Chromium	7.8	0.13	1.0		µg/L	1	10/7/2019 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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID	MB-75558	SampType:	MBLK	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136810
Client ID:	PBW	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3528676

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-75558	SampType:	LCS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136810
Client ID:	LCSW	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3528677

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.500	1.0	10.00	0	105	85	115				

Sample ID	N037759-001A-MS	SampType:	MS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136810
Client ID:	ZZZZZZ	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3528681

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	17.381	1.0	10.00	8.261	91.2	75	125				

Sample ID	N037759-001A-MSD	SampType:	MSD	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136810
Client ID:	ZZZZZZ	Batch ID:	75558	TestNo:	EPA 200.8			Analysis Date:	10/7/2019	SeqNo:	3528682

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	17.127	1.0	10.00	8.261	88.7	75	125	17.38	1.47	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R136776	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	PBW	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526503

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-R136776	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	LCSW	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526504

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.934	0.20	5.000	0	98.7	90	110				

Sample ID	N037721-001BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526505

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5577.300	100	2500	3100	99.1	90	110				

Sample ID	N037722-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526507

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.517	0.20	1.000	0.4304	109	90	110				

Sample ID	N037722-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526509

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.966	0.20	1.000	0.9687	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037721-001BMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526511

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5598.200	100	2500	3100	99.9	90	110	5577	0.374	20	

Sample ID	N037722-002ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526512

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.957	0.20						0.9687	1.20	20	

Sample ID	N037723-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526516

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.274	0.20	5.000	6.163	102	90	110				

Sample ID	N037723-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526518

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	107	90	110				

Sample ID	N037723-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526520

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1000.860	20	500.0	492.1	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037723-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526522

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	N037723-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526526

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	11.010	1.0	5.000	5.996	100	90	110				

Sample ID	N037718-002CMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526528

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.077	0.20	1.000	0	108	90	110				

Sample ID	N037718-003BMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136776
Client ID:	ZZZZZZ	Batch ID:	R136776	TestNo:	EPA 218.6			Analysis Date:	10/3/2019	SeqNo:	3526532

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.605	1.0	5.000	0	92.1	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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191002D**	QC Batch: **R136733**			PrepDate			Analyst: **LR**
Turbidity	0.53	0.10	0.10		NTU	1	10/2/2019 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191002D**	QC Batch: **R136733**			PrepDate			Analyst: **LR**
Turbidity	52	0.10	0.10		NTU	1	10/2/2019 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
Work Order: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID	**MB-R136733**	SampType:	**MBLK**	TestCode:	**2130_W**	Units:	**NTU**	Prep Date:		RunNo:	**136733**
Client ID:	**PBW**	Batch ID:	**R136733**	TestNo:	**SM 2130B**			Analysis Date:	**10/2/2019**	SeqNo:	**3524305**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10									

Sample ID	**N037722-002DDUP**	SampType:	**DUP**	TestCode:	**2130_W**	Units:	**NTU**	Prep Date:		RunNo:	**136733**
Client ID:	**ZZZZZZ**	Batch ID:	**R136733**	TestNo:	**SM 2130B**			Analysis Date:	**10/2/2019**	SeqNo:	**3524310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	52.400	0.10						52.20	0.382	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	66	1.2	5.0		mg/L	1	10/3/2019 09:30 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	63	1.2	5.0		mg/L	1	10/3/2019 09:30 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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R136754**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **LCSW**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	103.037	5.0	100.0	0	103	85	115				

Sample ID **MB-R136754**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **PBW**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N037736-007DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **ZZZZZZ**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	54.230	5.0						55.31	1.98	30	

Sample ID **N037736-007DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **ZZZZZZ**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	156.182	5.0	100.0	55.31	101	75	125				

Sample ID **N037736-007DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **ZZZZZZ**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	155.098	5.0	100.0	55.31	99.8	75	125	156.2	0.697	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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191003C** QC Batch: **75542** PrepDate **10/2/2019** Analyst: **DJ**							
Mercury	ND	0.13	0.20		µg/L	1	10/3/2019 12:47 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191003C** QC Batch: **75542**				PrepDate		**10/2/2019**	Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/3/2019 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
Work Order: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_WD

Sample ID	MB-75542	SampType:	MBLK	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/2/2019	RunNo:	136760
Client ID:	PBW	Batch ID:	75542	TestNo:	EPA 245.1			Analysis Date:	10/3/2019	SeqNo:	3525936

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID	LCS-75542	SampType:	LCS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/2/2019	RunNo:	136760
Client ID:	LCSW	Batch ID:	75542	TestNo:	EPA 245.1			Analysis Date:	10/3/2019	SeqNo:	3525938

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.900	0.20	5.000	0	98.0	85	115				

Sample ID	N037718-003C-MS	SampType:	MS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/2/2019	RunNo:	136760
Client ID:	ZZZZZZ	Batch ID:	75542	TestNo:	EPA 245.1			Analysis Date:	10/3/2019	SeqNo:	3525939

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.740	0.20	5.000	0	94.8	75	125				

Sample ID	N037718-003C-MSD	SampType:	MSD	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/2/2019	RunNo:	136760
Client ID:	ZZZZZZ	Batch ID:	75542	TestNo:	EPA 245.1			Analysis Date:	10/3/2019	SeqNo:	3525940

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.830	0.20	5.000	0	96.6	75	125	4.740	1.88	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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2200	17	250		mg/L	500	10/8/2019 12:11 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	3.3	0.048	0.50		mg/L	5	10/7/2019 12:10 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	480	2.0	25		mg/L	50	10/8/2019 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 01:14 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	2.6	0.048	0.50		mg/L	5	10/7/2019 12:26 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	470	2.0	25		mg/L	50	10/8/2019 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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	MB-R136839_CL	SampType:	MBLK	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	PBW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530574

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.145	0.50									

Sample ID	LCS-R136839_CL	SampType:	LCS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	LCSW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.023	0.50	2.000	0	101	90	110				

Sample ID	N037722-001DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3163.900	250	1000	2158	101	80	120				

Sample ID	N037736-004DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3117.300	250	1000	2088	103	80	120				

Sample ID	N037736-004DMSD	SampType:	MSD	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3097.000	250	1000	2088	101	80	120	3117	0.653	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **N037736-005DDUP**	SampType: **DUP**	TestCode: **300_W_CLP**	Units: **mg/L**	Prep Date:			RunNo: **136839**		
Client ID: **ZZZZZZ**	Batch ID: **R136839**	TestNo: **EPA 300.0**		Analysis Date: **10/8/2019**			SeqNo: **3530587**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2126.750	250						2085	1.98	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID	MB-R136816_F	SampType:	MBLK	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	PBW	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529060

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID	LCS-R136816_F	SampType:	LCS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	LCSW	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529061

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.291	0.10	1.250	0	103	90	110				

Sample ID	N037736-001DMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	ZZZZZZ	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529076

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.268	0.50	6.250	2.967	101	80	120				

Sample ID	N037736-001DMSD	SampType:	MSD	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	ZZZZZZ	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529077

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.263	0.50	6.250	2.967	101	80	120	9.268	0.0594	20	

Sample ID	N037722-001DMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	ZZZZZZ	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529078

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.749	0.50	6.250	3.267	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID **N037718-001BDUP**	SampType: **DUP**	TestCode: **300_W_FPG**	Units: **mg/L**	Prep Date:			RunNo: **136816**				
Client ID: **ZZZZZZ**	Batch ID: **R136816**	TestNo: **EPA 300.0**		Analysis Date: **10/7/2019**			SeqNo: **3529079**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.015	0.50						3.125	3.57	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R136839_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	PBW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R136839_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	LCSW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530605

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.056	0.50	4.000	0	101	90	110				

Sample ID	N037722-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530616

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	684.995	25	200.0	479.3	103	80	120				

Sample ID	N037736-004DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530618

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	661.330	25	200.0	463.0	99.2	80	120				

Sample ID	N037736-004DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530619

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	660.465	25	200.0	463.0	98.7	80	120	661.3	0.131	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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **N037736-005DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:			RunNo: **136839**				
Client ID: **ZZZZZZ**	Batch ID: **R136839**	TestNo: **EPA 300.0**		Analysis Date: **10/8/2019**			SeqNo: **3530623**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	461.945	25						466.2	0.913	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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.7	0.16	0.25		mg/L	5	10/12/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	3.4	0.16	0.25		mg/L	5	10/12/2019

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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R136983**	SampType: **MBLK**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136983**
Client ID: **PBW**	Batch ID: **R136983**	TestNo: **SM4500-NO3**		Analysis Date: **10/12/2019**	SeqNo: **3536757**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R136983**	SampType: **LCS**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136983**
Client ID: **LCSW**	Batch ID: **R136983**	TestNo: **SM4500-NO3**		Analysis Date: **10/12/2019**	SeqNo: **3536758**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.496	0.050	0.5000	0	99.2	85	115				

Sample ID **N037723-001CDUP**	SampType: **DUP**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136983**
Client ID: **ZZZZZZ**	Batch ID: **R136983**	TestNo: **SM4500-NO3**		Analysis Date: **10/12/2019**	SeqNo: **3536807**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050						0.03870	0	20	

Sample ID **N037679-006BMS**	SampType: **MS**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136983**
Client ID: **ZZZZZZ**	Batch ID: **R136983**	TestNo: **SM4500-NO3**		Analysis Date: **10/12/2019**	SeqNo: **3536809**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	25.814	1.0	10.00	15.25	106	75	125				

Sample ID **N037679-006BMSD**	SampType: **MSD**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136983**
Client ID: **ZZZZZZ**	Batch ID: **R136983**	TestNo: **SM4500-NO3**		Analysis Date: **10/12/2019**	SeqNo: **3536810**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	26.802	1.0	10.00	15.25	116	75	125	25.81	3.76	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:**	CW-04D-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 3:08:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	31	18	20		ug/L	1	10/7/2019 09:09 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:**	CW-04M-LF-Q419
Lab Order:	N037722	**Collection Date:**	10/1/2019 1:57:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037722-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	4500	18	20		ug/L	1	10/7/2019 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: N037722
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-75575	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	PBW	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529712

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-75575	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	LCSW	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529713

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.470	20	100.0	0	104	85	115				

Sample ID	N037722-001F-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529717

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	150.457	20	100.0	31.26	119	75	125				

Sample ID	N037722-001F-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529718

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.314	20	100.0	31.26	89.1	75	125	150.5	22.3	20	R

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:	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: Joe Gatel		Phone: 949-727-1400, ext 200	Fax:	Others ✓	LEVEL III	3. Container Intact ✓
Title: Scientist 1	Phone: 916-786-3302 Fax:			Specify: RWQCB	LEVEL IV	4. Seal Present
				Global ID:	Regulatory	5. IR number
Signature: Date: 10/1/2019	Sampled By:				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 legal action.	Matrix: Groundwater x, Sediment; Potable, Soil; NPDES, Other Solid; Surface				Sample Temp: 2.3°C, 2.0°C
Project Name: PG&E Topock - CMP	Signature: Date: 10/1/2019					Courier: ASSET
Project Number: 30019131						Tracking No.: 1

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2SO4/NH4OH 250 mL poly	Ammonia as Nitrogen (SM4500-NH3D); H2SO4 2X250 mL poly	Dissolved metals (EPA 200.8) FF; HNO3, 500 mL poly Ag, As, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn	Dissolved metals (SW6010B) FF; HNO3 Barium 500 mL poly	Dissolved metals (EPA200.7) FF; HNO3 Al, B, Ca, Fe, K, Mg, Na 500 mL poly	Dissolved metals (EPA 245.1); HNO3 Mercury 500 mL poly	Anions (E300.0); Chloride, Fluoride, Sulfate 1 liter poly	Specific Conductance (E120.1) 1 liter poly	pH (SM4500HB) 1 liter poly	TDS (SM2540C) 1 liter poly	Alkalinity (Total, reported as CaCO3) (SM2320B) 1 liter poly	Turbidity (SM2130B) 1 liter poly	Nitrate/Nitrite as Nitrogen (SM4500N03); H2SO4 125 mL poly	Total metals (SW6010B); HNO3 Fe 500 mL poly	Dissolved metals (EPA200.7) FF; HNO3 Na 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N037722-01	CW-04D-LF-Q419	10/1/2019	15:08		X	X	X	X	X	X	X	X		X	X	X	X	X			E	6	P	BNS	
2	-02	CW-04M-LF-Q419	10/1/2019	13:57		X	X	X	X	X	X	X	X		X	X	X	X	X			E	6	P	BNS	
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										

Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
Kevin T.	10.1.19 1644	JULIA BUNDALIAN	10/01/19 1644
Relinquished by (Signature and Printed Name):	Date/Time:	Relinquished by (Signature and Printed Name):	Date/Time:
JULIA BUNDALIAN	10/1/19 1939	JULIA BUNDALIAN	10/1/19 1939
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:
Tittle 22 Metals - 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

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=Poly
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:	10/1/2009	Workorder:	N037722
Rep sample Temp (Deg C):	2.3/2.0	IR Gun ID:	1
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 10/2/2019

Reviewed By: LG 100919

Mary Ann Balilu

From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Friday, October 04, 2019 11:59 AM
To: Yoandra Rodriguez
Cc: maryann.balilu@assetlaboratoriesph.com; andrea.gallardo@assetlaboratories.com
Subject: RE: CMP. Asset Labs No. N037736 and N037758

Hi Yoandra,

Dissolved metals, except Ba, are requested by 200.7/200.8 while total Fe by 6010. Can we analyze both dissolved and total metals by 200 series? Dissolved metals should be run by 200.7/200.8. However the Total Iron historical method is 6010. To be consistent we should run the total iron by 6010. Will that cause any problems?

Dissolved Ba is requested by 6010, is it possible to run it by 200.8? Yes, 200.8 is the historical method. 6010 was accidentally put on the COC.

Thanks,
Laura

-----Original Message-----
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Friday, October 4, 2019 12:53 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; andrea.gallardo@assetlaboratories.com
Subject: CMP. Asset Labs No. N037736 and N037758

Hi Laura,

Please kindly double check metal request on the attached COCs belong to CMP project.

Dissolved metals, except Ba, are requested by 200.7/200.8 while total Fe by 6010. Can we analyze both dissolved and total metals by 200 series?

Dissolved Ba is requested by 6010, is it possible to run it by 200.8?

Please advise.

Thanks,

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ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037722

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/1/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037722-001A	CW-04D-LF-Q419	10/1/2019 3:08:00 PM	10/15/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037722-001B			10/15/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037722-001C			10/15/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/15/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/15/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/15/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/15/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/15/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/15/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037722-001D			10/15/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/15/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/15/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/15/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/15/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/15/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/15/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/15/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/15/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037722-001E			10/15/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037722-001F			10/15/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/15/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037722

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/1/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037722-002A	CW-04M-LF-Q419	10/1/2019 1:57:00 PM	10/15/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037722-002B			10/15/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037722-002C			10/15/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/15/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/15/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/15/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/15/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/15/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/15/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037722-002D			10/15/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/15/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/15/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/15/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/15/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/15/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/15/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/15/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/15/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037722-002E			10/15/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037722-002F			10/15/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/15/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037722

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/1/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037722-003A	FOLDER	10/15/2019	10/15/2019		EDD	RWQCB	☐	☐	☐	LAB
			10/15/2019		Folder	Folder	☐	☐	☐	LAB
			10/15/2019		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
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: SIGNED

03-Oct-19

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N037722-001B / CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	8OZP	1		
N037722-002B / CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	8OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM. Please cc andrea.gallardo@assetlaboratories.com

Please use PO#:N37722A 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: Normal TAT.

Please analyze for Ammonia by SM4500NH3D. EDD Requirement Labspec7 edata.

GSO #: 546410382

		Date/Time			Date/Time
Relinquished by:	YRJ	10/3/2019 17:00	**Received by:**		
Relinquished by:			**Received by:**		

Enthalpy Analytical
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900

enthalpy.com

Lab Job Number: 314597
Report Level: II
Report Date: 10/18/2019

Analytical Report *prepared for:*

Andrea Gallardo
ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118

Authorized for release by:

Patrick McCarthy, Project Manager
(510) 204-2236 ext 13115
patrick.mccarthy@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

Sample Summary

Andrea Gallardo
ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118

Lab Job Number: 314597
Date Received: 10/04/19

Sample ID	Lab ID	Collected	Matrix
N037722-001B / CW-04D-LF-Q419	314597-001	10/01/19 15:08	Water
N037722-002B / CW-04M-LF-Q419	314597-002	10/01/19 13:57	Water

Case Narrative

ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118
Andrea Gallardo

Lab Job Number: 314597
Date Received: 10/04/19

This data package contains sample and QC results for two water samples, requested for the above referenced project on 10/04/19. The samples were received cold and intact.

Ammonia Nitrogen (SM4500NH3-D):
No analytical problems were encountered.

Detection Summary for 314597

Client: ASSET LABS

Sample ID: N037722-001B / CW-04D-LF-Q419 Lab ID: 314597-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.070	J	0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

Sample ID: N037722-002B / CW-04M-LF-Q419 Lab ID: 314597-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.050	J	0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

J: Estimated value

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

314597

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
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: SIGNED

03-Oct-19

	Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
					SM4500-NH3D		
1	N037722-001B / CW-04D-LF-Q419	Groundwater	10/1/2019 3:08:00 PM	8OZP	1		
2	N037722-002B / CW-04M-LF-Q419	Groundwater	10/1/2019 1:57:00 PM	8OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM. Please cc andrea.gallardo@assetlaboratories.com

Please use PO#:N37722A 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: Normal TAT.

Please analyze for Ammonia by SM4500NH3D. EDD Requirement Labspec7 edata.

GSO #: 546410382

		Date/Time			Date/Time
Relinquished by:	YRJ	10/3/2019 17:00	**Received by:**		10/4/19 10:15
Relinquished by:			**Received by:**		

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 314597 Client: Assest Laboratories

Date Received: 10/4/19 Project: _____

Section 2: Shipping info (if applicable) 544437996 GSO

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Samples received in a cooler? ☑ Yes, how many? 1 ☐ No (**skip Section 3 below**)

If no cooler Sample Temp (°C): _____ using IR Gun # ☑ B, or ☐ C

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 10/4/19 By (print) _____ (sign) _____

Section 3: ***Important*: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used : ☑ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☐ Yes, ☑ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☑ B ☐ C

Cooler Temp (°C): #1: 1.4, #2: _____, #3: _____, #4: _____, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	—		
Were Method 5035 sampling containers present?		—	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	—		
Are there any missing / extra samples?		—	
Are samples in the appropriate containers for indicated tests?	—		
Are sample labels present, in good condition and complete?	—		
Does the container count match the COC?	—		
Do the sample labels agree with custody papers?	—		
Was sufficient amount of sample sent for tests requested?	—		
Did you change the hold time in LIMS for unpreserved VOAs?			—
Did you change the hold time in LIMS for preserved terracores?			—
Are bubbles > 6mm present in VOA samples?			—
Was the client contacted concerning this sample delivery?		—	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)	—		
Did you check preservatives for all bottles for each sample?	—		
Did you document your preservative check?	—		

pH strip lot# 30BD+12891, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: _____

Date Logged in 10/4/19 **By (print)** RV **(sign)** _____

Date Labeled 10/4/19 **By (print)** AL **(sign)** _____

Enthalpy Sample Preservation for 314597

Sample	pH: <2	>9	>12	Other
-001a	[✓]	[ ]	[ ]	_____
-002a	[✓]	[ ]	[ ]	_____

Analyst: [signature]
Date: 10/4/19

ENTHALPY ANALYTICAL

Ammonia Nitrogen

Lab #: 314597 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Field ID: N037722-001B / CW-04D-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 15:05
Lab ID: 314597-001 **Sampled:** 10/01/19 15:08 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.070 J**	0.10	0.020	mg/L

Field ID: N037722-002B / CW-04M-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 15:05
Lab ID: 314597-002 **Sampled:** 10/01/19 13:57 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.050 J**	0.10	0.020	mg/L

Type: BLANK **Diln Fac:** 1.000 **Analyzed:** 10/08/19 12:50
Lab ID: QC994111 **Batch#:** 274885 **Prep:** SM4500NH3-B
Matrix: Water **Prepared:** 10/08/19 10:42 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	ND	0.10	0.020	mg/L

Legend

J: Estimated value
MDL: Method Detection Limit
ND: Not Detected at or above MDL
RL: Reporting Limit

ENTHALPY ANALYTICAL

Ammonia Nitrogen: Batch QC

Lab #: 314597 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Type: LCS **Diln Fac:** 1.000 **Analyzed:** 10/08/19 12:50

Lab ID: QC994112 **Batch#:** 274885 **Prep:** SM4500NH3-B

Matrix: Water **Prepared:** 10/08/19 10:42 **Analysis:** SM4500NH3-D

Analyte	Spiked	Result	%REC	Limits	Units
Ammonia-N	5.000	4.100	82	80-120	mg/L

Field ID: N037736-003B / CW-02D-LF-Q419 **Diln Fac:** 1.000 **Analyzed:** 10/08/19 12:50

Type: MS **Batch#:** 274885 **Prep:** SM4500NH3-B

MSS Lab ID: 314595-003 **Sampled:** 10/02/19 11:50 **Analysis:** SM4500NH3-D

Lab ID: QC994113 **Received:** 10/04/19

Matrix: Water **Prepared:** 10/08/19 10:42

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Ammonia-N	0.06000	5.000	4.000	80	28-120	mg/L

Field ID: N037736-003B / CW-02D-LF-Q419 **Diln Fac:** 1.000 **Analyzed:** 10/08/19 12:50

Type: MSD **Batch#:** 274885 **Prep:** SM4500NH3-B

MSS Lab ID: 314595-003 **Sampled:** 10/02/19 11:50 **Analysis:** SM4500NH3-D

Lab ID: QC994114 **Received:** 10/04/19

Matrix: Water **Prepared:** 10/08/19 10:42

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Ammonia-N	5.000	4.300	86	28-120	mg/L	7	30

Legend

RPD: Relative Percent Difference

October 21, 2019

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

TEL: (916) 786-3302
FAX:

Workorder No.: N037736

RE: PG&E Topock - CMP, 30019131

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 02, 2019 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 Liburdi for

Puri Romualdo
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 Enthalpy Analytical- Berkeley, CA.

Analytical Comments for EPA 200.7_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium in QC samples N037736-001C-MS1, N037736-001C-MSD1 and N037758-011B-MS1 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 Sodium in QC samples N037736-002C-MS2, N037736-002C-MSD2 and N037758-010C-MS2 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 200.8_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N037736-001C-MS, N037736-001C-MSD and N037758-011B-MS 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.

Dilution was necessary on Beryllium for sample N037736-004 due to associated internal standard not

meeting method criteria possibly due to matrix interference. Sample was analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

Because the results for total dissolved chromium (1.7 ug/L) and hexavalent chromium (0.88 ug/L) for sample N037736-003 (CW-02D-LF-Q419) 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 0.57 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 (7.3 ug/L) and hexavalent chromium (3.7 ug/L) for sample N037736-007 (CW-03M-LF-Q419) 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 7.0 and 3.6 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Analytical Comments for EPA 218.6:

Because the results for total dissolved chromium (1.7 ug/L) and hexavalent chromium (0.88 ug/L) for sample N037736-003 (CW-02D-LF-Q419) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (7.3 ug/L) and hexavalent chromium (3.7 ug/L) for sample N037736-007 (CW-03M-LF-Q419) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6010B_Total:

RPD for Matrix Spike(MS) and Matrix Spike Duplicate(MSD) is outside criteria for Iron ; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - CMP, 30019131
Lab Order: N037736
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N037736-001A	CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	10/2/2019	10/21/2019
N037736-001B	CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	10/2/2019	10/21/2019
N037736-001C	CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	10/2/2019	10/21/2019
N037736-001D	CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	10/2/2019	10/21/2019
N037736-001E	CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	10/2/2019	10/21/2019
N037736-001F	CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	10/2/2019	10/21/2019
N037736-002A	CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	10/2/2019	10/21/2019
N037736-002B	CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	10/2/2019	10/21/2019
N037736-002C	CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	10/2/2019	10/21/2019
N037736-002D	CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	10/2/2019	10/21/2019
N037736-002E	CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	10/2/2019	10/21/2019
N037736-002F	CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	10/2/2019	10/21/2019
N037736-003A	CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	10/2/2019	10/21/2019
N037736-003B	CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	10/2/2019	10/21/2019
N037736-003C	CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	10/2/2019	10/21/2019
N037736-003D	CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	10/2/2019	10/21/2019
N037736-003E	CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	10/2/2019	10/21/2019
N037736-003F	CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	10/2/2019	10/21/2019
N037736-004A	CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	10/2/2019	10/21/2019
N037736-004B	CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	10/2/2019	10/21/2019
N037736-004C	CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	10/2/2019	10/21/2019
N037736-004D	CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	10/2/2019	10/21/2019
N037736-004E	CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	10/2/2019	10/21/2019
N037736-004F	CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	10/2/2019	10/21/2019
N037736-005A	MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	10/2/2019	10/21/2019
N037736-005B	MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	10/2/2019	10/21/2019
N037736-005C	MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	10/2/2019	10/21/2019
N037736-005D	MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	10/2/2019	10/21/2019
N037736-005E	MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	10/2/2019	10/21/2019

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - CMP, 30019131
Lab Order: N037736
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N037736-005F	MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	10/2/2019	10/21/2019
N037736-006A	CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	10/2/2019	10/21/2019
N037736-006B	CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	10/2/2019	10/21/2019
N037736-006C	CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	10/2/2019	10/21/2019
N037736-006D	CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	10/2/2019	10/21/2019
N037736-006E	CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	10/2/2019	10/21/2019
N037736-006F	CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	10/2/2019	10/21/2019
N037736-007A	CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	10/2/2019	10/21/2019
N037736-007B	CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	10/2/2019	10/21/2019
N037736-007C	CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	10/2/2019	10/21/2019
N037736-007D	CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	10/2/2019	10/21/2019
N037736-007E	CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	10/2/2019	10/21/2019
N037736-007F	CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	10/2/2019	10/21/2019
N037736-008A	EB-709-Q319	Groundwater	10/2/2019 2:32:00 PM	10/2/2019	10/21/2019

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191003C**	QC Batch: **R136767**			PrepDate			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	10/3/2019 01:55 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191003C**	QC Batch: **R136767**			PrepDate			Analyst: **LR**
Specific Conductance	7500	0.10	0.10		umhos/cm	1	10/3/2019 01:55 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191003C**	QC Batch: **R136767**			PrepDate			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	10/3/2019 01:55 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191003C**	QC Batch: **R136767**			PrepDate			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	10/3/2019 01:55 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191003C**	QC Batch: **R136767**			PrepDate			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	10/3/2019 01:55 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191003C**	QC Batch: **R136767**			PrepDate			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	10/3/2019 01:55 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:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191003C**	QC Batch: **R136767**			PrepDate			Analyst: **LR**
Specific Conductance	8000	0.10	0.10		umhos/cm	1	10/3/2019 01:55 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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID **N037736-007DDUP**	SampType: **DUP**	TestCode: **120.1_WPGE**	Units: **umhos/cm**	Prep Date:			RunNo: **136767**		
Client ID: **ZZZZZZ**	Batch ID: **R136767**	TestNo: **EPA 120.1**		Analysis Date: **10/3/2019**			SeqNo: **3526191**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7920.000	0.10						7950	0.378	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191003F**	QC Batch: **75553**			PrepDate	**10/3/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4100	50	50		mg/L	1	10/3/2019 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191003F**	QC Batch: **75553**			PrepDate	**10/3/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	10/3/2019 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191003F**	QC Batch: **75553**			PrepDate	**10/3/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4100	50	50		mg/L	1	10/3/2019 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191003F**	QC Batch: **75553**			PrepDate	**10/3/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4100	50	50		mg/L	1	10/3/2019 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191003F**	QC Batch: **75553**			PrepDate	**10/3/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	3900	50	50		mg/L	1	10/3/2019 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191003F**	QC Batch: **75553**			PrepDate	**10/3/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4100	50	50		mg/L	1	10/3/2019 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:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191003F**	QC Batch: **75553**			PrepDate	**10/3/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	10/3/2019 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
Work Order: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID	LCS-75553	SampType:	LCS	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/3/2019	RunNo:	136781
Client ID:	LCSW	Batch ID:	75553	TestNo:	SM2540C			Analysis Date:	10/3/2019	SeqNo:	3526652

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	957.000	10	1000	0	95.7	80	120				

Sample ID	MB-75553	SampType:	MBLK	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/3/2019	RunNo:	136781
Client ID:	PBW	Batch ID:	75553	TestNo:	SM2540C			Analysis Date:	10/3/2019	SeqNo:	3526653

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

Sample ID	N037736-005DDUP	SampType:	DUP	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/3/2019	RunNo:	136781
Client ID:	ZZZZZZ	Batch ID:	75553	TestNo:	SM2540C			Analysis Date:	10/3/2019	SeqNo:	3526659

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4065.000	50						3920	3.63	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191007B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/7/2019 06:23 PM
Boron	910	74	100		µg/L	1	10/4/2019 09:47 PM
Calcium	160000	85	500		µg/L	1	10/4/2019 09:47 PM
Iron	20	18	20		µg/L	1	10/7/2019 06:23 PM
Magnesium	18000	48	100		µg/L	1	10/4/2019 09:47 PM
Potassium	12000	430	2500		µg/L	5	10/10/2019 11:29 AM
Sodium	1400000	4800	25000		µg/L	50	10/10/2019 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/4/2019 10:14 PM
Boron	1000	74	100		µg/L	1	10/4/2019 10:14 PM
Calcium	170000	85	500		µg/L	1	10/4/2019 10:14 PM
Iron	21	18	20		µg/L	1	10/7/2019 06:50 PM
Magnesium	12000	48	100		µg/L	1	10/4/2019 10:14 PM
Potassium	11000	430	2500		µg/L	5	10/10/2019 11:33 AM
Sodium	1200000	4800	25000		µg/L	50	10/10/2019 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	**Client Sample ID:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	87	40	50		µg/L	1	10/4/2019 10:19 PM
Boron	990	74	100		µg/L	1	10/4/2019 10:19 PM
Calcium	87000	85	500		µg/L	1	10/4/2019 10:19 PM
Iron	110	18	20		µg/L	1	10/7/2019 06:55 PM
Magnesium	4000	48	100		µg/L	1	10/4/2019 10:19 PM
Potassium	11000	430	2500		µg/L	5	10/10/2019 11:38 AM
Sodium	1400000	4800	25000		µg/L	50	10/10/2019 04:17 PM

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/4/2019 10:23 PM
Boron	1100	74	100		µg/L	1	10/4/2019 10:23 PM
Calcium	140000	85	500		µg/L	1	10/4/2019 10:23 PM
Iron	ND	18	20		µg/L	1	10/7/2019 07:00 PM
Magnesium	8600	48	100		µg/L	1	10/4/2019 10:23 PM
Potassium	11000	430	2500		µg/L	5	10/10/2019 11:43 AM
Sodium	1300000	4800	25000		µg/L	50	10/10/2019 04:21 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	78	40	50		µg/L	1	10/4/2019 10:29 PM
Boron	970	74	100		µg/L	1	10/4/2019 10:29 PM
Calcium	86000	85	500		µg/L	1	10/4/2019 10:29 PM
Iron	72	18	20		µg/L	1	10/7/2019 11:36 PM
Magnesium	4000	48	100		µg/L	1	10/4/2019 10:29 PM
Potassium	11000	430	2500		µg/L	5	10/10/2019 11:48 AM
Sodium	1300000	4800	25000		µg/L	50	10/10/2019 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/4/2019 10:33 PM
Boron	930	74	100		µg/L	1	10/4/2019 10:33 PM
Calcium	65000	85	500		µg/L	1	10/4/2019 10:33 PM
Iron	26	18	20		µg/L	1	10/7/2019 07:41 PM
Magnesium	4200	48	100		µg/L	1	10/4/2019 10:33 PM
Potassium	11000	430	2500		µg/L	5	10/10/2019 11:53 AM
Sodium	1200000	4800	25000		µg/L	50	10/10/2019 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: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-007

Client Sample ID: CW-03M-LF-Q419
Collection Date: 10/2/2019 9:36:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICP

EPA 200.7

RunID: **NV00922-ICP2_191004B** QC Batch: **75564** PrepDate **10/4/2019** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Aluminum	ND	40	50		µg/L	1	10/4/2019 10:47 PM
Boron	1100	74	100		µg/L	1	10/4/2019 10:47 PM
Calcium	170000	85	500		µg/L	1	10/4/2019 10:47 PM
Iron	70	18	20		µg/L	1	10/7/2019 07:45 PM
Magnesium	11000	48	100		µg/L	1	10/4/2019 10:47 PM
Potassium	9000	430	2500		µg/L	5	10/10/2019 12:04 PM
Sodium	1100000	4800	25000		µg/L	50	10/10/2019 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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **MB-75564**	SampType: **MBLK**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **PBW**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Boron	ND	100									
Calcium	ND	500									
Magnesium	ND	100									

Sample ID **LCS1-75564**	SampType: **LCS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **LCSW**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9822.273	50	10000	0	98.2	85	115				
Boron	4943.914	100	5000	0	98.9	85	115				
Calcium	9830.072	500	10000	0	98.3	85	115				
Magnesium	9768.355	100	10000	0	97.7	85	115				

Sample ID **N037736-001C-MS1**	SampType: **MS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5770.717	100	5000	911.0	97.2	75	125				
Calcium	162832.994	500	10000	156500	63.0	75	125				S
Magnesium	26694.559	100	10000	17850	88.5	75	125				

Sample ID **N037736-001C-MSD**	SampType: **MSD**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5773.375	100	5000	911.0	97.2	75	125	5771	0.0460	20	
Calcium	162573.962	500	10000	156500	60.4	75	125	162800	0.159	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/4/2019	SeqNo:	3527467

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	26584.495	100	10000	17850	87.4	75	125	26690	0.413	20	

Sample ID	N037758-011B-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/5/2019	SeqNo:	3527490

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10154.819	50	10000	0	102	75	125				
Boron	5413.832	100	5000	344.6	101	75	125				
Calcium	408456.467	500	10000	355700	528	75	125				S
Magnesium	64530.101	100	10000	53080	114	75	125				

Sample ID	MB-75564	SampType:	MBLK	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	PBW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529523

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS1-75564	SampType:	LCS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	LCSW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529526

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	114.235	20	100.0	0	114	85	115				

Sample ID	N037736-001C-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529530

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.503	20	100.0	20.21	80.3	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529531

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.049	20	100.0	20.21	83.8	75	125	100.5	3.47	20	

Sample ID	N037736-001C-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/4/2019	SeqNo:	3532099

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9875.612	50	10000	40.63	98.3	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/4/2019	SeqNo:	3532100

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9409.863	50	10000	40.63	93.7	75	125	9876	4.83	20	

Sample ID	MB-75564	SampType:	MBLK	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	PBW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	500									
Sodium	ND	500									

Sample ID	LCS2-75564	SampType:	LCS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	LCSW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532397

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18385.100	500	20000	0	91.9	85	115				
Sodium	18988.830	500	20000	0	94.9	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037736-002C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532465		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Potassium	33969.924	2500	20000	10760	116	75	125						

Sample ID	N037736-002C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532469		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sodium	1396392.456	25000	20000	1183000	1070	75	125				S		

Sample ID	N037736-002C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532470		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Potassium	34381.896	2500	20000	10760	118	75	125	33970	1.21	20			

Sample ID	N037736-002C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532471		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sodium	1354688.111	25000	20000	1183000	859	75	125	1396000	3.03	20	S		

Sample ID	N037758-010C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532496		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Potassium	31448.939	2500	20000	10910	103	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037758-010C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532497

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1204674.793	25000	20000	1162000	215	75	125				S

Sample ID	N037758-011B-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	137084
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/21/2019	SeqNo:	3540156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	90.819	20	100.0	0	90.8	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **N037736-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6402.641	100	5000	911.0	110	80	120				
Calcium	163268.940	500	10000	156500	67.4	80	120				S
Magnesium	27640.882	100	10000	17850	97.9	80	120				

Sample ID **N037736-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136819**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/7/2019**	SeqNo: **3529529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.697	20	100.0	20.21	100	80	120				

Sample ID **N037736-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3532098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11161.498	50	10000	40.63	111	80	120				

Sample ID **N037736-002C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136882**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/10/2019**	SeqNo: **3532463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10984.304	2500	20000	10760	1.14	80	120				S

Sample ID **N037736-002C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136882**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/10/2019**	SeqNo: **3532464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1226480.558	25000	20000	1183000	217	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
Lab Order: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-001

Client Sample ID: CW-01D-LF-Q419
Collection Date: 10/2/2019 1:18:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 02:42 PM
Arsenic	1.2	0.081	0.10		µg/L	1	10/16/2019 02:42 PM
Barium	25	0.15	1.0		µg/L	1	10/15/2019 09:41 PM
Beryllium	ND	0.042	0.50		µg/L	1	10/15/2019 09:41 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 02:42 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 02:42 PM
Copper	2.8	0.55	1.0		µg/L	1	10/17/2019 11:55 AM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 02:42 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 02:42 PM
Molybdenum	22	0.21	0.50		µg/L	1	10/16/2019 02:42 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 11:55 AM
Selenium	3.9	0.36	0.50		µg/L	1	10/17/2019 09:04 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 02:42 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 02:42 PM
Vanadium	2.2	0.28	1.0		µg/L	1	10/17/2019 11:55 AM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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
Lab Order: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-002

Client Sample ID: CW-01M-LF-Q419
Collection Date: 10/2/2019 2:18:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 03:38 PM
Arsenic	1.2	0.081	0.10		µg/L	1	10/16/2019 03:38 PM
Barium	85	0.15	1.0		µg/L	1	10/15/2019 10:37 PM
Beryllium	ND	0.042	0.50		µg/L	1	10/15/2019 10:37 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 03:38 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 03:38 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 12:22 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 03:38 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 03:38 PM
Molybdenum	16	0.21	0.50		µg/L	1	10/16/2019 03:38 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 12:22 PM
Selenium	3.6	0.36	0.50		µg/L	1	10/16/2019 03:38 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 03:38 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 03:38 PM
Vanadium	2.6	0.28	1.0		µg/L	1	10/17/2019 12:22 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 03:48 PM
Arsenic	3.4	0.081	0.10		µg/L	1	10/16/2019 03:48 PM
Barium	26	0.15	1.0		µg/L	1	10/15/2019 10:47 PM
Beryllium	ND	0.042	0.50		µg/L	1	10/15/2019 10:47 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 03:48 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 03:48 PM
Copper	1.3	0.55	1.0		µg/L	1	10/17/2019 12:27 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 03:48 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 03:48 PM
Molybdenum	13	0.21	0.50		µg/L	1	10/16/2019 03:48 PM
Nickel	1.0	0.26	1.0		µg/L	1	10/17/2019 12:27 PM
Selenium	3.5	0.36	0.50		µg/L	1	10/17/2019 09:14 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 03:48 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 03:48 PM
Vanadium	4.5	0.28	1.0		µg/L	1	10/17/2019 12:27 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 03:48 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: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-004

Client Sample ID: CW-02M-LF-Q419
Collection Date: 10/2/2019 10:28:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 03:59 PM
Arsenic	2.0	0.081	0.10		µg/L	1	10/16/2019 03:59 PM
Barium	57	0.15	1.0		µg/L	1	10/15/2019 11:08 PM
Beryllium	ND	0.21	2.5		µg/L	5	10/15/2019 11:13 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 03:59 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 03:59 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 12:32 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 03:59 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 03:59 PM
Molybdenum	16	0.21	0.50		µg/L	1	10/16/2019 03:59 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 12:32 PM
Selenium	2.9	0.36	0.50		µg/L	1	10/16/2019 03:59 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 03:59 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 03:59 PM
Vanadium	3.8	0.28	1.0		µg/L	1	10/17/2019 12:32 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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
Lab Order: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-005

Client Sample ID: MW-903-Q419
Collection Date: 10/2/2019 12:00:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	0.62	0.16	0.50		µg/L	1	10/16/2019 04:09 PM
Arsenic	3.4	0.081	0.10		µg/L	1	10/16/2019 04:09 PM
Barium	27	0.15	1.0		µg/L	1	10/15/2019 11:18 PM
Beryllium	ND	0.042	0.50		µg/L	1	10/15/2019 11:18 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 04:09 PM
Cobalt	0.73	0.042	0.50		µg/L	1	10/16/2019 04:09 PM
Copper	2.1	0.55	1.0		µg/L	1	10/17/2019 02:04 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 04:09 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 04:09 PM
Molybdenum	13	0.21	0.50		µg/L	1	10/16/2019 04:09 PM
Nickel	1.1	0.26	1.0		µg/L	1	10/17/2019 02:04 PM
Selenium	3.8	0.36	0.50		µg/L	1	10/16/2019 04:09 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 04:09 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 04:09 PM
Vanadium	5.0	0.28	1.0		µg/L	1	10/17/2019 02:04 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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
Lab Order: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-006

Client Sample ID: CW-03D-LF-Q419
Collection Date: 10/2/2019 8:30:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 04:19 PM
Arsenic	1.4	0.081	0.10		µg/L	1	10/16/2019 04:19 PM
Barium	15	0.15	1.0		µg/L	1	10/15/2019 11:28 PM
Beryllium	ND	0.042	0.50		µg/L	1	10/15/2019 11:28 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 04:19 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 04:19 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 12:52 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 04:19 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 04:19 PM
Molybdenum	15	0.21	0.50		µg/L	1	10/16/2019 04:19 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 12:52 PM
Selenium	3.4	0.36	0.50		µg/L	1	10/17/2019 09:19 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 04:19 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 04:19 PM
Vanadium	2.7	0.28	1.0		µg/L	1	10/17/2019 12:52 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 04:19 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: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-007

Client Sample ID: CW-03M-LF-Q419
Collection Date: 10/2/2019 9:36:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 04:40 PM
Arsenic	1.4	0.081	0.10		µg/L	1	10/16/2019 04:40 PM
Barium	41	0.15	1.0		µg/L	1	10/15/2019 11:38 PM
Beryllium	ND	0.042	0.50		µg/L	1	10/15/2019 11:38 PM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 04:40 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 04:40 PM
Copper	1.5	0.55	1.0		µg/L	1	10/17/2019 12:57 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 04:40 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 04:40 PM
Molybdenum	30	0.21	0.50		µg/L	1	10/16/2019 04:40 PM
Nickel	1.5	0.26	1.0		µg/L	1	10/17/2019 12:57 PM
Selenium	2.6	0.36	0.50		µg/L	1	10/17/2019 09:24 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 04:40 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 04:40 PM
Vanadium	3.3	0.28	1.0		µg/L	1	10/17/2019 12:57 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **MB-75563** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **PBW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Arsenic	ND	0.10									
Cadmium	ND	0.50									
Cobalt	ND	0.50									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									
Silver	ND	0.50									
Thallium	ND	0.50									
Zinc	ND	10									

Sample ID **LCS-75563** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **LCSW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.001	0.50	10.00	0	100	85	115				
Arsenic	10.558	0.10	10.00	0	106	85	115				
Cadmium	10.377	0.50	10.00	0	104	85	115				
Cobalt	10.020	0.50	10.00	0	100	85	115				
Lead	9.855	1.0	10.00	0	98.6	85	115				
Manganese	103.275	0.50	100.0	0	103	85	115				
Molybdenum	10.080	0.50	10.00	0	101	85	115				
Selenium	10.179	0.50	10.00	0	102	85	115				
Silver	9.500	0.50	10.00	0	95.0	85	115				
Thallium	9.318	0.50	10.00	0	93.2	85	115				
Zinc	10.343	10	10.00	0	103	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037736-001C-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.345	0.50	10.00	0	103	75	125				
Arsenic	11.732	0.10	10.00	1.155	106	75	125				
Cadmium	10.069	0.50	10.00	0.06970	100	75	125				
Cobalt	8.856	0.50	10.00	0	88.6	75	125				
Lead	9.727	1.0	10.00	0	97.3	75	125				
Manganese	49.121	0.50	100.0	0	49.1	75	125				S
Molybdenum	32.582	0.50	10.00	21.85	107	75	125				
Silver	9.761	0.50	10.00	0	97.6	75	125				
Thallium	9.695	0.50	10.00	0	97.0	75	125				
Zinc	3.805	10	10.00	0	38.0	75	125				S

Sample ID **N037736-001C-MSD** SampType: **MSD** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.374	0.50	10.00	0	104	75	125	10.35	0.277	20	
Arsenic	11.602	0.10	10.00	1.155	104	75	125	11.73	1.11	20	
Cadmium	10.395	0.50	10.00	0.06970	103	75	125	10.07	3.19	20	
Cobalt	9.006	0.50	10.00	0	90.1	75	125	8.856	1.68	20	
Lead	9.799	1.0	10.00	0	98.0	75	125	9.727	0.738	20	
Manganese	49.088	0.50	100.0	0	49.1	75	125	49.12	0.0670	20	S
Molybdenum	32.980	0.50	10.00	21.85	111	75	125	32.58	1.22	20	
Silver	9.840	0.50	10.00	0	98.4	75	125	9.761	0.811	20	
Thallium	9.719	0.50	10.00	0	97.2	75	125	9.695	0.242	20	
Zinc	3.677	10	10.00	0	36.8	75	125	3.805	0	20	S

Sample ID **N037758-011B-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537744**

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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537744

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.401	0.50	10.00	0	104	75	125				
Arsenic	11.033	0.10	10.00	0.6218	104	75	125				
Cadmium	10.194	0.50	10.00	0	102	75	125				
Cobalt	9.677	0.50	10.00	0.2635	94.1	75	125				
Lead	9.418	1.0	10.00	0	94.2	75	125				
Manganese	77.155	0.50	100.0	0	77.2	75	125				
Molybdenum	22.954	0.50	10.00	11.62	113	75	125				
Silver	9.696	0.50	10.00	0	97.0	75	125				
Thallium	9.578	0.50	10.00	0	95.8	75	125				
Zinc	5.005	10	100.0	0	5.00	75	125				S

Sample ID	MB-75563	SampType:	MBLK	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137029
Client ID:	PBW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/15/2019	SeqNo:	3537824

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Beryllium	ND	0.50									

Sample ID	LCS-75563	SampType:	LCS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137029
Client ID:	LCSW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/15/2019	SeqNo:	3537825

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	11.014	1.0	10.00	0	110	85	115				
Beryllium	10.520	0.50	10.00	0	105	85	115				

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137029
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/15/2019	SeqNo:	3537833

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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037736-001C-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137029**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/15/2019** SeqNo: **3537833**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	34.599	1.0	10.00	24.72	98.8	75	125				
Beryllium	12.915	0.50	10.00	0	129	75	125				S

Sample ID **N037736-001C-MSD** SampType: **MSD** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137029**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/15/2019** SeqNo: **3537835**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	34.228	1.0	10.00	24.72	95.1	75	125	34.60	1.08	20	
Beryllium	12.961	0.50	10.00	0	130	75	125	12.92	0.349	20	S

Sample ID **N037758-011B-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137029**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537885**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	136.018	1.0	10.00	125.6	105	75	125				
Beryllium	11.016	0.50	10.00	0	110	75	125				

Sample ID **MB-75563** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137055**
Client ID: **PBW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/17/2019** SeqNo: **3538540**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	1.0									
Nickel	ND	1.0									
Vanadium	ND	1.0									

Sample ID **LCS-75563** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137055**
Client ID: **LCSW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/17/2019** SeqNo: **3538541**

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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	LCS-75563	SampType:	LCS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	LCSW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538541

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	11.166	1.0	10.00	0	112	85	115				
Nickel	10.847	1.0	10.00	0	108	85	115				
Vanadium	11.396	1.0	10.00	0	114	85	115				

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538545

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	12.709	1.0	10.00	2.830	98.8	75	125				
Nickel	9.133	1.0	10.00	0	91.3	75	125				
Vanadium	12.415	1.0	10.00	2.180	102	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	13.355	1.0	10.00	2.830	105	75	125	12.71	4.96	20	
Nickel	9.192	1.0	10.00	0	91.9	75	125	9.133	0.643	20	
Vanadium	12.585	1.0	10.00	2.180	104	75	125	12.41	1.36	20	

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538568

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.411	1.0	10.00	0	84.1	75	125				
Nickel	9.317	1.0	10.00	0	93.2	75	125				
Vanadium	13.150	1.0	10.00	2.732	104	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539441

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	12.311	0.50	10.00	3.935	83.8	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539442

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	13.597	0.50	10.00	3.935	96.6	75	125	12.31	9.93	20	

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539443

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	11.762	0.50	10.00	2.807	89.6	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037736-001C-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.351	0.50	10.00	0	104	80	120				
Arsenic	11.577	0.10	10.00	1.155	104	80	120				
Cadmium	10.477	0.50	10.00	0.06970	104	80	120				
Cobalt	8.967	0.50	10.00	0	89.7	80	120				
Lead	9.728	1.0	10.00	0	97.3	80	120				
Manganese	47.898	0.50	100.0	0	47.9	80	120				S
Molybdenum	33.003	0.50	10.00	21.85	112	80	120				
Silver	9.891	0.50	10.00	0	98.9	80	120				
Thallium	9.702	0.50	10.00	0	97.0	80	120				
Zinc	3.788	10	10.00	0	37.9	80	120				S

Sample ID **N037736-001C-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **137029**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/15/2019** SeqNo: **3537831**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	34.729	1.0	10.00	24.72	100	80	120				
Beryllium	12.960	0.50	10.00	0	130	80	120				S

Sample ID **N037736-001C-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **137055**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/17/2019** SeqNo: **3538544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	12.538	1.0	10.00	2.830	97.1	80	120				
Nickel	8.978	1.0	10.00	0	89.8	80	120				
Vanadium	12.410	1.0	10.00	2.180	102	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	N037736-001C-PS	SampType:	PS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539440

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	14.539	0.50	10.00	3.935	106	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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	0.49	0.033	0.20		µg/L	1	10/8/2019 03:38 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	0.72	0.033	0.20		µg/L	1	10/8/2019 03:58 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	0.88	0.033	0.20		µg/L	1	10/8/2019 04:36 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	1.7	0.13	1.0		µg/L	1	10/16/2019 03:48 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	1.2	0.033	0.20		µg/L	1	10/8/2019 04:55 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	1.1	0.13	1.0		µg/L	1	10/16/2019 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	0.84	0.033	0.20		µg/L	1	10/8/2019 05:14 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	1.5	0.13	1.0		µg/L	1	10/16/2019 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	0.56	0.033	0.20		µg/L	1	10/8/2019 05:33 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Oct-19*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	3.7	0.033	0.20		µg/L	1	10/8/2019 05:52 PM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	7.3	0.13	1.0		µg/L	1	10/16/2019 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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Oct-19*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	EB-709-Q319
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:32:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191008A**	QC Batch: **R136808**			PrepDate			Analyst: **HG**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	10/8/2019 06:35 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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID	MB-75563	SampType:	MBLK	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	PBW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537655

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-75563	SampType:	LCS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	LCSW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537656

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.261	1.0	10.00	0	103	85	115				

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537662

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.952	1.0	10.00	0.4237	95.3	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537664

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.079	1.0	10.00	0.4237	96.6	75	125	9.952	1.27	20	

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.567	1.0	10.00	11.67	99.0	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R136808	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	PBW	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530141

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-R136808	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	LCSW	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530142

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.907	0.20	5.000	0	98.1	90	110				

Sample ID	N037770-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530144

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.881	1.0	5.000	0	97.6	90	110				

Sample ID	N037770-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530146

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	5.623	1.0	5.000	0.6475	99.5	90	110				

Sample ID	N037770-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530150

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				

Qualifiers:

- B Analyte detected in the associated Method Blank
- ND Not Detected at the Reporting Limit
- DO Surrogate Diluted Out
- E Value above quantitation range
- R RPD outside accepted recovery limits

Calculations are based on raw values

- 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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037770-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530152

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	N037770-005ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530153

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	N037770-001AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530154

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	4.881	3.30	20	

Sample ID	N037770-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.830	1.0	5.000	0	96.6	90	110				

Sample ID	N037792-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530159

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2021.600	40	1000	1030	99.1	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N037790-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **136808**
Client ID: **ZZZZZZ**	Batch ID: **R136808**	TestNo: **EPA 218.6**		Analysis Date: **10/8/2019**	SeqNo: **3530162**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	614.560	10	250.0	366.4	99.3	90	110				

Sample ID **N037790-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **136808**
Client ID: **ZZZZZZ**	Batch ID: **R136808**	TestNo: **EPA 218.6**		Analysis Date: **10/8/2019**	SeqNo: **3530164**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	120.878	2.0	50.00	71.88	98.0	90	110				

Sample ID **N037798-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **136808**
Client ID: **ZZZZZZ**	Batch ID: **R136808**	TestNo: **EPA 218.6**		Analysis Date: **10/8/2019**	SeqNo: **3530260**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	14.666	1.0	5.000	9.986	93.6	90	110				

Sample ID **N037798-002AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **136808**
Client ID: **ZZZZZZ**	Batch ID: **R136808**	TestNo: **EPA 218.6**		Analysis Date: **10/8/2019**	SeqNo: **3530262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	140.858	2.0	50.00	91.65	98.4	90	110				

Sample ID **N037794-001AMS**	SampType: **MS**	TestCode: **218.6_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **136808**
Client ID: **ZZZZZZ**	Batch ID: **R136808**	TestNo: **EPA 218.6**		Analysis Date: **10/8/2019**	SeqNo: **3530265**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2126.140	40	1000	1149	97.7	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID **N037736-001AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **136808**
Client ID: **ZZZZZZ** Batch ID: **R136808** TestNo: **EPA 218.6** Analysis Date: **10/8/2019** SeqNo: **3530267**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.482	0.20	1.000	0.4905	99.1	90	110				

Sample ID **N037736-002AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **136808**
Client ID: **ZZZZZZ** Batch ID: **R136808** TestNo: **EPA 218.6** Analysis Date: **10/8/2019** SeqNo: **3530269**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.713	0.20	1.000	0.7247	98.9	90	110				

Sample ID **N037736-003AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **136808**
Client ID: **ZZZZZZ** Batch ID: **R136808** TestNo: **EPA 218.6** Analysis Date: **10/8/2019** SeqNo: **3530706**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.892	0.20	1.000	0.8827	101	90	110				

Sample ID **N037736-004AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **136808**
Client ID: **ZZZZZZ** Batch ID: **R136808** TestNo: **EPA 218.6** Analysis Date: **10/8/2019** SeqNo: **3530708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.235	0.20	1.000	1.199	104	90	110				

Sample ID **N037736-005AMS** SampType: **MS** TestCode: **218.6_WPGE** Units: **µg/L** Prep Date: RunNo: **136808**
Client ID: **ZZZZZZ** Batch ID: **R136808** TestNo: **EPA 218.6** Analysis Date: **10/8/2019** SeqNo: **3530710**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.847	0.20	1.000	0.8416	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037736-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530712

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.578	0.20	1.000	0.5591	102	90	110				

Sample ID	N037736-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530714

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.669	0.20	1.000	3.685	98.4	90	110				

Sample ID	N037736-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136808
Client ID:	ZZZZZZ	Batch ID:	R136808	TestNo:	EPA 218.6			Analysis Date:	10/8/2019	SeqNo:	3530718

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.035	0.20	1.000	0	104	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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191003B**	QC Batch: **R136764**			PrepDate			Analyst: **LR**
Turbidity	0.45	0.10	0.10		NTU	1	10/3/2019 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191003B**	QC Batch: **R136764**			PrepDate			Analyst: **LR**
Turbidity	0.14	0.10	0.10		NTU	1	10/3/2019 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191003B**	QC Batch: **R136764**			PrepDate			Analyst: **LR**
Turbidity	0.78	0.10	0.10		NTU	1	10/3/2019 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191003B**	QC Batch: **R136764**			PrepDate			Analyst: **LR**
Turbidity	2.1	0.10	0.10		NTU	1	10/3/2019 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191003B**	QC Batch: **R136764**			PrepDate			Analyst: **LR**
Turbidity	27	0.10	0.10		NTU	1	10/3/2019 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191003B**	QC Batch: **R136764**			PrepDate			Analyst: **LR**
Turbidity	2.8	0.10	0.10		NTU	1	10/3/2019 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:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191003B**	QC Batch: **R136764**			PrepDate			Analyst: **LR**
Turbidity	4.0	0.10	0.10		NTU	1	10/3/2019 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
Work Order: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID	MB-R136764	SampType:	MBLK	TestCode:	2130_W	Units:	NTU	Prep Date:		RunNo:	136764
Client ID:	PBW	Batch ID:	R136764	TestNo:	SM 2130B			Analysis Date:	10/3/2019	SeqNo:	3526161

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10									

Sample ID	N037736-005DDUP	SampType:	DUP	TestCode:	2130_W	Units:	NTU	Prep Date:		RunNo:	136764
Client ID:	ZZZZZZ	Batch ID:	R136764	TestNo:	SM 2130B			Analysis Date:	10/3/2019	SeqNo:	3526176

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	27.800	0.10						27.00	2.92	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	67	1.2	5.0		mg/L	1	10/3/2019 09:30 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	82	1.2	5.0		mg/L	1	10/3/2019 09:30 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	65	1.2	5.0		mg/L	1	10/3/2019 09:30 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	62	1.2	5.0		mg/L	1	10/3/2019 09:30 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	68	1.2	5.0		mg/L	1	10/3/2019 09:30 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	66	1.2	5.0		mg/L	1	10/3/2019 09:30 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:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191003A**	QC Batch: **R136754**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	55	1.2	5.0		mg/L	1	10/3/2019 09:30 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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R136754**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **LCSW**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	103.037	5.0	100.0	0	103	85	115				

Sample ID **MB-R136754**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **PBW**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525722**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N037736-007DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **ZZZZZZ**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	54.230	5.0						55.31	1.98	30	

Sample ID **N037736-007DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **ZZZZZZ**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525733**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	156.182	5.0	100.0	55.31	101	75	125				

Sample ID **N037736-007DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136754**
Client ID: **ZZZZZZ**	Batch ID: **R136754**	TestNo: **SM 2320 B**		Analysis Date: **10/3/2019**	SeqNo: **3525734**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	155.098	5.0	100.0	55.31	99.8	75	125	156.2	0.697	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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565** PrepDate **10/4/2019** Analyst: **DJ**							
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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	**Client Sample ID:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	MW-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
			EPA 245.1				
RunID: **NV00922-AA2_191007A**	QC Batch: **75565**			PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565** PrepDate **10/4/2019** Analyst: **DJ**							
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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
Work Order: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_WD

Sample ID	MB-75565	SampType:	MBLK	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	PBW	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID	LCS-75565	SampType:	LCS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	LCSW	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.590	0.20	5.000	0	91.8	85	115				

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	ZZZZZZ	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527822

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.570	0.20	5.000	0	91.4	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	ZZZZZZ	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527823

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.530	0.20	5.000	0	90.6	75	125	4.570	0.879	20	

Sample ID	N037758-010C-MS	SampType:	MS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	ZZZZZZ	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.420	0.20	5.000	0	88.4	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
Lab Order: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-001

Client Sample ID: CW-01D-LF-Q419
Collection Date: 10/2/2019 1:18:00 PM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 05:27 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	3.0	0.048	0.50		mg/L	5	10/7/2019 12:41 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	490	2.0	25		mg/L	50	10/8/2019 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2200	17	250		mg/L	500	10/8/2019 05:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	2.2	0.048	0.50		mg/L	5	10/7/2019 12:57 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	490	2.0	25		mg/L	50	10/8/2019 05:43 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: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-003

Client Sample ID: CW-02D-LF-Q419
Collection Date: 10/2/2019 11:50:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 06:30 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	2.0	0.048	0.50		mg/L	5	10/7/2019 01:13 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	470	2.0	25		mg/L	50	10/8/2019 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 02:18 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	3.1	0.048	0.50		mg/L	5	10/7/2019 02:00 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	460	2.0	25		mg/L	50	10/8/2019 02:02 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 04:24 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	2.1	0.048	0.50		mg/L	5	10/7/2019 02:16 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	470	2.0	25		mg/L	50	10/8/2019 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
Lab Order: N037736
Project: PG&E Topock - CMP, 30019131
Lab ID: N037736-006

Client Sample ID: CW-03D-LF-Q419
Collection Date: 10/2/2019 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_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 07:34 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	2.8	0.048	0.50		mg/L	5	10/7/2019 02:32 PM
ANIONS BY ION CHROMATOGRAPHY				**EPA 300.0**			
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	460	2.0	25		mg/L	50	10/8/2019 07:18 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:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Chloride	2300	17	250		mg/L	500	10/8/2019 08:05 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007A** QC Batch: **R136816**				PrepDate			Analyst: **RAB**
Fluoride	4.2	0.048	0.50		mg/L	5	10/7/2019 02:48 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008A** QC Batch: **R136839**				PrepDate			Analyst: **RAB**
Sulfate	490	2.0	25		mg/L	50	10/8/2019 07:49 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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	MB-R136839_CL	SampType:	MBLK	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	PBW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530574

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	0.145	0.50									

Sample ID	LCS-R136839_CL	SampType:	LCS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	LCSW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2.023	0.50	2.000	0	101	90	110				

Sample ID	N037722-001DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530580

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3163.900	250	1000	2158	101	80	120				

Sample ID	N037736-004DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530582

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3117.300	250	1000	2088	103	80	120				

Sample ID	N037736-004DMSD	SampType:	MSD	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530583

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	3097.000	250	1000	2088	101	80	120	3117	0.653	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **N037736-005DDUP**	SampType: **DUP**	TestCode: **300_W_CLP**	Units: **mg/L**	Prep Date:				RunNo: **136839**			
Client ID: **ZZZZZZ**	Batch ID: **R136839**	TestNo: **EPA 300.0**		Analysis Date: **10/8/2019**				SeqNo: **3530587**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2126.750	250						2085	1.98	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID	MB-R136816_F	SampType:	MBLK	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	PBW	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529060

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID	LCS-R136816_F	SampType:	LCS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	LCSW	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529061

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.291	0.10	1.250	0	103	90	110				

Sample ID	N037736-001DMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	ZZZZZZ	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529076

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.268	0.50	6.250	2.967	101	80	120				

Sample ID	N037736-001DMSD	SampType:	MSD	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	ZZZZZZ	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529077

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.263	0.50	6.250	2.967	101	80	120	9.268	0.0594	20	

Sample ID	N037722-001DMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136816
Client ID:	ZZZZZZ	Batch ID:	R136816	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529078

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.749	0.50	6.250	3.267	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID **N037718-001BDUP**	SampType: **DUP**	TestCode: **300_W_FPG**	Units: **mg/L**	Prep Date:			RunNo: **136816**				
Client ID: **ZZZZZZ**	Batch ID: **R136816**	TestNo: **EPA 300.0**		Analysis Date: **10/7/2019**			SeqNo: **3529079**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.015	0.50						3.125	3.57	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	MB-R136839_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	PBW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530604

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	LCS-R136839_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	LCSW	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530605

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.056	0.50	4.000	0	101	90	110				

Sample ID	N037722-001DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530616

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	684.995	25	200.0	479.3	103	80	120				

Sample ID	N037736-004DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530618

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	661.330	25	200.0	463.0	99.2	80	120				

Sample ID	N037736-004DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136839
Client ID:	ZZZZZZ	Batch ID:	R136839	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3530619

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	660.465	25	200.0	463.0	98.7	80	120	661.3	0.131	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID **N037736-005DDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:				RunNo: **136839**			
Client ID: **ZZZZZZ**	Batch ID: **R136839**	TestNo: **EPA 300.0**		Analysis Date: **10/8/2019**				SeqNo: **3530623**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	461.945	25						466.2	0.913	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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.7	0.16	0.25		mg/L	5	10/12/2019

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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate			Analyst: **MBC**	
Nitrate/Nitrite as N	3.0	0.16	0.25		mg/L	5	10/12/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.9	0.16	0.25		mg/L	5	10/12/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.9	0.16	0.25		mg/L	5	10/12/2019

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits 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-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate			Analyst: **MBC**	
Nitrate/Nitrite as N	3.0	0.16	0.25		mg/L	5	10/12/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191012A**	QC Batch: **R136983**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	3.3	0.16	0.25		mg/L	5	10/12/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.4	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID **MB-R136950**	SampType: **MBLK**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136950**
Client ID: **PBW**	Batch ID: **R136950**	TestNo: **SM4500-NO3**		Analysis Date: **10/14/2019**	SeqNo: **3535531**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID **LCS-R136950**	SampType: **LCS**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136950**
Client ID: **LCSW**	Batch ID: **R136950**	TestNo: **SM4500-NO3**		Analysis Date: **10/14/2019**	SeqNo: **3535532**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.464	0.050	0.5000	0	92.9	85	115				

Sample ID **N037613-003BDUP**	SampType: **DUP**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136950**
Client ID: **ZZZZZZ**	Batch ID: **R136950**	TestNo: **SM4500-NO3**		Analysis Date: **10/14/2019**	SeqNo: **3535595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.921	0.050						0.8966	2.72	20	

Sample ID **N037757-002DMS**	SampType: **MS**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136950**
Client ID: **ZZZZZZ**	Batch ID: **R136950**	TestNo: **SM4500-NO3**		Analysis Date: **10/14/2019**	SeqNo: **3535598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.216	0.25	2.500	2.822	95.8	75	125				

Sample ID **N037757-002DMSD**	SampType: **MSD**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:	RunNo: **136950**
Client ID: **ZZZZZZ**	Batch ID: **R136950**	TestNo: **SM4500-NO3**		Analysis Date: **10/14/2019**	SeqNo: **3535674**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.531	0.25	2.500	2.822	108	75	125	5.216	5.87	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: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID	MB-R136983	SampType:	MBLK	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136983
Client ID:	PBW	Batch ID:	R136983	TestNo:	SM4500-NO3			Analysis Date:	10/12/2019	SeqNo:	3536757

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID	LCS-R136983	SampType:	LCS	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136983
Client ID:	LCSW	Batch ID:	R136983	TestNo:	SM4500-NO3			Analysis Date:	10/12/2019	SeqNo:	3536758

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.496	0.050	0.5000	0	99.2	85	115				

Sample ID	N037723-001CDUP	SampType:	DUP	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136983
Client ID:	ZZZZZZ	Batch ID:	R136983	TestNo:	SM4500-NO3			Analysis Date:	10/12/2019	SeqNo:	3536807

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050						0.03870	0	20	

Sample ID	N037679-006BMS	SampType:	MS	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136983
Client ID:	ZZZZZZ	Batch ID:	R136983	TestNo:	SM4500-NO3			Analysis Date:	10/12/2019	SeqNo:	3536809

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	25.814	1.0	10.00	15.25	106	75	125				

Sample ID	N037679-006BMSD	SampType:	MSD	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136983
Client ID:	ZZZZZZ	Batch ID:	R136983	TestNo:	SM4500-NO3			Analysis Date:	10/12/2019	SeqNo:	3536810

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	26.802	1.0	10.00	15.25	116	75	125	25.81	3.76	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:**	CW-01D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 1:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	27	18	20		ug/L	1	10/7/2019 09:50 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:**	CW-01M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 2:18:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	20	18	20		ug/L	1	10/7/2019 09:55 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:**	CW-02D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 11:50:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	23	18	20		ug/L	1	10/7/2019 10:01 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:**	CW-02M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 10:28:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	90	18	20		ug/L	1	10/7/2019 10:07 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-903-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 12:00:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	1100	18	20		ug/L	1	10/7/2019 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:**	CW-03D-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 8:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	65	18	20		ug/L	1	10/7/2019 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:**	CW-03M-LF-Q419
Lab Order:	N037736	**Collection Date:**	10/2/2019 9:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037736-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	300	18	20		ug/L	1	10/7/2019 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
Work Order: N037736
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	MB-75575	SampType:	MBLK	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	PBW	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529712

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS-75575	SampType:	LCS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	LCSW	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529713

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.470	20	100.0	0	104	85	115				

Sample ID	N037722-001F-MS	SampType:	MS	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529717

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	150.457	20	100.0	31.26	119	75	125				

Sample ID	N037722-001F-MSD	SampType:	MSD	TestCode:	6010_WPGE	Units:	ug/L	Prep Date:	10/7/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75575	TestNo:	EPA 6010B	EPA 3010A		Analysis Date:	10/7/2019	SeqNo:	3529718

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.314	20	100.0	31.26	89.1	75	125	150.5	22.3	20	R

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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

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:	Address:	Sample Receipt Condition: 1. Chilled Y; 2. Headspace; 3. Container Intact; 4. Seal Present; 5. IR number; 6. Method of Cooling: Ice; Sample Temp: 0.9 / 1.3
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mbloes@nivox.com P.O.#	
Submitted By: Joe Gatel		Phone: 949-727-1400, ext 200 Fax:	
Title: Scientist 1	Phone: 916-786-3302 Fax:		
Signature: Date: 10/2/2019	Sampled By: Kevin Thompson	Matrix: Ground-water x; Sediment; Potable; Soil; NPDES; Other Solid; Surface	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 legal action.		Tracking No.:
Project Name: PG&E Topock - CMP	Signature: Date: 10/2/2019		
Project Number: 30019131			

Item No.	Laboratory Work Order No.	Sample ID/Location	Sample Date	Sample Time	Others	Cr(VI) FF (E218.6) (NH4)2SO4/NH4OH 250 mL poly	Ammonia as Nitrogen (SM4500-NH3D); H2SO4 250 mL poly	Dissolved metals (EPA 200.8) FF; HNO3, 500 mL poly Ag, As, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Ti, V, Zn	Dissolved metals (SW6010B) FF; HNO3 500 mL poly Barium	Dissolved metals (EPA200.7) FF; HNO3 500 mL poly Al, B, Ca, Fe, K, Mg, Na	Dissolved metals (EPA 245.1); HNO3 500 mL poly Mercury	Anions (E300.0); Chloride, Fluoride, Sulfate 1 liter poly	Specific Conductance (E120.1) 1 liter poly	pH (SM4500-HB) 1 liter poly	TDS (SM2540C) 1 liter poly	Alkalinity (Total, reported as CaCO3) (SM2320B) 1 liter poly	Turbidity (SM2130B) 1 liter poly	Nitrate/Nitrite as Nitrogen (SM4500N03); H2SO4 125 mL poly	Total metals (SW6010B); HNO3 Fe 500 mL poly	Dissolved metals (EPA200.7) FF; HNO3 Na 1 L poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N037736-01	CW-01D-LF-Q419	10/2/2019	13:18		X	X	X	X	X	X	X	X		X	X	X	X	X		E	6	P	BNS	
2	-02	CW-01M-LF-Q419	10/2/2019	14:18		X	X	X	X	X	X	X	X		X	X	X	X	X		E	6	P	BNS	
3	-03	CW-02D-LF-Q419	10/2/2019	11:50		X	X	X	X	X	X	X	X		X	X	X	X	X		E	6	P	BNS	
4	-04	CW-02M-LF-Q419	10/2/2019	10:28		X	X	X	X	X	X	X	X		X	X	X	X	X		E	6	P	BNS	
5	-05	MW-903-Q419	10/2/2019	12:00		X	X	X	X	X	X	X	X		X	X	X	X	X		E	6	P	BNS	
6	-06	CW-03D-LF-Q419	10/2/2019	8:30		X	X	X	X	X	X	X	X		X	X	X	X	X		E	6	P	BNS	
7	-07	CW-03M-LF-Q419	10/2/2019	9:36		X	X	X	X	X	X	X	X		X	X	X	X	X		E	6	P	BNS	
8	-08	EB-709-Q319	10/2/2019	14:32		X															E	1	P	B	
9																									
10																									

Relinquished by (Signature and Printed Name): Kevin Thompson Date/Time: 10.2.19 1610
Received by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time:
Received by (Signature and Printed Name): Date/Time:

Relinquished by (Signature and Printed Name): Date/Time: 10/2/19 1616
Received by (Signature and Printed Name): Date/Time:
Relinquished by (Signature and Printed Name): Date/Time: 10/2/19 620 pm
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:
Tittle 22 Metals - 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

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=Poly
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:	10/2/2019	Workorder:	N037736
Rep sample Temp (Deg C):	0.9/1.3	IR Gun ID:	1
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 10/3/2019

Reviewed By: LG 100919

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Friday, October 04, 2019 11:59 AM
To: Yoandra Rodriguez
Cc: maryann.balilu@assetlaboratoriesph.com; andrea.gallardo@assetlaboratories.com
Subject: RE: CMP. Asset Labs No. N037736 and N037758

Hi Yoandra,

Dissolved metals, except Ba, are requested by 200.7/200.8 while total Fe by 6010. Can we analyze both dissolved and total metals by 200 series? Dissolved metals should be run by 200.7/200.8. However the Total Iron historical method is 6010. To be consistent we should run the total iron by 6010. Will that cause any problems?

Dissolved Ba is requested by 6010, is it possible to run it by 200.8? Yes, 200.8 is the historical method. 6010 was accidentally put on the COC.

Thanks,
Laura

-----Original Message-----
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Friday, October 4, 2019 12:53 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; andrea.gallardo@assetlaboratories.com
Subject: CMP. Asset Labs No. N037736 and N037758

Hi Laura,

Please kindly double check metal request on the attached COCs belong to CMP project.

Dissolved metals, except Ba, are requested by 200.7/200.8 while total Fe by 6010. Can we analyze both dissolved and total metals by 200 series?

Dissolved Ba is requested by 6010, is it possible to run it by 200.8?

Please advise.

Thanks,

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ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-001A	CW-01D-LF-Q419	10/2/2019 1:18:00 PM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-001B			10/16/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037736-001C			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/16/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/16/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037736-001D			10/16/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/16/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/16/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/16/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/16/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037736-001E			10/16/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037736-001F			10/16/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-002A	CW-01M-LF-Q419	10/2/2019 2:18:00 PM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-002B			10/16/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037736-002C			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/16/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/16/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037736-002D			10/16/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/16/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/16/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/16/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/16/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037736-002E			10/16/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037736-002F			10/16/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-003A	CW-02D-LF-Q419	10/2/2019 11:50:00 AM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-003B			10/16/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037736-003C			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/16/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/16/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037736-003D			10/16/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/16/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/16/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/16/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/16/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037736-003E			10/16/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037736-003F			10/16/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-004A	CW-02M-LF-Q419	10/2/2019 10:28:00 AM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-004B			10/16/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037736-004C			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/16/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/16/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037736-004D			10/16/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/16/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/16/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/16/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/16/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037736-004E			10/16/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037736-004F			10/16/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-005A	MW-903-Q419	10/2/2019 12:00:00 PM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-005B			10/16/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037736-005C			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/16/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/16/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037736-005D			10/16/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/16/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/16/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/16/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/16/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037736-005E			10/16/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037736-005F			10/16/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-006A	CW-03D-LF-Q419	10/2/2019 8:30:00 AM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-006B			10/16/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037736-006C			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/16/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/16/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037736-006D			10/16/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/16/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/16/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/16/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/16/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037736-006E			10/16/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037736-006F			10/16/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-007A	CW-03M-LF-Q419	10/2/2019 9:36:00 AM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-007B			10/16/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037736-007C			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/16/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/16/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/16/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/16/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037736-007D			10/16/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/16/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/16/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/16/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/16/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/16/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037736-007E			10/16/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037736-007F			10/16/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/16/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037736

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/2/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037736-008A	EB-709-Q319	10/2/2019 2:32:00 PM	10/16/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037736-009A	FOLDER	10/16/2019	10/16/2019		EDD	RWQCB	☐	☐	☐	LAB
			10/16/2019		Folder	Folder	☐	☐	☐	LAB
			10/16/2019		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
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: Kevin Thompson

03-Oct-19

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N037736-001B / CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	8OZP	1		
N037736-002B / CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	8OZP	1		
N037736-003B / CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	8OZP	1		
N037736-004B / CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	8OZP	1		
N037736-005B / MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	8OZP	1		
N037736-006B / CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	8OZP	1		
N037736-007B / CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	8OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM. Please cc andrea.gallardo@assetlaboratories.com

Please use PO#:N37736A 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: Normal TAT.

Please analyze for Ammonia by SM4500NH3D. EDD Requirement Labspec7 edata.

GSO #: 546410382

		Date/Time		Date/Time
Relinquished by:	YLJ	10/3/2019 17:00	**Received by:**	
Relinquished by:			**Received by:**	

Enthalpy Analytical
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900

enthalpy.com

Lab Job Number: 314595
Report Level: II
Report Date: 10/18/2019

Analytical Report *prepared for:*

Andrea Gallardo
ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118

Authorized for release by:

Patrick McCarthy, Project Manager
(510) 204-2236 ext 13115
patrick.mccarthy@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

Sample Summary

Andrea Gallardo
ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118

Lab Job Number: 314595
Date Received: 10/04/19

Sample ID	Lab ID	Collected	Matrix
N037736-001B / CW-01D-LF-Q419	314595-001	10/02/19 13:18	Water
N037736-002B / CW-01M-LF-Q419	314595-002	10/02/19 14:18	Water
N037736-003B / CW-02D-LF-Q419	314595-003	10/02/19 11:50	Water
N037736-004B / CW-02M-LF-Q419	314595-004	10/02/19 10:28	Water
N037736-005B / MW-903-Q419	314595-005	10/02/19 12:00	Water
N037736-006B / CW-03D-LF-Q419	314595-006	10/02/19 08:30	Water
N037736-007B / CW-03M-LF-Q419	314595-007	10/02/19 09:36	Water

ENTHALPY ANALYTICAL

Case Narrative

ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118
Andrea Gallardo

Lab Job Number: 314595
Date Received: 10/04/19

This data package contains sample and QC results for seven water samples, requested for the above referenced project on 10/04/19. The samples were received cold and intact.

Ammonia Nitrogen (SM4500NH3-D):
No analytical problems were encountered.

ENTHALPY ANALYTICAL

Detection Summary for 314595

Client: ASSET LABS

Sample ID: N037736-001B / CW-01D-LF-Q419 Lab ID: 314595-001

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.13		0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

Sample ID: N037736-002B / CW-01M-LF-Q419 Lab ID: 314595-002

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.090	J	0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

Sample ID: N037736-003B / CW-02D-LF-Q419 Lab ID: 314595-003

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.060	J	0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

Sample ID: N037736-004B / CW-02M-LF-Q419 Lab ID: 314595-004

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.14		0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

Sample ID: N037736-005B / MW-903-Q419 Lab ID: 314595-005

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.11		0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

Sample ID: N037736-006B / CW-03D-LF-Q419 Lab ID: 314595-006

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.090	J	0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

Sample ID: N037736-007B / CW-03M-LF-Q419 Lab ID: 314595-007

Analyte	Result	Flags	RL	MDL	Units	Basis	IDF	Method	Prep Method
Ammonia-N	0.070	J	0.10	0.020	mg/L	TOTAL	1.000	SM4500NH3-D	SM4500NH3-B

J: Estimated value

Results for any subcontracted analyses are not included in this summary. Data qualifiers and additional information necessary for the interpretation of the test results are contained in the PDF file and may not be included in this summary.

314595

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
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: Kevin Thompson

03-Oct-19

	Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
					SM4500-NH3D		
1	N037736-001B / CW-01D-LF-Q419	Groundwater	10/2/2019 1:18:00 PM	8OZP	1		
2	N037736-002B / CW-01M-LF-Q419	Groundwater	10/2/2019 2:18:00 PM	8OZP	1		
3	N037736-003B / CW-02D-LF-Q419	Groundwater	10/2/2019 11:50:00 AM	8OZP	1		
4	N037736-004B / CW-02M-LF-Q419	Groundwater	10/2/2019 10:28:00 AM	8OZP	1		
5	N037736-005B / MW-903-Q419	Groundwater	10/2/2019 12:00:00 PM	8OZP	1		
6	N037736-006B / CW-03D-LF-Q419	Groundwater	10/2/2019 8:30:00 AM	8OZP	1		
7	N037736-007B / CW-03M-LF-Q419	Groundwater	10/2/2019 9:36:00 AM	8OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM. Please cc andrea.gallardo@assetlaboratories.com

Please use PO#:N37736A 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: Normal TAT.

Please analyze for Ammonia by SM4500NH3D. EDD Requirement Labspec7 edata.

GSO #: 546410382

		Date/Time			Date/Time
Relinquished by:	YRJ	10/3/2019 17:00	**Received by:**		10/4/19 10:15
Relinquished by:			**Received by:**		

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 314595 Client: Assest Laboratories

Date Received: 10/4/19 Project: _____

Section 2: Shipping info (if applicable) 544137996 GSO

Are custody seals present? ☒ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☐ N/A

Samples received in a cooler? ☒ Yes, how many? 1 ☐ No (**skip Section 3 below**)

If no cooler Sample Temp (°C): _____ using IR Gun # ☒ B, or ☐ C

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 10/4/19 By (print) A (sign) _____

Section 3: ***Important*: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☒ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used : ☒ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☐ Yes, ☒ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☒ B ☐ C

Cooler Temp (°C): #1: 1.4, #2: _____, #3: _____, #4: _____, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	—		
Were Method 5035 sampling containers present?		—	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	—		
Are there any missing / extra samples?		—	
Are samples in the appropriate containers for indicated tests?	—		
Are sample labels present, in good condition and complete?	—		
Does the container count match the COC?	—		
Do the sample labels agree with custody papers?	—		
Was sufficient amount of sample sent for tests requested?	—		
Did you change the hold time in LIMS for unpreserved VOAs?			—
Did you change the hold time in LIMS for preserved terracores?			—
Are bubbles > 6mm present in VOA samples?			—
Was the client contacted concerning this sample delivery?		—	
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)	—		
Did you check preservatives for all bottles for each sample?	—		
Did you document your preservative check?	—		

pH strip lot# 80150H2891, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: _____

Date Logged in 10/4/19 **By (print)** R **(sign)** R

Date Labeled 10/4/19 **By (print)** AC **(sign)** _____

Enthalpy Sample Preservation for 314595

Sample	pH: <2	>9	>12	Other
-001a	[✓]	[ ]	[ ]	_____
-002a	[✓]	[ ]	[ ]	_____
-003a	[✓]	[ ]	[ ]	_____
-004a	[✓]	[ ]	[ ]	_____
-005a	[✓]	[ ]	[ ]	_____
-006a	[✓]	[ ]	[ ]	_____
-007a	[✓]	[ ]	[ ]	_____

Analyst: _____

Date: 10/4/19

ENTHALPY ANALYTICAL

Ammonia Nitrogen

Lab #: 314595 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Field ID: N037736-001B / CW-01D-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 12:50
Lab ID: 314595-001 **Sampled:** 10/02/19 13:18 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.13**	0.10	0.020	mg/L

Field ID: N037736-002B / CW-01M-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 12:50
Lab ID: 314595-002 **Sampled:** 10/02/19 14:18 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.090 J**	0.10	0.020	mg/L

Field ID: N037736-003B / CW-02D-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 12:50
Lab ID: 314595-003 **Sampled:** 10/02/19 11:50 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.060 J**	0.10	0.020	mg/L

Field ID: N037736-004B / CW-02M-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 12:50
Lab ID: 314595-004 **Sampled:** 10/02/19 10:28 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.14**	0.10	0.020	mg/L

Field ID: N037736-005B / MW-903-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 12:50
Lab ID: 314595-005 **Sampled:** 10/02/19 12:00 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.11**	0.10	0.020	mg/L

Field ID: N037736-006B / CW-03D-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/08/19 10:42
Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 12:50
Lab ID: 314595-006 **Sampled:** 10/02/19 08:30 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.090 J**	0.10	0.020	mg/L

ENTHALPY ANALYTICAL

Ammonia Nitrogen

Lab #: 314595 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Field ID: N037736-007B / CW-03M-LF-Q419 **DilnFac:** 1.000 **Prepared:** 10/08/19 10:42

Type: SAMPLE **Batch#:** 274885 **Analyzed:** 10/08/19 12:50

Lab ID: 314595-007 **Sampled:** 10/02/19 09:36 **Prep:** SM4500NH3-B

Matrix: Water **Received:** 10/04/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.070 J**	0.10	0.020	mg/L

Type: BLANK **DilnFac:** 1.000 **Analyzed:** 10/08/19 12:50

Lab ID: QC994111 **Batch#:** 274885 **Prep:** SM4500NH3-B

Matrix: Water **Prepared:** 10/08/19 10:42 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	ND	0.10	0.020	mg/L

Legend

J: Estimated value

MDL: Method Detection Limit

ND: Not Detected at or above MDL

RL: Reporting Limit

ENTHALPY ANALYTICAL

Ammonia Nitrogen: Batch QC

Lab #: 314595 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Type: LCS **Diln Fac:** 1.000 **Analyzed:** 10/08/19 12:50

Lab ID: QC994112 **Batch#:** 274885 **Prep:** SM4500NH3-B

Matrix: Water **Prepared:** 10/08/19 10:42 **Analysis:** SM4500NH3-D

Analyte	Spiked	Result	%REC	Limits	Units
Ammonia-N	5.000	4.100	82	80-120	mg/L

Field ID: N037736-003B / CW-02D-LF-Q419 **Diln Fac:** 1.000 **Analyzed:** 10/08/19 12:50

Type: MS **Batch#:** 274885 **Prep:** SM4500NH3-B

MSS Lab ID: 314595-003 **Sampled:** 10/02/19 11:50 **Analysis:** SM4500NH3-D

Lab ID: QC994113 **Received:** 10/04/19

Matrix: Water **Prepared:** 10/08/19 10:42

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Ammonia-N	0.06000	5.000	4.000	80	28-120	mg/L

Field ID: N037736-003B / CW-02D-LF-Q419 **Diln Fac:** 1.000 **Analyzed:** 10/08/19 12:50

Type: MSD **Batch#:** 274885 **Prep:** SM4500NH3-B

MSS Lab ID: 314595-003 **Sampled:** 10/02/19 11:50 **Analysis:** SM4500NH3-D

Lab ID: QC994114 **Received:** 10/04/19

Matrix: Water **Prepared:** 10/08/19 10:42

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Ammonia-N	5.000	4.300	86	28-120	mg/L	7	30

Legend

RPD: Relative Percent Difference

October 21, 2019

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

TEL: (916) 786-3302
FAX:

Workorder No.: N037758

RE: PG&E Topock - CMP, 30019131

Attention: Dan Bush

Enclosed are the results for sample(s) received on October 03, 2019 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 Ribucas for

Puri Romualdo
Laboratory Director

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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 Enthalpy Analytical- Berkeley, CA.

Analytical Comments for EPA 200.7_Dissolved:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Calcium in QC samples N037736-001C-MS1, N037736-001C-MSD1 and N037758-011B-MS1 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 Sodium in QC samples N037736-002C-MS2, N037736-002C-MSD2 and N037758-010C-MS2 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 200.8_Dissolved:

Because the results for total dissolved chromium (17 ug/L) and hexavalent chromium (7.4 ug/L) for sample N037758-004 (OW-01S-Q419) 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 16 and 7.7 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 (2.4 ug/L) and hexavalent chromium (1.5 ug/L) for sample N037758-005 (OW-02D-Q419) 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 1.3 ug/L, respectively. Since these data confirmed the original result for total dissolved chromium, the original result is reported.

Dilution was necessary on Beryllium for sample N037758-005 due to associated internal standard not meeting method criteria possibly due to matrix interference. Sample was analyzed with dilution and internal standard met method criteria. Affected analytes for this failed internal standard were reported at dilution that meets internal standard recovery limit.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N037736-001C-MS, N037736-001C-MSD and N037758-011B-MS 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 218.6:

Because the results for total dissolved chromium (17 ug/L) and hexavalent chromium (7.4 ug/L) for sample N037758-004 (OW-01S-Q419) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Because the results for total dissolved chromium (2.4 ug/L) and hexavalent chromium (1.5 ug/L) for sample N037758-005 (OW-02D-Q419) are discrepant, sample re-analysis and Matrix Spike protocol were performed and result confirmed initial analysis.

Analytical Comments for EPA 6010B_Total:

RPD for Matrix Spike(MS) and Matrix Spike Duplicate(MSD) is outside criteria for Iron ; however, the associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - CMP, 30019131
Lab Order: N037758
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N037758-001A	OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	10/3/2019	10/21/2019
N037758-001B	OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	10/3/2019	10/21/2019
N037758-001C	OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	10/3/2019	10/21/2019
N037758-001D	OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	10/3/2019	10/21/2019
N037758-001E	OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	10/3/2019	10/21/2019
N037758-001F	OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	10/3/2019	10/21/2019
N037758-002A	MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	10/3/2019	10/21/2019
N037758-002B	MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	10/3/2019	10/21/2019
N037758-002C	MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	10/3/2019	10/21/2019
N037758-002D	MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	10/3/2019	10/21/2019
N037758-002E	MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	10/3/2019	10/21/2019
N037758-002F	MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	10/3/2019	10/21/2019
N037758-003A	OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	10/3/2019	10/21/2019
N037758-003B	OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	10/3/2019	10/21/2019
N037758-003C	OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	10/3/2019	10/21/2019
N037758-003D	OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	10/3/2019	10/21/2019
N037758-003E	OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	10/3/2019	10/21/2019
N037758-003F	OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	10/3/2019	10/21/2019
N037758-004A	OW-01S-Q419	Groundwater	10/3/2019 10:36:00 AM	10/3/2019	10/21/2019
N037758-004B	OW-01S-Q419	Groundwater	10/3/2019 10:36:00 AM	10/3/2019	10/21/2019
N037758-004C	OW-01S-Q419	Groundwater	10/3/2019 10:36:00 AM	10/3/2019	10/21/2019
N037758-004D	OW-01S-Q419	Groundwater	10/3/2019 10:36:00 AM	10/3/2019	10/21/2019
N037758-005A	OW-02D-Q419	Groundwater	10/3/2019 11:30:00 AM	10/3/2019	10/21/2019
N037758-005B	OW-02D-Q419	Groundwater	10/3/2019 11:30:00 AM	10/3/2019	10/21/2019
N037758-005C	OW-02D-Q419	Groundwater	10/3/2019 11:30:00 AM	10/3/2019	10/21/2019
N037758-005D	OW-02D-Q419	Groundwater	10/3/2019 11:30:00 AM	10/3/2019	10/21/2019
N037758-005E	OW-02D-Q419	Groundwater	10/3/2019 11:30:00 AM	10/3/2019	10/21/2019
N037758-005F	OW-02D-Q419	Groundwater	10/3/2019 11:30:00 AM	10/3/2019	10/21/2019
N037758-006A	OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	10/3/2019	10/21/2019

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - CMP, 30019131
Lab Order: N037758
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N037758-006B	OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	10/3/2019	10/21/2019
N037758-006C	OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	10/3/2019	10/21/2019
N037758-006D	OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	10/3/2019	10/21/2019
N037758-006E	OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	10/3/2019	10/21/2019
N037758-006F	OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	10/3/2019	10/21/2019
N037758-007A	OW-02S-Q419	Groundwater	10/3/2019 12:25:00 PM	10/3/2019	10/21/2019
N037758-007B	OW-02S-Q419	Groundwater	10/3/2019 12:25:00 PM	10/3/2019	10/21/2019
N037758-007C	OW-02S-Q419	Groundwater	10/3/2019 12:25:00 PM	10/3/2019	10/21/2019
N037758-007D	OW-02S-Q419	Groundwater	10/3/2019 12:25:00 PM	10/3/2019	10/21/2019
N037758-008A	OW-05D-Q419	Groundwater	10/3/2019 1:36:00 PM	10/3/2019	10/21/2019
N037758-008B	OW-05D-Q419	Groundwater	10/3/2019 1:36:00 PM	10/3/2019	10/21/2019
N037758-008C	OW-05D-Q419	Groundwater	10/3/2019 1:36:00 PM	10/3/2019	10/21/2019
N037758-008D	OW-05D-Q419	Groundwater	10/3/2019 1:36:00 PM	10/3/2019	10/21/2019
N037758-008E	OW-05D-Q419	Groundwater	10/3/2019 1:36:00 PM	10/3/2019	10/21/2019
N037758-008F	OW-05D-Q419	Groundwater	10/3/2019 1:36:00 PM	10/3/2019	10/21/2019
N037758-009A	OW-05M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	10/3/2019	10/21/2019
N037758-009B	OW-05M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	10/3/2019	10/21/2019
N037758-009C	OW-05M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	10/3/2019	10/21/2019
N037758-009D	OW-05M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	10/3/2019	10/21/2019
N037758-009E	OW-05M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	10/3/2019	10/21/2019
N037758-009F	OW-05M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	10/3/2019	10/21/2019
N037758-010A	MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	10/3/2019	10/21/2019
N037758-010B	MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	10/3/2019	10/21/2019
N037758-010C	MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	10/3/2019	10/21/2019
N037758-010D	MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	10/3/2019	10/21/2019
N037758-010E	MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	10/3/2019	10/21/2019
N037758-010F	MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	10/3/2019	10/21/2019
N037758-011A	OW-05S-LF-Q419	Groundwater	10/3/2019 2:33:00 PM	10/3/2019	10/21/2019
N037758-011B	OW-05S-LF-Q419	Groundwater	10/3/2019 2:33:00 PM	10/3/2019	10/21/2019
N037758-011C	OW-05S-LF-Q419	Groundwater	10/3/2019 2:33:00 PM	10/3/2019	10/21/2019

CLIENT: ARCADIS U.S., Inc. - California
Project: PG&E Topock - CMP, 30019131
Lab Order: N037758
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N037758-011D	OW-05S-LF-Q419	Groundwater	10/3/2019 2:33:00 PM	10/3/2019	10/21/2019
N037758-012A	EB-710-Q319	Groundwater	10/3/2019 2:47:00 PM	10/3/2019	10/21/2019
N037758-013A	EB-711-Q319	Groundwater	10/3/2019 3:15:00 PM	10/3/2019	10/21/2019

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7500	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7500	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	5700	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7200	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	3500	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_191004D**	QC Batch: **R136784**			PrepDate			Analyst: **LR**
Specific Conductance	5000	0.10	0.10		umhos/cm	1	10/4/2019 01:55 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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID	**N037758-004CDUP**	SampType:	**DUP**	TestCode:	**120.1_WPGE**	Units:	**umhos/cm**	Prep Date:		RunNo:	**136784**
Client ID:	**ZZZZZZ**	Batch ID:	**R136784**	TestNo:	**EPA 120.1**			Analysis Date:	**10/4/2019**	SeqNo:	**3526793**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	5670.000	0.10						5680	0.176	2	

Sample ID	**N037758-011CDUP**	SampType:	**DUP**	TestCode:	**120.1_WPGE**	Units:	**umhos/cm**	Prep Date:		RunNo:	**136784**
Client ID:	**ZZZZZZ**	Batch ID:	**R136784**	TestNo:	**EPA 120.1**			Analysis Date:	**10/4/2019**	SeqNo:	**3526801**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	5080.000	0.10						5050	0.592	2	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4000	50	50		mg/L	1	10/7/2019 01:25 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-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	10/7/2019 01:25 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:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	10/7/2019 01:25 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:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	3600	50	50		mg/L	1	10/7/2019 01:25 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4100	50	50		mg/L	1	10/7/2019 01:25 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	10/7/2019 01:25 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:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	2000	25	25		mg/L	1	10/7/2019 01:25 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**				PrepDate	**10/7/2019**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4100	50	50		mg/L	1	10/7/2019 01:25 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	10/7/2019 01:25 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007C**	QC Batch: **75580**				PrepDate	**10/7/2019**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4200	50	50		mg/L	1	10/7/2019 01:25 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:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_191007D**	QC Batch: **75581**			PrepDate	**10/7/2019**		Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	3600	50	50		mg/L	1	10/7/2019 01:25 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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID	LCS-75580	SampType:	LCS	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/7/2019	RunNo:	136829
Client ID:	LCSW	Batch ID:	75580	TestNo:	SM2540C			Analysis Date:	10/7/2019	SeqNo:	3530234

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	951.000	10	1000	0	95.1	80	120				

Sample ID	MB-75580	SampType:	MBLK	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/7/2019	RunNo:	136829
Client ID:	PBW	Batch ID:	75580	TestNo:	SM2540C			Analysis Date:	10/7/2019	SeqNo:	3530235

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

Sample ID	N037758-001DDUP	SampType:	DUP	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/7/2019	RunNo:	136829
Client ID:	ZZZZZZ	Batch ID:	75580	TestNo:	SM2540C			Analysis Date:	10/7/2019	SeqNo:	3530237

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4210.000	50						4050	3.87	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID	LCS-75581	SampType:	LCS	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/7/2019	RunNo:	136830
Client ID:	LCSW	Batch ID:	75581	TestNo:	SM2540C			Analysis Date:	10/7/2019	SeqNo:	3530247

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	958.000	10	1000	0	95.8	80	120				

Sample ID	MB-75581	SampType:	MBLK	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/7/2019	RunNo:	136830
Client ID:	PBW	Batch ID:	75581	TestNo:	SM2540C			Analysis Date:	10/7/2019	SeqNo:	3530248

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

Sample ID	N037771-001ADUP	SampType:	DUP	TestCode:	160.1_2540C	Units:	mg/L	Prep Date:	10/7/2019	RunNo:	136830
Client ID:	ZZZZZZ	Batch ID:	75581	TestNo:	SM2540C			Analysis Date:	10/7/2019	SeqNo:	3530255

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	13380.000	200						13300	0.600	5	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**			PrepDate	**10/4/2019**	Analyst: **DJ**	
Aluminum	ND	40	50		µg/L	1	10/4/2019 11:04 PM
Boron	940	74	100		µg/L	1	10/4/2019 11:04 PM
Calcium	160000	85	500		µg/L	1	10/4/2019 11:04 PM
Iron	20	18	20		µg/L	1	10/7/2019 08:02 PM
Magnesium	23000	48	100		µg/L	1	10/4/2019 11:04 PM
Potassium	12000	430	2500		µg/L	5	10/10/2019 12:18 PM
Sodium	1100000	4800	25000		µg/L	50	10/10/2019 04:54 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
Lab Order: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-002

Client Sample ID: MW-904-Q419
Collection Date: 10/3/2019 9:51:00 AM
Matrix: GROUNDWATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/4/2019 11:10 PM
Boron	970	74	100		µg/L	1	10/4/2019 11:10 PM
Calcium	170000	85	500		µg/L	1	10/4/2019 11:10 PM
Iron	22	18	20		µg/L	1	10/7/2019 08:08 PM
Magnesium	24000	48	100		µg/L	1	10/4/2019 11:10 PM
Potassium	12000	430	2500		µg/L	5	10/10/2019 12:23 PM
Sodium	1100000	4800	25000		µg/L	50	10/10/2019 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
Lab Order: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-003

Client Sample ID: OW-01M-Q419
Collection Date: 10/3/2019 8:48:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICP

EPA 200.7

RunID: **NV00922-ICP2_191004B** QC Batch: **75564** PrepDate **10/4/2019** Analyst: **DJ**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Aluminum	ND	40	50		µg/L	1	10/4/2019 11:16 PM
Boron	1300	74	100		µg/L	1	10/4/2019 11:16 PM
Calcium	180000	85	500		µg/L	1	10/4/2019 11:16 PM
Iron	24	18	20		µg/L	1	10/7/2019 08:13 PM
Magnesium	28000	48	100		µg/L	1	10/4/2019 11:16 PM
Potassium	13000	430	2500		µg/L	5	10/10/2019 12:27 PM
Sodium	1200000	4800	25000		µg/L	50	10/10/2019 05:00 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:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191007B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Iron	81	18	20		µg/L	1	10/7/2019 08:19 PM
Sodium	680000	4800	25000		µg/L	50	10/10/2019 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**			PrepDate	**10/4/2019**	Analyst: **DJ**	
Aluminum	ND	40	50		µg/L	1	10/4/2019 11:27 PM
Boron	950	74	100		µg/L	1	10/4/2019 11:27 PM
Calcium	140000	85	500		µg/L	1	10/4/2019 11:27 PM
Iron	56	18	20		µg/L	1	10/7/2019 08:24 PM
Magnesium	24000	48	100		µg/L	1	10/4/2019 11:27 PM
Potassium	14000	430	2500		µg/L	5	10/10/2019 12:37 PM
Sodium	1300000	4800	25000		µg/L	50	10/10/2019 05:07 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**			PrepDate	**10/4/2019**	Analyst: **DJ**	
Aluminum	ND	40	50		µg/L	1	10/4/2019 11:32 PM
Boron	1100	74	100		µg/L	1	10/4/2019 11:32 PM
Calcium	170000	85	500		µg/L	1	10/4/2019 11:32 PM
Iron	22	18	20		µg/L	1	10/7/2019 08:30 PM
Magnesium	27000	48	100		µg/L	1	10/4/2019 11:32 PM
Potassium	11000	430	2500		µg/L	5	10/10/2019 12:42 PM
Sodium	1100000	4800	25000		µg/L	50	10/10/2019 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:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
EPA 200.7							
RunID: **NV00922-ICP2_191010A** QC Batch: **75564** PrepDate **10/4/2019** Analyst: **DJ**							
Sodium	560000	4800	25000		µg/L	50	10/10/2019 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**			PrepDate	**10/4/2019**	Analyst: **DJ**	
Aluminum	ND	40	50		µg/L	1	10/4/2019 11:53 PM
Boron	930	74	100		µg/L	1	10/4/2019 11:53 PM
Calcium	120000	85	500		µg/L	1	10/4/2019 11:53 PM
Iron	21	18	20		µg/L	1	10/7/2019 08:44 PM
Magnesium	23000	48	100		µg/L	1	10/4/2019 11:53 PM
Potassium	13000	430	2500		µg/L	5	10/10/2019 12:58 PM
Sodium	1300000	4800	25000		µg/L	50	10/10/2019 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	**Client Sample ID:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/5/2019 11:59 PM
Boron	1000	74	100		µg/L	1	10/5/2019 11:59 PM
Calcium	140000	85	500		µg/L	1	10/5/2019 11:59 PM
Iron	ND	18	20		µg/L	1	10/7/2019 08:50 PM
Magnesium	22000	48	100		µg/L	1	10/5/2019 11:59 PM
Potassium	13000	430	2500		µg/L	5	10/10/2019 01:03 PM
Sodium	1400000	4800	25000		µg/L	50	10/10/2019 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191004B**	QC Batch: **75564**				PrepDate	**10/4/2019**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	10/5/2019 12:05 AM
Boron	1000	74	100		µg/L	1	10/5/2019 12:05 AM
Calcium	140000	85	500		µg/L	1	10/5/2019 12:05 AM
Iron	ND	18	20		µg/L	1	10/7/2019 08:55 PM
Magnesium	23000	48	100		µg/L	1	10/5/2019 12:05 AM
Potassium	11000	430	2500		µg/L	5	10/10/2019 01:08 PM
Sodium	1200000	4800	25000		µg/L	50	10/10/2019 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:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_191010A**	QC Batch: **75564**			PrepDate	**10/4/2019**		Analyst: **DJ**
Sodium	520000	4800	25000		µg/L	50	10/10/2019 05:46 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
Work Order: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **MB-75564**	SampType: **MBLK**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **PBW**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Boron	ND	100									
Calcium	ND	500									
Magnesium	ND	100									

Sample ID **LCS1-75564**	SampType: **LCS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **LCSW**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527457**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9822.273	50	10000	0	98.2	85	115				
Boron	4943.914	100	5000	0	98.9	85	115				
Calcium	9830.072	500	10000	0	98.3	85	115				
Magnesium	9768.355	100	10000	0	97.7	85	115				

Sample ID **N037736-001C-MS1**	SampType: **MS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5770.717	100	5000	911.0	97.2	75	125				
Calcium	162832.994	500	10000	156500	63.0	75	125				S
Magnesium	26694.559	100	10000	17850	88.5	75	125				

Sample ID **N037736-001C-MSD**	SampType: **MSD**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date: **10/4/2019**	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5773.375	100	5000	911.0	97.2	75	125	5771	0.0460	20	
Calcium	162573.962	500	10000	156500	60.4	75	125	162800	0.159	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/4/2019	SeqNo:	3527467		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	26584.495	100	10000	17850	87.4	75	125	26690	0.413	20	

Sample ID	N037758-011B-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/5/2019	SeqNo:	3527490		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10154.819	50	10000	0	102	75	125				
Boron	5413.832	100	5000	344.6	101	75	125				
Calcium	408456.467	500	10000	355700	528	75	125				S
Magnesium	64530.101	100	10000	53080	114	75	125				

Sample ID	MB-75564	SampType:	MBLK	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819		
Client ID:	PBW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529523		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	LCS1-75564	SampType:	LCS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819		
Client ID:	LCSW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529526		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	114.235	20	100.0	0	114	85	115				

Sample ID	N037736-001C-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529530		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	100.503	20	100.0	20.21	80.3	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136819
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/7/2019	SeqNo:	3529531

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.049	20	100.0	20.21	83.8	75	125	100.5	3.47	20	

Sample ID	N037736-001C-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/4/2019	SeqNo:	3532099

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9875.612	50	10000	40.63	98.3	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136789
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/4/2019	SeqNo:	3532100

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9409.863	50	10000	40.63	93.7	75	125	9876	4.83	20	

Sample ID	MB-75564	SampType:	MBLK	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	PBW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532396

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	500									
Sodium	ND	500									

Sample ID	LCS2-75564	SampType:	LCS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	LCSW	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532397

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	18385.100	500	20000	0	91.9	85	115				
Sodium	18988.830	500	20000	0	94.9	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037736-002C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532465		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Potassium	33969.924	2500	20000	10760	116	75	125						

Sample ID	N037736-002C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532469		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sodium	1396392.456	25000	20000	1183000	1070	75	125				S		

Sample ID	N037736-002C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532470		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Potassium	34381.896	2500	20000	10760	118	75	125	33970	1.21	20			

Sample ID	N037736-002C-MSD	SampType:	MSD	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532471		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Sodium	1354688.111	25000	20000	1183000	859	75	125	1396000	3.03	20	S		

Sample ID	N037758-010C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882		
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532496		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Potassium	31448.939	2500	20000	10910	103	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID	N037758-010C-MS2	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136882
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/10/2019	SeqNo:	3532497

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1204674.793	25000	20000	1162000	215	75	125				S

Sample ID	N037758-011B-MS1	SampType:	MS	TestCode:	200.7_WDPG	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	137084
Client ID:	ZZZZZZ	Batch ID:	75564	TestNo:	EPA 200.7			Analysis Date:	10/21/2019	SeqNo:	3540156

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	90.819	20	100.0	0	90.8	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WDPGEPPB

Sample ID **N037736-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3527465**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6402.641	100	5000	911.0	110	80	120				
Calcium	163268.940	500	10000	156500	67.4	80	120				S
Magnesium	27640.882	100	10000	17850	97.9	80	120				

Sample ID **N037736-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136819**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/7/2019**	SeqNo: **3529529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.697	20	100.0	20.21	100	80	120				

Sample ID **N037736-001C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136789**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/4/2019**	SeqNo: **3532098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	11161.498	50	10000	40.63	111	80	120				

Sample ID **N037736-002C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136882**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/10/2019**	SeqNo: **3532463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	10984.304	2500	20000	10760	1.14	80	120				S

Sample ID **N037736-002C-PS**	SampType: **PS**	TestCode: **200.7_WDPG**	Units: **µg/L**	Prep Date:	RunNo: **136882**
Client ID: **ZZZZZZ**	Batch ID: **75564**	TestNo: **EPA 200.7**		Analysis Date: **10/10/2019**	SeqNo: **3532464**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	1226480.558	25000	20000	1183000	217	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
Lab Order: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-001

Client Sample ID: OW-01D-Q419
Collection Date: 10/3/2019 9:41:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 05:11 PM
Arsenic	1.3	0.081	0.10		µg/L	1	10/16/2019 05:11 PM
Barium	34	0.15	1.0		µg/L	1	10/16/2019 12:29 AM
Beryllium	ND	0.042	0.50		µg/L	1	10/16/2019 12:29 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 05:11 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 05:11 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 01:12 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 05:11 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 05:11 PM
Molybdenum	20	0.21	0.50		µg/L	1	10/16/2019 05:11 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 01:12 PM
Selenium	4.0	0.36	0.50		µg/L	1	10/16/2019 05:11 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 05:11 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 05:11 PM
Vanadium	3.3	0.28	1.0		µg/L	1	10/17/2019 01:12 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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
Lab Order: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-002

Client Sample ID: MW-904-Q419
Collection Date: 10/3/2019 9:51:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 05:16 PM
Arsenic	1.2	0.081	0.10		µg/L	1	10/16/2019 05:16 PM
Barium	33	0.15	1.0		µg/L	1	10/16/2019 12:39 AM
Beryllium	ND	0.042	0.50		µg/L	1	10/16/2019 12:39 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 05:16 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 05:16 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 01:17 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 05:16 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 05:16 PM
Molybdenum	20	0.21	0.50		µg/L	1	10/16/2019 05:16 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 01:17 PM
Selenium	3.8	0.36	0.50		µg/L	1	10/16/2019 05:16 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 05:16 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 05:16 PM
Vanadium	3.3	0.28	1.0		µg/L	1	10/17/2019 01:17 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-003

Client Sample ID: OW-01M-Q419
Collection Date: 10/3/2019 8:48:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 05:21 PM
Arsenic	1.8	0.081	0.10		µg/L	1	10/16/2019 05:21 PM
Barium	80	0.15	1.0		µg/L	1	10/16/2019 12:50 AM
Beryllium	ND	0.042	0.50		µg/L	1	10/16/2019 12:50 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 05:21 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 05:21 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 01:23 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 05:21 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 05:21 PM
Molybdenum	13	0.21	0.50		µg/L	1	10/16/2019 05:21 PM
Nickel	1.1	0.26	1.0		µg/L	1	10/17/2019 01:23 PM
Selenium	3.7	0.36	0.50		µg/L	1	10/16/2019 05:21 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 05:21 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 05:21 PM
Vanadium	4.0	0.28	1.0		µg/L	1	10/17/2019 01:23 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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	**Client Sample ID:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016D**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Molybdenum	7.6	0.21	0.50		µg/L	1	10/16/2019 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: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-005

Client Sample ID: OW-02D-Q419
Collection Date: 10/3/2019 11:30:00 AM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	0.95	0.16	0.50		µg/L	1	10/16/2019 05:51 PM
Arsenic	1.9	0.081	0.10		µg/L	1	10/16/2019 05:51 PM
Barium	44	0.15	1.0		µg/L	1	10/16/2019 01:20 AM
Beryllium	ND	0.21	2.5		µg/L	5	10/16/2019 01:26 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 05:51 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 05:51 PM
Copper	6.6	0.55	1.0		µg/L	1	10/17/2019 01:28 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 05:51 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 05:51 PM
Molybdenum	22	0.21	0.50		µg/L	1	10/16/2019 05:51 PM
Nickel	3.9	0.26	1.0		µg/L	1	10/17/2019 01:28 PM
Selenium	4.2	0.36	0.50		µg/L	1	10/17/2019 09:34 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 05:51 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 05:51 PM
Vanadium	2.0	0.28	1.0		µg/L	1	10/17/2019 01:28 PM
Zinc	17	2.3	10		µg/L	1	10/16/2019 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: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-006

Client Sample ID: OW-02M-Q419
Collection Date: 10/3/2019 1:40:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 05:56 PM
Arsenic	1.6	0.081	0.10		µg/L	1	10/16/2019 05:56 PM
Barium	45	0.15	1.0		µg/L	1	10/16/2019 01:31 AM
Beryllium	ND	0.042	0.50		µg/L	1	10/16/2019 01:31 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 05:56 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 05:56 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 01:33 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 05:56 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 05:56 PM
Molybdenum	19	0.21	0.50		µg/L	1	10/16/2019 05:56 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 01:33 PM
Selenium	4.3	0.36	0.50		µg/L	1	10/16/2019 05:56 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 05:56 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 05:56 PM
Vanadium	3.4	0.28	1.0		µg/L	1	10/17/2019 01:33 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 05:56 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:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016D**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Molybdenum	23	0.21	0.50		µg/L	1	10/16/2019 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
Lab Order: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-008

Client Sample ID: OW-05D-Q419
Collection Date: 10/3/2019 1:36:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 06:06 PM
Arsenic	4.2	0.081	0.10		µg/L	1	10/16/2019 06:06 PM
Barium	26	0.15	1.0		µg/L	1	10/16/2019 01:51 AM
Beryllium	ND	0.042	0.50		µg/L	1	10/16/2019 01:51 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 06:06 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 06:06 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 01:48 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 06:06 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 06:06 PM
Molybdenum	21	0.21	0.50		µg/L	1	10/16/2019 06:06 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 01:48 PM
Selenium	4.3	0.36	0.50		µg/L	1	10/16/2019 06:06 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 06:06 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 06:06 PM
Vanadium	3.7	0.28	1.0		µg/L	1	10/17/2019 01:48 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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
Lab Order: N037758
Project: PG&E Topock - CMP, 30019131
Lab ID: N037758-009

Client Sample ID: OW-05M-LF-Q419
Collection Date: 10/3/2019 2:42:00 PM
Matrix: GROUNDWATER

DISSOLVED METALS BY ICPMS

EPA 200.8

RunID: **NV00922-ICP7_191016D** QC Batch: **75563** PrepDate **10/5/2019** Analyst: **CEI**

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 06:11 PM
Arsenic	1.0	0.081	0.10		µg/L	1	10/16/2019 06:11 PM
Barium	37	0.15	1.0		µg/L	1	10/16/2019 02:02 AM
Beryllium	ND	0.042	0.50		µg/L	1	10/16/2019 02:02 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 06:11 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 06:11 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 01:54 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 06:11 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 06:11 PM
Molybdenum	24	0.21	0.50		µg/L	1	10/16/2019 06:11 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 01:54 PM
Selenium	3.7	0.36	0.50		µg/L	1	10/16/2019 06:11 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 06:11 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 06:11 PM
Vanadium	2.3	0.28	1.0		µg/L	1	10/17/2019 01:54 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016D**	QC Batch: **75563**				PrepDate	**10/5/2019**	Analyst: **CEI**
Antimony	ND	0.16	0.50		µg/L	1	10/16/2019 06:16 PM
Arsenic	0.94	0.081	0.10		µg/L	1	10/16/2019 06:16 PM
Barium	36	0.15	1.0		µg/L	1	10/16/2019 02:22 AM
Beryllium	ND	0.042	0.50		µg/L	1	10/16/2019 02:22 AM
Cadmium	ND	0.053	0.50		µg/L	1	10/16/2019 06:16 PM
Cobalt	ND	0.042	0.50		µg/L	1	10/16/2019 06:16 PM
Copper	ND	0.55	1.0		µg/L	1	10/17/2019 01:59 PM
Lead	ND	0.13	1.0		µg/L	1	10/16/2019 06:16 PM
Manganese	ND	0.26	0.50		µg/L	1	10/16/2019 06:16 PM
Molybdenum	24	0.21	0.50		µg/L	1	10/16/2019 06:16 PM
Nickel	ND	0.26	1.0		µg/L	1	10/17/2019 01:59 PM
Selenium	3.6	0.36	0.50		µg/L	1	10/16/2019 06:16 PM
Silver	ND	0.23	0.50		µg/L	1	10/16/2019 06:16 PM
Thallium	ND	0.19	0.50		µg/L	1	10/16/2019 06:16 PM
Vanadium	2.3	0.28	1.0		µg/L	1	10/17/2019 01:59 PM
Zinc	ND	2.3	10		µg/L	1	10/16/2019 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	**Client Sample ID:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016D**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Molybdenum	12	0.21	0.50		µg/L	1	10/16/2019 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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **MB-75563** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **PBW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537716**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Arsenic	ND	0.10									
Cadmium	ND	0.50									
Cobalt	ND	0.50									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Selenium	ND	0.50									
Silver	ND	0.50									
Thallium	ND	0.50									
Zinc	ND	10									

Sample ID **LCS-75563** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **LCSW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.001	0.50	10.00	0	100	85	115				
Arsenic	10.558	0.10	10.00	0	106	85	115				
Cadmium	10.377	0.50	10.00	0	104	85	115				
Cobalt	10.020	0.50	10.00	0	100	85	115				
Lead	9.855	1.0	10.00	0	98.6	85	115				
Manganese	103.275	0.50	100.0	0	103	85	115				
Molybdenum	10.080	0.50	10.00	0	101	85	115				
Selenium	10.179	0.50	10.00	0	102	85	115				
Silver	9.500	0.50	10.00	0	95.0	85	115				
Thallium	9.318	0.50	10.00	0	93.2	85	115				
Zinc	10.343	10	10.00	0	103	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037736-001C-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537723**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.345	0.50	10.00	0	103	75	125				
Arsenic	11.732	0.10	10.00	1.155	106	75	125				
Cadmium	10.069	0.50	10.00	0.06970	100	75	125				
Cobalt	8.856	0.50	10.00	0	88.6	75	125				
Lead	9.727	1.0	10.00	0	97.3	75	125				
Manganese	49.121	0.50	100.0	0	49.1	75	125				S
Molybdenum	32.582	0.50	10.00	21.85	107	75	125				
Silver	9.761	0.50	10.00	0	97.6	75	125				
Thallium	9.695	0.50	10.00	0	97.0	75	125				
Zinc	3.805	10	10.00	0	38.0	75	125				S

Sample ID **N037736-001C-MSD** SampType: **MSD** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.374	0.50	10.00	0	104	75	125	10.35	0.277	20	
Arsenic	11.602	0.10	10.00	1.155	104	75	125	11.73	1.11	20	
Cadmium	10.395	0.50	10.00	0.06970	103	75	125	10.07	3.19	20	
Cobalt	9.006	0.50	10.00	0	90.1	75	125	8.856	1.68	20	
Lead	9.799	1.0	10.00	0	98.0	75	125	9.727	0.738	20	
Manganese	49.088	0.50	100.0	0	49.1	75	125	49.12	0.0670	20	S
Molybdenum	32.980	0.50	10.00	21.85	111	75	125	32.58	1.22	20	
Silver	9.840	0.50	10.00	0	98.4	75	125	9.761	0.811	20	
Thallium	9.719	0.50	10.00	0	97.2	75	125	9.695	0.242	20	
Zinc	3.677	10	10.00	0	36.8	75	125	3.805	0	20	S

Sample ID **N037758-011B-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537744**

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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037758-011B-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537744**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.401	0.50	10.00	0	104	75	125				
Arsenic	11.033	0.10	10.00	0.6218	104	75	125				
Cadmium	10.194	0.50	10.00	0	102	75	125				
Cobalt	9.677	0.50	10.00	0.2635	94.1	75	125				
Lead	9.418	1.0	10.00	0	94.2	75	125				
Manganese	77.155	0.50	100.0	0	77.2	75	125				
Molybdenum	22.954	0.50	10.00	11.62	113	75	125				
Silver	9.696	0.50	10.00	0	97.0	75	125				
Thallium	9.578	0.50	10.00	0	95.8	75	125				
Zinc	5.005	10	100.0	0	5.00	75	125				S

Sample ID **MB-75563** SampType: **MBLK** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137029**
Client ID: **PBW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/15/2019** SeqNo: **3537824**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Beryllium	ND	0.50									

Sample ID **LCS-75563** SampType: **LCS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137029**
Client ID: **LCSW** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/15/2019** SeqNo: **3537825**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	11.014	1.0	10.00	0	110	85	115				
Beryllium	10.520	0.50	10.00	0	105	85	115				

Sample ID **N037736-001C-MS** SampType: **MS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: **10/5/2019** RunNo: **137029**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/15/2019** SeqNo: **3537833**

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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137029	
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/15/2019	SeqNo:	3537833	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Barium	34.599	1.0	10.00	24.72	98.8	75	125					
Beryllium	12.915	0.50	10.00	0	129	75	125					S

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137029	
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/15/2019	SeqNo:	3537835	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Barium	34.228	1.0	10.00	24.72	95.1	75	125	34.60	1.08	20		
Beryllium	12.961	0.50	10.00	0	130	75	125	12.92	0.349	20		S

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137029	
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537885	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Barium	136.018	1.0	10.00	125.6	105	75	125					
Beryllium	11.016	0.50	10.00	0	110	75	125					

Sample ID	MB-75563	SampType:	MBLK	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055	
Client ID:	PBW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538540	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Copper	ND	1.0										
Nickel	ND	1.0										
Vanadium	ND	1.0										

Sample ID	LCS-75563	SampType:	LCS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055	
Client ID:	LCSW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538541	
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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	LCS-75563	SampType:	LCS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	LCSW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538541

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	11.166	1.0	10.00	0	112	85	115				
Nickel	10.847	1.0	10.00	0	108	85	115				
Vanadium	11.396	1.0	10.00	0	114	85	115				

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538545

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	12.709	1.0	10.00	2.830	98.8	75	125				
Nickel	9.133	1.0	10.00	0	91.3	75	125				
Vanadium	12.415	1.0	10.00	2.180	102	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538546

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	13.355	1.0	10.00	2.830	105	75	125	12.71	4.96	20	
Nickel	9.192	1.0	10.00	0	91.9	75	125	9.133	0.643	20	
Vanadium	12.585	1.0	10.00	2.180	104	75	125	12.41	1.36	20	

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137055
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/17/2019	SeqNo:	3538568

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.411	1.0	10.00	0	84.1	75	125				
Nickel	9.317	1.0	10.00	0	93.2	75	125				
Vanadium	13.150	1.0	10.00	2.732	104	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539441

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	12.311	0.50	10.00	3.935	83.8	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539442

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	13.597	0.50	10.00	3.935	96.6	75	125	12.31	9.93	20	

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539443

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	11.762	0.50	10.00	2.807	89.6	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID **N037736-001C-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **137024**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/16/2019** SeqNo: **3537721**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.351	0.50	10.00	0	104	80	120				
Arsenic	11.577	0.10	10.00	1.155	104	80	120				
Cadmium	10.477	0.50	10.00	0.06970	104	80	120				
Cobalt	8.967	0.50	10.00	0	89.7	80	120				
Lead	9.728	1.0	10.00	0	97.3	80	120				
Manganese	47.898	0.50	100.0	0	47.9	80	120				S
Molybdenum	33.003	0.50	10.00	21.85	112	80	120				
Silver	9.891	0.50	10.00	0	98.9	80	120				
Thallium	9.702	0.50	10.00	0	97.0	80	120				
Zinc	3.788	10	10.00	0	37.9	80	120				S

Sample ID **N037736-001C-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **137029**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/15/2019** SeqNo: **3537831**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	34.729	1.0	10.00	24.72	100	80	120				
Beryllium	12.960	0.50	10.00	0	130	80	120				S

Sample ID **N037736-001C-PS** SampType: **PS** TestCode: **200.8_WDISS** Units: **µg/L** Prep Date: RunNo: **137055**
Client ID: **ZZZZZZ** Batch ID: **75563** TestNo: **EPA 200.8** Analysis Date: **10/17/2019** SeqNo: **3538544**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	12.538	1.0	10.00	2.830	97.1	80	120				
Nickel	8.978	1.0	10.00	0	89.8	80	120				
Vanadium	12.410	1.0	10.00	2.180	102	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_WDISS

Sample ID	N037736-001C-PS	SampType:	PS	TestCode:	200.8_WDISS	Units:	µg/L	Prep Date:		RunNo:	137024
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3539440

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	14.539	0.50	10.00	3.935	106	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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	0.57	0.033	0.20		µg/L	1	10/12/2019 07:24 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 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:**	MW-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	0.54	0.033	0.20		µg/L	1	10/12/2019 07:34 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 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	**Client Sample ID:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	2.5	0.033	0.20		µg/L	1	10/12/2019 07:43 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	2.8	0.13	1.0		µg/L	1	10/16/2019 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	**Client Sample ID:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	7.4	0.033	0.20		µg/L	1	10/12/2019 07:53 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	17	0.13	1.0		µg/L	1	10/16/2019 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	1.5	0.033	0.20		µg/L	1	10/12/2019 08:02 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	2.4	0.13	1.0		µg/L	1	10/16/2019 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	1.9	0.033	0.20		µg/L	1	10/12/2019 08:12 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	1.5	0.13	1.0		µg/L	1	10/16/2019 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:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A** QC Batch: **R136933**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	15	0.17	1.0		µg/L	5	10/12/2019 08:21 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C** QC Batch: **75563**				PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	16	0.13	1.0		µg/L	1	10/16/2019 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	0.29	0.033	0.20		µg/L	1	10/12/2019 08:31 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 06:06 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	0.50	0.033	0.20		µg/L	1	10/12/2019 08:59 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	0.50	0.033	0.20		µg/L	1	10/12/2019 09:08 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C**	QC Batch: **75563**			PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	10/16/2019 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	**Client Sample ID:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A** QC Batch: **R136933**				PrepDate			Analyst: **RAB**
Hexavalent Chromium	12	0.033	0.20		µg/L	1	10/12/2019 09:18 AM
DISSOLVED METALS BY ICP-MS							
			EPA 200.8				
RunID: **NV00922-ICP7_191016C** QC Batch: **75563**				PrepDate	**10/5/2019**		Analyst: **CEI**
Chromium	12	0.13	1.0		µg/L	1	10/16/2019 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:**	EB-710-Q319
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:47:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-012		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	10/12/2019 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:**	EB-711-Q319
Lab Order:	N037758	**Collection Date:**	10/3/2019 3:15:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-013		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_191012A**	QC Batch: **R136933**			PrepDate			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	10/12/2019 09:37 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
Work Order: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8DIS_CrPGE

Sample ID	MB-75563	SampType:	MBLK	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	PBW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537655

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	1.0									

Sample ID	LCS-75563	SampType:	LCS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	LCSW	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537656

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.261	1.0	10.00	0	103	85	115				

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537662

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.952	1.0	10.00	0.4237	95.3	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537664

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.079	1.0	10.00	0.4237	96.6	75	125	9.952	1.27	20	

Sample ID	N037758-011B-MS	SampType:	MS	TestCode:	200.8DIS_Cr	Units:	µg/L	Prep Date:	10/5/2019	RunNo:	137023
Client ID:	ZZZZZZ	Batch ID:	75563	TestNo:	EPA 200.8			Analysis Date:	10/16/2019	SeqNo:	3537683

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	21.567	1.0	10.00	11.67	99.0	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	MB-R136933	SampType:	MBLK	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	PBW	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534768

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-R136933	SampType:	LCS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	LCSW	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534769

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.839	0.20	5.000	0	96.8	90	110				

Sample ID	N037735-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534787

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	N037758-001AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534790

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.561	0.20	1.000	0.5703	99.0	90	110				

Sample ID	N037758-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534791

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.588	0.20	1.000	0.5386	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037791-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534793

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	609.080	10	250.0	364.5	97.8	90	110				

Sample ID	N037758-004AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534794

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.377	0.20	5.000	7.429	99.0	90	110				

Sample ID	N037758-004AMSD	SampType:	MSD	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534795

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	12.445	0.20	5.000	7.429	100	90	110	12.38	0.554	20	

Sample ID	N037758-003AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534796

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.548	0.20	5.000	2.505	101	90	110				

Sample ID	N037758-007AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534797

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	39.203	1.0	25.00	15.31	95.6	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037831-008ADUP	SampType:	DUP	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534798

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.471	0.20						4.487	0.348	20	

Sample ID	N037758-005AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534801

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.518	0.20	1.000	1.514	100	90	110				

Sample ID	N037758-006AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534802

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.928	0.20	1.000	1.940	98.7	90	110				

Sample ID	N037758-008AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534803

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.294	0.20	1.000	0.2899	100	90	110				

Sample ID	N037758-009AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.520	0.20	1.000	0.4957	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037758-010AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534805

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.494	0.20	1.000	0.5048	98.9	90	110				

Sample ID	N037758-011AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534806

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	17.027	0.20	5.000	12.06	99.3	90	110				

Sample ID	N037758-012AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534807

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	N037758-013AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534808

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.999	0.20	1.000	0	99.9	90	110				

Sample ID	N037793-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534814

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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WPGE

Sample ID	N037799-002AMS	SampType:	MS	TestCode:	218.6_WPGE	Units:	µg/L	Prep Date:		RunNo:	136933
Client ID:	ZZZZZZ	Batch ID:	R136933	TestNo:	EPA 218.6			Analysis Date:	10/12/2019	SeqNo:	3534816

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				

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	0.39	0.10	0.10		NTU	1	10/4/2019 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-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	0.33	0.10	0.10		NTU	1	10/4/2019 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:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	6.1	0.10	0.10		NTU	1	10/4/2019 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:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	4.4	0.10	0.10		NTU	1	10/4/2019 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	24	0.10	0.10		NTU	1	10/4/2019 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	0.53	0.10	0.10		NTU	1	10/4/2019 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:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	1.2	0.10	0.10		NTU	1	10/4/2019 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	0.25	0.10	0.10		NTU	1	10/4/2019 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	0.29	0.10	0.10		NTU	1	10/4/2019 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	0.48	0.10	0.10		NTU	1	10/4/2019 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:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_191004E**	QC Batch: **R136785**			PrepDate			Analyst: **LR**
Turbidity	0.77	0.10	0.10		NTU	1	10/4/2019 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
Work Order: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID	MB-R136785	SampType:	MBLK	TestCode:	2130_W	Units:	NTU	Prep Date:		RunNo:	136785
Client ID:	PBW	Batch ID:	R136785	TestNo:	SM 2130B			Analysis Date:	10/4/2019	SeqNo:	3526802

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10									

Sample ID	N037758-005DDUP	SampType:	DUP	TestCode:	2130_W	Units:	NTU	Prep Date:		RunNo:	136785
Client ID:	ZZZZZZ	Batch ID:	R136785	TestNo:	SM 2130B			Analysis Date:	10/4/2019	SeqNo:	3526808

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	23.800	0.10						23.50	1.27	30	

Sample ID	N037758-011CDUP	SampType:	DUP	TestCode:	2130_W	Units:	NTU	Prep Date:		RunNo:	136785
Client ID:	ZZZZZZ	Batch ID:	R136785	TestNo:	SM 2130B			Analysis Date:	10/4/2019	SeqNo:	3526815

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	0.800	0.10						0.7700	3.82	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD 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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	61	1.2	5.0		mg/L	1	10/4/2019 09:20 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-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	73	1.2	5.0		mg/L	1	10/4/2019 09:20 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:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	280	1.2	5.0		mg/L	1	10/4/2019 09:20 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	74	1.2	5.0		mg/L	1	10/4/2019 09:20 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	130	1.2	5.0		mg/L	1	10/4/2019 09:20 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	79	1.2	5.0		mg/L	1	10/4/2019 09:20 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	81	1.2	5.0		mg/L	1	10/4/2019 09:20 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ALKALINITY, SPECIATED							
			SM 2320 B				
RunID: **NV00922-WC_191004B**	QC Batch: **R136779**			PrepDate			Analyst: **LR**
Alkalinity, Total (As CaCO3)	79	1.2	5.0		mg/L	1	10/4/2019 09:20 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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 2320_W_SP

Sample ID **LCS-R136779**	SampType: **LCS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136779**
Client ID: **LCSW**	Batch ID: **R136779**	TestNo: **SM 2320 B**		Analysis Date: **10/4/2019**	SeqNo: **3526630**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	103.037	5.0	100.0	0	103	85	115				

Sample ID **MB-R136779**	SampType: **MBLK**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136779**
Client ID: **PBW**	Batch ID: **R136779**	TestNo: **SM 2320 B**		Analysis Date: **10/4/2019**	SeqNo: **3526631**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	5.0									

Sample ID **N037758-003DDUP**	SampType: **DUP**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136779**
Client ID: **ZZZZZZ**	Batch ID: **R136779**	TestNo: **SM 2320 B**		Analysis Date: **10/4/2019**	SeqNo: **3526638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	280.911	5.0						277.7	1.17	30	

Sample ID **N037758-005DMS**	SampType: **MS**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136779**
Client ID: **ZZZZZZ**	Batch ID: **R136779**	TestNo: **SM 2320 B**		Analysis Date: **10/4/2019**	SeqNo: **3526640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	170.282	5.0	100.0	73.75	96.5	75	125				

Sample ID **N037758-005DMSD**	SampType: **MSD**	TestCode: **2320_W_SP**	Units: **mg/L**	Prep Date:	RunNo: **136779**
Client ID: **ZZZZZZ**	Batch ID: **R136779**	TestNo: **SM 2320 B**		Analysis Date: **10/4/2019**	SeqNo: **3526641**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	171.367	5.0	100.0	73.75	97.6	75	125	170.3	0.635	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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565** PrepDate **10/4/2019** Analyst: **DJ**							
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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	**Client Sample ID:**	MW-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565** PrepDate **10/4/2019** Analyst: **DJ**							
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565** PrepDate **10/4/2019** Analyst: **DJ**							
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 01:05 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 01:12 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		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Oct-19*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565**				PrepDate	**10/4/2019**		Analyst: **DJ**
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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	**Client Sample ID:**	MW-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_191007A** QC Batch: **75565** PrepDate **10/4/2019** Analyst: **DJ**							
Mercury	ND	0.13	0.20		µg/L	1	10/7/2019 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
Work Order: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_WD

Sample ID	MB-75565	SampType:	MBLK	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	PBW	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527820

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.20									

Sample ID	LCS-75565	SampType:	LCS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	LCSW	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527821

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.590	0.20	5.000	0	91.8	85	115				

Sample ID	N037736-001C-MS	SampType:	MS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	ZZZZZZ	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527822

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.570	0.20	5.000	0	91.4	75	125				

Sample ID	N037736-001C-MSD	SampType:	MSD	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	ZZZZZZ	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527823

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.530	0.20	5.000	0	90.6	75	125	4.570	0.879	20	

Sample ID	N037758-010C-MS	SampType:	MS	TestCode:	245.1_WD	Units:	µg/L	Prep Date:	10/4/2019	RunNo:	136801
Client ID:	ZZZZZZ	Batch ID:	75565	TestNo:	EPA 245.1			Analysis Date:	10/7/2019	SeqNo:	3527846

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.420	0.20	5.000	0	88.4	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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	2200	17	250		mg/L	500	10/9/2019 02:24 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	2.8	0.048	0.50		mg/L	5	10/7/2019 08:02 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	500	2.0	25		mg/L	50	10/9/2019 05:18 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-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	2200	17	250		mg/L	500	10/9/2019 02:40 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	2.8	0.048	0.50		mg/L	5	10/7/2019 09:53 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	510	2.0	25		mg/L	50	10/9/2019 05:34 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:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 09:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	2.3	0.048	0.50		mg/L	5	10/7/2019 08:50 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	490	2.0	25		mg/L	50	10/8/2019 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	**Client Sample ID:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	1800	17	250		mg/L	500	10/9/2019 02:56 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	1.5	0.048	0.50		mg/L	5	10/7/2019 10:40 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	350	2.0	25		mg/L	50	10/9/2019 05:50 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/9/2019 12:50 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	2.5	0.048	0.50		mg/L	5	10/7/2019 10:56 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	470	2.0	25		mg/L	50	10/9/2019 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B**	QC Batch: **R136840**			PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/9/2019 03:12 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B**	QC Batch: **R136817**			PrepDate			Analyst: **RAB**
Fluoride	2.2	0.048	0.50		mg/L	5	10/7/2019 09:21 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B**	QC Batch: **R136840**			PrepDate			Analyst: **RAB**
Sulfate	450	2.0	25		mg/L	50	10/9/2019 06:05 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:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	990	7.0	100		mg/L	200	10/9/2019 03:27 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	3.5	0.048	0.50		mg/L	5	10/7/2019 11:12 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	160	0.40	5.0		mg/L	10	10/9/2019 07:56 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/9/2019 03:43 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	2.3	0.048	0.50		mg/L	5	10/7/2019 11:28 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	480	2.0	25		mg/L	50	10/9/2019 06:37 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/8/2019 11:46 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	2.5	0.048	0.50		mg/L	5	10/7/2019 11:43 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	480	2.0	25		mg/L	50	10/9/2019 12:18 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-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	2100	17	250		mg/L	500	10/9/2019 03:59 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	2.4	0.048	0.50		mg/L	5	10/7/2019 11:59 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	480	2.0	25		mg/L	50	10/9/2019 06:53 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:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Chloride	1500	17	250		mg/L	500	10/9/2019 04:46 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191007B** QC Batch: **R136817**				PrepDate			Analyst: **RAB**
Fluoride	1.8	0.048	0.50		mg/L	5	10/8/2019 12:15 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_191008B** QC Batch: **R136840**				PrepDate			Analyst: **RAB**
Sulfate	320	2.0	25		mg/L	50	10/9/2019 07:09 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
Work Order: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID	LCS-R136840_CL	SampType:	LCS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136840		
Client ID:	LCSW	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531674		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	2.008	0.50	2.000	0	100	90	110						

Sample ID	MB-R136840_CL	SampType:	MBLK	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136840		
Client ID:	PBW	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531675		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	ND	0.50											

Sample ID	N037758-003DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136840		
Client ID:	ZZZZZZ	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531679		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	3126.150	250	1000	2133	99.3	80	120						

Sample ID	N037758-003DMSD	SampType:	MSD	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136840		
Client ID:	ZZZZZZ	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531680		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	3150.600	250	1000	2133	102	80	120	3126	0.779	20			

Sample ID	N037758-009DMS	SampType:	MS	TestCode:	300_W_CLP	Units:	mg/L	Prep Date:		RunNo:	136840		
Client ID:	ZZZZZZ	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/9/2019	SeqNo:	3531682		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		
Chloride	3107.750	250	1000	2082	103	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_CLPGE

Sample ID **N037758-005DDUP**	SampType: **DUP**	TestCode: **300_W_CLP**	Units: **mg/L**	Prep Date:				RunNo: **136840**			
Client ID: **ZZZZZZ**	Batch ID: **R136840**	TestNo: **EPA 300.0**		Analysis Date: **10/9/2019**				SeqNo: **3531687**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	2109.350	250						2115	0.258	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID	LCS-R136817_F	SampType:	LCS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136817
Client ID:	LCSW	Batch ID:	R136817	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529132

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.251	0.10	1.250	0	100	90	110				

Sample ID	MB-R136817_F	SampType:	MBLK	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136817
Client ID:	PBW	Batch ID:	R136817	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529133

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID	N037758-001DMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136817
Client ID:	ZZZZZZ	Batch ID:	R136817	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529135

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.107	0.50	6.250	2.832	100	80	120				

Sample ID	N037758-001DMSD	SampType:	MSD	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136817
Client ID:	ZZZZZZ	Batch ID:	R136817	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529136

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.007	0.50	6.250	2.832	98.8	80	120	9.106	1.10	20	

Sample ID	N037758-003DMS	SampType:	MS	TestCode:	300_W_FPG	Units:	mg/L	Prep Date:		RunNo:	136817
Client ID:	ZZZZZZ	Batch ID:	R136817	TestNo:	EPA 300.0			Analysis Date:	10/7/2019	SeqNo:	3529138

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.545	0.50	6.250	2.264	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID **N037758-006DDUP**	SampType: **DUP**	TestCode: **300_W_FPG**	Units: **mg/L**	Prep Date:			RunNo: **136817**				
Client ID: **ZZZZZZ**	Batch ID: **R136817**	TestNo: **EPA 300.0**		Analysis Date: **10/7/2019**			SeqNo: **3529140**				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.281	0.50						2.239	1.86	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		

CLIENT: ARCADIS U.S., Inc. - California
Work Order: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	LCS-R136840_SO4	SampType:	LCS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136840
Client ID:	LCSW	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531737

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.090	0.50	4.000	0	102	90	110				

Sample ID	MB-R136840_SO4	SampType:	MBLK	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136840
Client ID:	PBW	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531738

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.50									

Sample ID	N037758-003DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136840
Client ID:	ZZZZZZ	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	679.475	25	200.0	485.9	96.8	80	120				

Sample ID	N037758-003DMSD	SampType:	MSD	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136840
Client ID:	ZZZZZZ	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/8/2019	SeqNo:	3531743

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	681.870	25	200.0	485.9	98.0	80	120	679.5	0.352	20	

Sample ID	N037758-009DMS	SampType:	MS	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136840
Client ID:	ZZZZZZ	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/9/2019	SeqNo:	3531745

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	676.040	25	200.0	482.9	96.6	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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID	N037758-005DDUP	SampType:	DUP	TestCode:	300_W_SO4P	Units:	mg/L	Prep Date:		RunNo:	136840
Client ID:	ZZZZZZ	Batch ID:	R136840	TestNo:	EPA 300.0			Analysis Date:	10/9/2019	SeqNo:	3531749

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	467.285	25						471.5	0.902	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:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.9	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits 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-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.9	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	3.0	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-01S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 10:36:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-004		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	3.2	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	3.1	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.8	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-02S-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 12:25:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-007		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	3.1	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.6	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.8	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/Surrogate outside of limits 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-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	2.8	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

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

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	OW-05S-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:33:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-011		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-WC_191014D**	QC Batch: **R136950**		PrepDate				Analyst: **MBC**
Nitrate/Nitrite as N	3.0	0.16	0.25		mg/L	5	10/14/2019

Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
S	Spike/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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W

Sample ID	MB-R136950	SampType:	MBLK	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136950
Client ID:	PBW	Batch ID:	R136950	TestNo:	SM4500-NO3			Analysis Date:	10/14/2019	SeqNo:	3535531

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	ND	0.050									

Sample ID	LCS-R136950	SampType:	LCS	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136950
Client ID:	LCSW	Batch ID:	R136950	TestNo:	SM4500-NO3			Analysis Date:	10/14/2019	SeqNo:	3535532

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.464	0.050	0.5000	0	92.9	85	115				

Sample ID	N037613-003BDUP	SampType:	DUP	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136950
Client ID:	ZZZZZZ	Batch ID:	R136950	TestNo:	SM4500-NO3			Analysis Date:	10/14/2019	SeqNo:	3535595

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.921	0.050						0.8966	2.72	20	

Sample ID	N037757-002DMS	SampType:	MS	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136950
Client ID:	ZZZZZZ	Batch ID:	R136950	TestNo:	SM4500-NO3			Analysis Date:	10/14/2019	SeqNo:	3535598

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.216	0.25	2.500	2.822	95.8	75	125				

Sample ID	N037757-002DMSD	SampType:	MSD	TestCode:	4500N03F_W	Units:	mg/L	Prep Date:		RunNo:	136950
Client ID:	ZZZZZZ	Batch ID:	R136950	TestNo:	SM4500-NO3			Analysis Date:	10/14/2019	SeqNo:	3535674

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.531	0.25	2.500	2.822	108	75	125	5.216	5.87	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	**Client Sample ID:**	OW-01D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:41:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	ND	18	20		ug/L	1	10/7/2019 10:26 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		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Oct-19*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-904-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 9:51:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	ND	18	20		ug/L	1	10/7/2019 10:32 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:**	OW-01M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 8:48:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	370	18	20		ug/L	1	10/7/2019 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:**	OW-02D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 11:30:00 AM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-005		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	1100	18	20		ug/L	1	10/7/2019 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:**	OW-02M-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:40:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-006		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
EPA 3010A			**EPA 6010B**				
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	44	18	20		ug/L	1	10/7/2019 11:09 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:**	OW-05D-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 1:36:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-008		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	ND	18	20		ug/L	1	10/7/2019 11:15 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:**	OW-05M-LF-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:42:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-009		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	ND	18	20		ug/L	1	10/7/2019 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		

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *21-Oct-19*

CLIENT:	ARCADIS U.S., Inc. - California	**Client Sample ID:**	MW-905-Q419
Lab Order:	N037758	**Collection Date:**	10/3/2019 2:52:00 PM
Project:	PG&E Topock - CMP, 30019131	**Matrix:**	GROUNDWATER
Lab ID:	N037758-010		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3010A			**EPA 6010B**			
RunID: **NV00922-ICP2_191007B**	QC Batch: **75575**			PrepDate	**10/7/2019**		Analyst: **DJ**
Iron	ND	18	20		ug/L	1	10/7/2019 11:26 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: N037758
Project: PG&E Topock - CMP, 30019131

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_WPGEPPB

Sample ID	**MB-75575**	SampType: **MBLK**	TestCode: **6010_WPGE**	Units: **ug/L**	Prep Date: **10/7/2019**	RunNo: **136819**
Client ID:	**PBW**	Batch ID: **75575**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/7/2019**	SeqNo: **3529712**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	20									

Sample ID	**LCS-75575**	SampType: **LCS**	TestCode: **6010_WPGE**	Units: **ug/L**	Prep Date: **10/7/2019**	RunNo: **136819**
Client ID:	**LCSW**	Batch ID: **75575**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/7/2019**	SeqNo: **3529713**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	104.470	20	100.0	0	104	85	115				

Sample ID	**N037722-001F-MS**	SampType: **MS**	TestCode: **6010_WPGE**	Units: **ug/L**	Prep Date: **10/7/2019**	RunNo: **136819**
Client ID:	**ZZZZZZ**	Batch ID: **75575**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/7/2019**	SeqNo: **3529717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	150.457	20	100.0	31.26	119	75	125				

Sample ID	**N037722-001F-MSD**	SampType: **MSD**	TestCode: **6010_WPGE**	Units: **ug/L**	Prep Date: **10/7/2019**	RunNo: **136819**
Client ID:	**ZZZZZZ**	Batch ID: **75575**	TestNo: **EPA 6010B**	**EPA 3010A**	Analysis Date: **10/7/2019**	SeqNo: **3529718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	120.314	20	100.0	31.26	89.1	75	125	150.5	22.3	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

ARCUS02 C: 10/17/201 12:00 AM
FOLDER R: 10/3/2019
N037758-014A 1 of 1

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

CHAIN OF CUSTODY RECORD

Page 1 of 2

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:	Address:	
Phone: 916-786-3302 / Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mblo[illegible]@pivot.com	P.O.#
Submitted By: Joe Gatel	Phone: 916-786-3302 / Fax:	Phone: 949-727-1400, ext 200	Fax:
Title: Scientist 1			
Signature: Date: 10/3/2019	Sampled By:		
Project Name: PG&E Topock - CMP	Signature: Date: 10/3/2019		
Project Number: 30019131			

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.

Matrix: Groundwater x | Sediment | Potable | Soil | NPDES | Other Solid | Surface

EDD Requirement: Excel EDD | Geotracker | Labspec | Others ✓ (RWQCB) | Specify: | Global ID:

QA/QC: 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		

6. Method of Cooling: ICE

Sample Temp: 2.7 / 1.8

Courier: ASSET

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)2SO4/NH4OH 250 mL poly	Ammonia as Nitrogen (SM4500-NH3D); H2SO4 500 mL poly	Dissolved metals (EPA 200.8) FF; HNO3; Ag, As, Ba, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved metals (SW6010B) FF; HNO3 Barium 500 mL poly	Dissolved metals (EPA200.7) FF; HNO3 Al, B, Ca, Fe, K, Mg, Na 500 mL poly	Dissolved metals (EPA 245.1); HNO3 Mercury 500 mL poly	Anions (E300.0); Chloride, Fluoride, Sulfate 1 liter poly	Specific Conductance (E120.1) 1 liter poly	pH (SM4500HB) 1 liter poly	TDS (SM2540C) 1 liter poly	Alkalinity (Total, reported as CaCO3) (SM2320B) 1 liter poly	Turbidity (SM2130B) 1 liter poly	Nitrate/Nitrite as Nitrogen (SM4500N03); H2SO4 125 mL poly	Total metals (SW6010B); HNO3 Fe 500 mL poly	Dissolved metals (EPA200.7) FF; HNO3 Na 500 mL poly	Dissolved metals (EPA200.8) FF; HNO3 Cr, Mo 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N037758-01	OW-01D-Q419	10/3/2019	9:41		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	
2	-02	MW-904-Q419	10/3/2019	9:51		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	
3	-03	OW-01M-Q419	10/3/2019	8:48		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	
4	-04	OW-01S-Q419	10/3/2019	10:36		X						X	X		X		X	X		X	X		E	4	P	BNS	
5	-05	OW-02D-Q419	10/3/2019	11:30		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	
6	-06	OW-02M-Q419	10/3/2019	13:40		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	
7	-07	OW-02S-Q419	10/3/2019	12:25		X						X	X		X		X	X		X	X		E	4	P	BNS	
8	-08	OW-5D-Q419	10/3/2019	13:36		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	
9	-09	OW-5M-LF-Q419	10/3/2019	14:42		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	
10	-10	MW-905-Q419	10/3/2019	14:52		X	X	X	X	X	X	X	X		X	X	X	X	X				E	6	P	BNS	

Relinquished by (Signature and Printed Name): Date/Time: 10/3/19 1605

Received by (Signature and Printed Name): JORDAN Date/Time: 10/3/19 1605

Relinquished by (Signature and Printed Name): JORDAN Date/Time: 10/3/19 1815

Received by (Signature and Printed Name): JORDAN Date/Time: 10/3/19 1815

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 - 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

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=Poly
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 2 of 2

Client: Arcadis	Report to: Dan Bush	Bill to: Marty Bloes	
Address: 1410 Rocky Ridge Dr # 330	Company: Arcadis	Address:	
Address: Roseville, CA 95661	Email: [illegible]	Address:	
Phone: 916-786-3302 Fax:	Address: 1410 Rocky Ridge Dr # 330 Roseville, CA 95661	Email to: mblo[illegible]@pivot.com	P.O.#
Submitted By: Joe Gatel		Phone: 949-727-1400, ext 200	Fax:
Title: Scientist 1	Phone: 916-786-3302 Fax:		
Signature: Date: 10/3/2019	Sampled By:		
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 - CMP	Signature: Date: 10/3/2019		
Project Number: 30019131			

Matrix: Groundwater x | Sediment | Potable | Soil | NPDES | Other Solid | Surface

EDD Requirement: Excel EDD | Geotracker | Labspec | Others ✓ | Specify: RWQCB | Global ID:

QA/QC: RTNE | RWQCB ✓ | CalTrans | LEVEL III | LEVEL IV | Regulatory | Specify State:

Sample Receipt Condition: 1. Chilled Y | 2. Headspace | 3. Container Intact Y | 4. Seal Present | 5. IR number | 6. Method of Cooling: Ice

Sample Temp: 2.7 11.0

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 250 mL poly	Ammonia as Nitrogen (SM4500-NH3D); H2SO4 250 mL poly	Dissolved metals (EPA 200.8) FF; HNO3, 500 mL poly Ag, As, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn 500 mL poly	Dissolved metals (SW6010B) FF; HNO3 Barium 500 mL poly	Dissolved metals (EPA200.7) FF; HNO3 Al, B, Ca, Fe, K, Mg, Na 500 mL poly	Dissolved metals (EPA 245.1); HNO3 Mercury 500 mL poly	Anions (E300.0); Chloride, Fluoride, Sulfate 1 liter poly	Specific Conductance (E120.1) 1 liter poly	pH (SM4500HB) 1 liter poly	TDS (SM2540C) 1 liter poly	Alkalinity (Total, reported as CaCO3) (SM2320B) 1 liter poly	Turbidity (SM2130B) 1 liter poly	Nitrate/Nitrite as Nitrogen (SM4500N03); H2SO4 125 mL poly	Total metals (SW6010B); HNO3 Fe 500 mL poly	Dissolved metals (EPA200.7) FF; HNO3 Na 500 mL poly	Dissolved metals (EPA200.8) FF; HNO3 Cr, Mo 500 mL poly	Turn Around Time	No. of Container	Container Type	PRESERVATION	Remarks
1	N037758-11	OW-05S-LF-Q419	10/3/2019	14:33		X						X	X		X		X	X			X	X	E	4	P	BNS	
2	-12	EB-710-Q319	10/3/2019	14:47		X																	E	1	P	B	
3	-13	EB-711-Q319	10/3/2019	15:15		X																	E	1	P	B	
4																											
5																											
6																											
7																											
8																											
9																											
10																											

Relinquished by (Signature and Printed Name): Date/Time: 10/3/19 1800
Relinquished by (Signature and Printed Name): Date/Time: 10/3/19 1800
Relinquished by (Signature and Printed Name): Joe Gatel Date/Time: 10/3/19 615 pm
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): Joe Gatel Date/Time: 10/3/19 615 pm
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:
Tittle 22 Metals - 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

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=Poly
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:	10/3/2019	Workorder:	N037758
Rep sample Temp (Deg C):	2.7/1.8	IR Gun ID:	1
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 10/4/2019

Reviewed By: LG 100919

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Madsen, Laura <Laura.Madsen@arcadis.com>
Sent: Friday, October 04, 2019 11:59 AM
To: Yoandra Rodriguez
Cc: maryann.balilu@assetlaboratoriesph.com; andrea.gallardo@assetlaboratories.com
Subject: RE: CMP. Asset Labs No. N037736 and N037758

Hi Yoandra,

Dissolved metals, except Ba, are requested by 200.7/200.8 while total Fe by 6010. Can we analyze both dissolved and total metals by 200 series? Dissolved metals should be run by 200.7/200.8. However the Total Iron historical method is 6010. To be consistent we should run the total iron by 6010. Will that cause any problems?

Dissolved Ba is requested by 6010, is it possible to run it by 200.8? Yes, 200.8 is the historical method. 6010 was accidentally put on the COC.

Thanks,
Laura

-----Original Message-----
From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Friday, October 4, 2019 12:53 PM
To: Madsen, Laura <Laura.Madsen@arcadis.com>
Cc: maryann.balilu@assetlaboratoriesph.com; andrea.gallardo@assetlaboratories.com
Subject: CMP. Asset Labs No. N037736 and N037758

Hi Laura,

Please kindly double check metal request on the attached COCs belong to CMP project.

Dissolved metals, except Ba, are requested by 200.7/200.8 while total Fe by 6010. Can we analyze both dissolved and total metals by 200 series?

Dissolved Ba is requested by 6010, is it possible to run it by 200.8?

Please advise.

Thanks,

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ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-001A	OW-01D-Q419	10/3/2019 9:41:00 AM	10/17/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-001B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-001C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-001D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-001E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-001F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-002A	MW-904-Q419	10/3/2019 9:51:00 AM	10/17/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-002B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-002C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-002D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-002E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-002F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-003A	OW-01M-Q419	10/3/2019 8:48:00 AM	10/17/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-003B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-003C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-003D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-003E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-003F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-004A	OW-01S-Q419	10/3/2019 10:36:00 AM	10/17/2019	Groundwater	EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-004B			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N037758-004C			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-004D			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-005A	OW-2D-Q419	10/3/2019 11:30:00 AM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-005B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-005C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-005C	OW-2D-Q419	10/3/2019 11:30:00 AM	10/17/2019	Groundwater	EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-005D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-005E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-005F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N037758-006A	OW-02M-Q419	10/3/2019 1:40:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-006B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-006C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-006C	OW-02M-Q419	10/3/2019 1:40:00 PM	10/17/2019	Groundwater	EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-006D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-006E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-006F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N037758-007A	OW-02S-Q419	10/3/2019 12:25:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-007B			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-007C	OW-02S-Q419	10/3/2019 12:25:00 PM	10/17/2019	Groundwater	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-007D			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-008A	OW-5D-Q419	10/3/2019 1:36:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-008B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-008C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-008D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-008D	OW-5D-Q419	10/3/2019 1:36:00 PM	10/17/2019	Groundwater	SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-008E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-008F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N037758-009A	OW-5M-LF-Q419	10/3/2019 2:42:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-009B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-009C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-009D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-009D	OW-5M-LF-Q419	10/3/2019 2:42:00 PM	10/17/2019	Groundwater	SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-009E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-009F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N037758-010A	MW-905-Q419	10/3/2019 2:52:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-010B			10/17/2019		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N037758-010C			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
			10/17/2019		EPA 245.1	DISSOLVED MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			10/17/2019			DISSOLVED MERCURY PREP	☐	☐	☐	WW
N037758-010D			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-010D	MW-905-Q419	10/3/2019 2:52:00 PM	10/17/2019	Groundwater	SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		SM 2320 B	ALKALINITY, SPECIATED	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-010E			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-010F			10/17/2019		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WW
N037758-011A	OWS-05S-LF-Q419	10/3/2019 2:33:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-011B			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.7	DISSOLVED METALS BY ICP	☐	☐	☐	WW
			10/17/2019			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICPMS	☐	☐	☐	WW
			10/17/2019		EPA 200.8	DISSOLVED METALS BY ICP-MS	☐	☐	☐	WW
N037758-011C			10/17/2019		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			10/17/2019		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			10/17/2019			Total Dissolved Solids Prep	☐	☐	☐	LSR
			10/17/2019		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			10/17/2019		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR

ASSET Laboratories

WORK ORDER Summary

04-Oct-19

WorkOrder: N037758

Client ID: ARCUS02

Project: PG&E Topock - CMP, 30019131 **QC Level:** Level IV **Date Received:** 10/3/2019

Comments: Title 22 Metals: 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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N037758-011C	OWS-05S-LF-Q419	10/3/2019 2:33:00 PM	10/17/2019	Groundwater	SM 1030F1	Cation-Anion Balance Calculation	☐	☐	☐	LSR
N037758-011D			10/17/2019		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N037758-012A	EB-710-Q319	10/3/2019 2:47:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-013A	EB-711-Q319	10/3/2019 3:15:00 PM	10/17/2019		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N037758-014A	FOLDER	10/17/2019	10/17/2019		EDD	RWQCB	☐	☐	☐	LAB
			10/17/2019		Folder	Folder	☐	☐	☐	LAB
			10/17/2019		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
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: SIGNED

07-Oct-19

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3D		
N037758-001B / OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	8OZP	1		
N037758-002B / MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	8OZP	1		
N037758-003B / OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	8OZP	1		
N037758-005B / OW-2D-Q419	Groundwater	10/3/2019 11:30:00 AM	8OZP	1		
N037758-006B / OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	8OZP	1		
N037758-008B / OW-5D-Q419	Groundwater	10/3/2019 1:36:00 PM	8OZP	1		
N037758-009B / OW-5M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	8OZP	1		
N037758-010B / MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	8OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM. Please cc andrea.gallardo@assetlaboratories.com

Please use PO#:N37758A 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: Normal TAT.

Please analyze for Ammonia by SM4500NH3D. EDD requirement Labspec 7 edata.

GSO #: 546471783

	Date/Time		Date/Time
Relinquished by: YLJ	10/7/2019 17:00	Received by:	
Relinquished by:		Received by:	

Enthalpy Analytical
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900

enthalpy.com

Lab Job Number: 314740
Report Level: IV
Report Date: 10/22/2019

Wet Chemistry

Analytical Report *prepared for:*

Andrea Gallardo
ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118

Authorized for release by:

Patrick McCarthy, Project Manager
(510) 204-2236 ext 13115
patrick.mccarthy@enthalpy.com

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the above signature which applies to this PDF file as well as any associated electronic data deliverable files. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

CA ELAP# 2896, NELAP# 4044-001

ENTHALPY ANALYTICAL

Sample Summary

Andrea Gallardo
ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118

Lab Job Number: 314740
Date Received: 10/08/19

Sample ID	Lab ID	Collected	Matrix
N037758-001B / OW-01D-Q419	314740-001	10/03/19 09:41	Water
N037758-002B / MW-904-Q419	314740-002	10/03/19 09:51	Water
N037758-003B / OW-01M-Q419	314740-003	10/03/19 08:48	Water
N037758-005B / OW-2D-Q419	314740-004	10/03/19 11:30	Water
N037758-006B / OW-02M-Q419	314740-005	10/03/19 13:40	Water
N037758-008B / OW-5D-Q419	314740-006	10/03/19 13:36	Water
N037758-009B / OW-5M-LF-Q419	314740-007	10/03/19 14:42	Water
N037758-010B / MW-905-Q419	314740-008	10/03/19 14:52	Water

Case Narrative

WET CHEMISTRY (SM4500NH3-D)

ASSET LABS
3151-3153 W Post Road
Las Vegas, NV 89118
Andrea Gallardo

Lab Job Number: 314740
Date Received: 10/08/19

This data package contains sample and QC results for eight water samples, requested for the above referenced project on 10/08/19. See attached cooler receipt form for any sample receipt problems or discrepancies.

Ammonia Nitrogen (SM4500NH3-D):
No analytical problems were encountered.

Chain of Custody

3147410

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
2323 5th St
Berkeley, CA 94710

TEL: (510) 486-0900
FAX:
Acct #:

Field Sampler: SIGNED

07-Oct-19

	Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NH3D		
1	N037758-001B / OW-01D-Q419	Groundwater	10/3/2019 9:41:00 AM	8OZP	1		
2	N037758-002B / MW-904-Q419	Groundwater	10/3/2019 9:51:00 AM	8OZP	1		
3	N037758-003B / OW-01M-Q419	Groundwater	10/3/2019 8:48:00 AM	8OZP	1		
4	N037758-005B / OW-2D-Q419	Groundwater	10/3/2019 11:30:00 AM	8OZP	1		
5	N037758-006B / OW-02M-Q419	Groundwater	10/3/2019 1:40:00 PM	8OZP	1		
6	N037758-008B / OW-5D-Q419	Groundwater	10/3/2019 1:36:00 PM	8OZP	1		
7	N037758-009B / OW-5M-LF-Q419	Groundwater	10/3/2019 2:42:00 PM	8OZP	1		
8	N037758-010B / MW-905-Q419	Groundwater	10/3/2019 2:52:00 PM	8OZP	1		

General Comments: Please email sample receipt acknowledgement to the PM. Please cc andrea.gallardo@assetlaboratories.com

Please use PO#:N37758A 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: Normal TAT.

Please analyze for Ammonia by SM4500NH3D. EDD requirement Labspec 7 edata.

GSO #: 546471783

		Date/Time			Date/Time
Relinquished by:	YRJ	10/7/2019 17:00	**Received by:**		10/8/19 1031
Relinquished by:			**Received by:**		

SAMPLE RECEIPT CHECKLIST

Section 1: Login # 314740 Client: ATL

Date Received: 10/8/19 Project: _____

Section 2: Shipping info (if applicable) GSO # 546471783

Are custody seals present? ☑ No, or ☐ Yes. If yes, where? ☐ on cooler, ☐ on samples, ☐ on package

☐ Date: _____ How many _____ ☐ Signature, ☐ Initials, ☐ None

Were custody seals intact upon arrival? ☐ Yes ☐ No ☑ N/A

Samples received in a cooler? ☑ Yes, how many? 1 ☐ No **(skip Section 3 below)**

If no cooler Sample Temp (°C): _____ using IR Gun # ☐ B, or ☐ C

☐ Samples received on ice directly from the field. Cooling process had begun

If in cooler: Date Opened 10/8/19 By (print) RV (sign) RV

Section 3: ***Important*: Notify PM if temperature exceeds 6°C or arrive frozen.**

Packing in cooler: (if other, describe) _____

☐ Bubble Wrap, ☐ Foam blocks, ☑ Bags, ☐ None, ☐ Cloth material, ☐ Cardboard, ☐ Styrofoam, ☐ Paper towels

☐ Samples received on ice directly from the field. Cooling process had begun

Type of ice used : ☑ Wet, ☐ Blue/Gel, ☐ None Temperature blank(s) included? ☐ Yes, ☑ No

Temperature measured using ☐ Thermometer ID: _____, or IR Gun # ☐ B ☑ C

Cooler Temp (°C): #1: 2.7, #2: _____, #3: _____, #4: _____, #5: _____, #6: _____, #7: _____

Section 4:	YES	NO	N/A
Were custody papers dry, filled out properly, and the project identifiable	X		
Were Method 5035 sampling containers present?		X	
If YES, what time were they transferred to freezer? _____			
Did all bottles arrive unbroken/unopened?	X		
Are there any missing / extra samples?		X	
Are samples in the appropriate containers for indicated tests?	X		
Are sample labels present, in good condition and complete?	X		
Does the container count match the COC?	X		
Do the sample labels agree with custody papers?	X		
Was sufficient amount of sample sent for tests requested?	X		
Did you change the hold time in LIMS for unpreserved VOAs?			X
Did you change the hold time in LIMS for preserved terracores?			X
Are bubbles > 6mm present in VOA samples?			X
Was the client contacted concerning this sample delivery?			
If YES, who was called? _____ By _____ Date: _____			

Section 5:	YES	NO	N/A
Are the samples appropriately preserved? (if N/A, skip the rest of section 5)	X		
Did you check preservatives for all bottles for each sample?	X		
Did you document your preservative check?	X		

pH strip lot# 80BD#2891, pH strip lot# _____, pH strip lot# _____

Preservative added:

☐ H2SO4 lot# _____ added to samples _____ on/at _____

☐ HCL lot# _____ added to samples _____ on/at _____

☐ HNO3 lot# _____ added to samples _____ on/at _____

☐ NaOH lot# _____ added to samples _____ on/at _____

Section 6:

Explanations/Comments: _____

Date Logged in 10/8/19 **By (print)** RV **(sign)** RV

Date Labeled 10/8/19 **By (print)** MP **(sign)** MP

Enthalpy Sample Preservation for 314740

Sample	pH: <2	>9	>12	Other
-001a	[✓]	[ ]	[ ]	_____
-002a	[✓]	[ ]	[ ]	_____
-003a	[✓]	[ ]	[ ]	_____
-004a	[✓]	[ ]	[ ]	_____
-005a	[✓]	[ ]	[ ]	_____
-006a	[✓]	[ ]	[ ]	_____
-007a	[✓]	[ ]	[ ]	_____
-008a	[✓]	[ ]	[ ]	_____

Analyst: MR
Date: 10/8/19

Results & QC Summary

ENTHALPY ANALYTICAL

Ammonia Nitrogen

Lab #: 314740 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Field ID: N037758-001B / OW-01D-Q419 **Diln Fac:** 1.000 **Prepared:** 10/10/19 14:58
Type: SAMPLE **Batch#:** 274992 **Analyzed:** 10/10/19 16:00
Lab ID: 314740-001 **Sampled:** 10/03/19 09:41 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.040 J**	0.10	0.020	mg/L

Field ID: N037758-002B / MW-904-Q419 **Diln Fac:** 1.000 **Prepared:** 10/10/19 14:58
Type: SAMPLE **Batch#:** 274992 **Analyzed:** 10/10/19 16:00
Lab ID: 314740-002 **Sampled:** 10/03/19 09:51 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.030 J**	0.10	0.020	mg/L

Field ID: N037758-003B / OW-01M-Q419 **Diln Fac:** 1.000 **Prepared:** 10/10/19 14:58
Type: SAMPLE **Batch#:** 274992 **Analyzed:** 10/10/19 16:00
Lab ID: 314740-003 **Sampled:** 10/03/19 08:48 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.040 J**	0.10	0.020	mg/L

Field ID: N037758-005B / OW-2D-Q419 **Diln Fac:** 1.000 **Prepared:** 10/10/19 14:58
Type: SAMPLE **Batch#:** 274992 **Analyzed:** 10/10/19 16:00
Lab ID: 314740-004 **Sampled:** 10/03/19 11:30 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.040 J**	0.10	0.020	mg/L

Field ID: N037758-006B / OW-02M-Q419 **Diln Fac:** 1.000 **Prepared:** 10/15/19 11:10
Type: SAMPLE **Batch#:** 275116 **Analyzed:** 10/15/19 14:35
Lab ID: 314740-005 **Sampled:** 10/03/19 13:40 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.090 J**	0.10	0.020	mg/L

Field ID: N037758-008B / OW-5D-Q419 **Diln Fac:** 1.000 **Prepared:** 10/15/19 11:10
Type: SAMPLE **Batch#:** 275116 **Analyzed:** 10/15/19 14:35
Lab ID: 314740-006 **Sampled:** 10/03/19 13:36 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.15**	0.10	0.020	mg/L

ENTHALPY ANALYTICAL

Ammonia Nitrogen

Lab #: 314740 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Field ID: N037758-009B / OW-5M-LF-Q419 **Diln Fac:** 1.000 **Prepared:** 10/15/19 11:10
Type: SAMPLE **Batch#:** 275116 **Analyzed:** 10/15/19 14:35
Lab ID: 314740-007 **Sampled:** 10/03/19 14:42 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.080 J**	0.10	0.020	mg/L

Field ID: N037758-010B / MW-905-Q419 **Diln Fac:** 1.000 **Prepared:** 10/15/19 11:10
Type: SAMPLE **Batch#:** 275116 **Analyzed:** 10/15/19 14:35
Lab ID: 314740-008 **Sampled:** 10/03/19 14:52 **Prep:** SM4500NH3-B
Matrix: Water **Received:** 10/08/19 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	**0.080 J**	0.10	0.020	mg/L

Type: BLANK **Diln Fac:** 1.000 **Analyzed:** 10/10/19 16:00
Lab ID: QC994544 **Batch#:** 274992 **Prep:** SM4500NH3-B
Matrix: Water **Prepared:** 10/10/19 12:30 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	ND	0.10	0.020	mg/L

Type: BLANK **Diln Fac:** 1.000 **Analyzed:** 10/15/19 14:35
Lab ID: QC995040 **Batch#:** 275116 **Prep:** SM4500NH3-B
Matrix: Water **Prepared:** 10/15/19 11:10 **Analysis:** SM4500NH3-D

Analyte	Result	RL	MDL	Units
Ammonia-N	ND	0.10	0.020	mg/L

Legend

J: Estimated value
MDL: Method Detection Limit
ND: Not Detected at or above MDL
RL: Reporting Limit

ENTHALPY ANALYTICAL

Ammonia Nitrogen: Batch QC

Lab #: 314740 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Type: LCS **Diln Fac:** 1.000 **Analyzed:** 10/10/19 16:00
Lab ID: QC994545 **Batch#:** 274992 **Prep:** SM4500NH3-B
Matrix: Water **Prepared:** 10/10/19 12:30 **Analysis:** SM4500NH3-D

Analyte	Spiked	Result	%REC	Limits	Units
Ammonia-N	5.000	4.500	90	80-120	mg/L

Type: LCS **Diln Fac:** 1.000 **Analyzed:** 10/15/19 14:35
Lab ID: QC995041 **Batch#:** 275116 **Prep:** SM4500NH3-B
Matrix: Water **Prepared:** 10/15/19 11:10 **Analysis:** SM4500NH3-D

Analyte	Spiked	Result	%REC	Limits	Units
Ammonia-N	5.000	4.200	84	80-120	mg/L

Field ID: N037771-001F / MW-D-187-0919 **Diln Fac:** 1.000 **Analyzed:** 10/10/19 16:00
Type: MS **Batch#:** 274992 **Prep:** SM4500NH3-B
MSS Lab ID: 314741-001 **Sampled:** 10/04/19 08:41 **Analysis:** SM4500NH3-D
Lab ID: QC994546 **Received:** 10/08/19
Matrix: Water **Prepared:** 10/10/19 12:30

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Ammonia-N	0.1500	5.000	4.900	95	28-120	mg/L

Field ID: N037758-008B / OW-5D-Q419 **Diln Fac:** 1.000 **Analyzed:** 10/15/19 14:35
Type: MS **Batch#:** 275116 **Prep:** SM4500NH3-B
MSS Lab ID: 314740-006 **Sampled:** 10/03/19 13:36 **Analysis:** SM4500NH3-D
Lab ID: QC995042 **Received:** 10/08/19
Matrix: Water **Prepared:** 10/15/19 11:10

Analyte	MSS Result	Spiked	Result	%REC	Limits	Units
Ammonia-N	0.1500	5.000	4.200	81	28-120	mg/L

Field ID: N037771-001F / MW-D-187-0919 **Diln Fac:** 1.000 **Analyzed:** 10/10/19 16:00
Type: MSD **Batch#:** 274992 **Prep:** SM4500NH3-B
MSS Lab ID: 314741-001 **Sampled:** 10/04/19 08:41 **Analysis:** SM4500NH3-D
Lab ID: QC994547 **Received:** 10/08/19
Matrix: Water **Prepared:** 10/10/19 12:30

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Ammonia-N	5.000	5.000	97	28-120	mg/L	2	30

ENTHALPY ANALYTICAL

Ammonia Nitrogen: Batch QC

Lab #: 314740 **Project#:** STANDARD

Client: ASSET LABS **Location:**

Field ID:	N037758-008B / OW-5D-Q419	**DiIn Fac:**	1.000	**Analyzed:**	10/15/19 14:35
Type:	MSD	**Batch#:**	275116	**Prep:**	SM4500NH3-B
MSS Lab ID:	314740-006	**Sampled:**	10/03/19 13:36	**Analysis:**	SM4500NH3-D
Lab ID:	QC995043	**Received:**	10/08/19		
Matrix:	Water	**Prepared:**	10/15/19 11:10		

Analyte	Spiked	Result	%REC	Limits	Units	RPD	Lim
Ammonia-N	5.000	4.200	81	28-120	mg/L	0	30

Legend

RPD: Relative Percent Difference

Enthalpy Analytical - Berkeley Sample Batch Report

Batch Number: 275116
Date Started: 15-OCT-2019
Batched by : Elisa Gonzalez

Analysis : AMMONIA
Bgroup : N/A
Department : Wet Chemistry

Sample	Type		Client	Matrix	Analyses	Due Date
210766-049			MDL Studies	Water	AMMONIA	29-JUL-2019
210766-051			MDL Studies	Water	AMMONIA	24-OCT-2019
210766-052			MDL Studies	Water	AMMONIA	24-OCT-2019
314579-001			LOQ Study	Water	AMMONIA	16-OCT-2019
314740-005			ASSET LABS	Water	AMMONIA	18-OCT-2019
314740-006			ASSET LABS	Water	AMMONIA	18-OCT-2019
314740-007			ASSET LABS	Water	AMMONIA	18-OCT-2019
314740-008			ASSET LABS	Water	AMMONIA	18-OCT-2019
QC995040	BLANK			Water	AMMONIA	
QC995041	LCS			Water	AMMONIA	
QC995042	MS	of 314740-006		Water	AMMONIA	
QC995043	MSD	of 314740-006		Water	AMMONIA	

Analysis:	**Ammonia**	Analyst:	EGS	**Prep Start Date (A):**	10/15/19 11:10	(B):			
Method:	**SM4500NH3-D**	Batch#:	**275116**	**Analysis Start Date (A):**	10/15/19 14:35	(B):			
SOP#:	ammonia_h2o_rv15.doc								

ICV/CCV		Reading (mg/L)	Result (mg/L) as NH3-N	RL (mg/L)	Std .Conc. (mg/L)	Recovery,%	Status	Limits, %
ICV		4.90	4.90	0.10	5.00	98		90-110%
ICB		0.01	ND	0.10				
CCV	Ammonia (mg/L) = Reading * Vf/Vi	4.80	4.80	0.10	5.00	96		90-110%
CCB	Where: Vf = Final Distillate Volume (mL)	0.01	ND	0.10				
CCV	Vi = Initial Sample Volume (mL)	4.80	4.80	0.10	5.00	96		90-110%
CCB		0.02	ND	0.10				
CCV								
CCB								
CCV								
CCB								

Sample & Batch QC		Matrix?	J-flag Rqd?	.PD	.AD	Sample Vol. (mL)	Distillate Vol. (mL)	Reading (mg/L)	**Report (mg/L)** as NH3-N		RL (mg/L)	Spike Std Conc. (mg/L)	Vol Spike added (mL)	Spiked at (mg/L)	%Rec.	RPD,%
BLANK	QC995040	1	y	A	A	50	50	0.01	**ND**		0.10					
LCS/BS	QC995041	1	y	A	A	50	50	4.20	**4.200**		0.10	1000	0.25	5.0	**84**	
BSD			N			50	50									
Sample1	314740-006	1	y	A	A	50	50	0.15	**0.150**		0.10					
MS	QC995042	1	y	A	A	50	50	4.20	**4.200**		0.10	1000	0.25	5.0	**81**	
MSD	QC995043	1	y	A	A	50	50	4.20	**4.200**		0.10	1000	0.25	5.0	**81**	**0**
SDUP		1	y													
Sample2	314740-005	1	y	A	A	50	50	0.090	**0.090**	**J**	0.10					
Sample3	314740-007	1	y	A	A	50	50	0.08	**0.080**	**J**	0.10					
Sample4	314740-008	1	y	A	A	50	50	0.08	**0.080**	**J**	0.10					
Sample5	314579-001	1	y	A	A	50	50	0.20	**0.200**		0.10					
Sample6	210766-051	1	y	A	A	50	50	0.08	**0.080**	**J**	0.10					
Sample7	210766-052	1	y	A	A	50	50	0.08	**0.080**	**J**	0.10					
Sample8	210766-049	1	y	A	A	50	50	0.06	**0.060**	**J**	0.10					
Sample9																
Sample10																
Sample11																
Sample12																
Sample13																
Sample14																
Sample15																
Sample16																
Sample17																
Sample18																
Sample19																
Sample20																

If spiked sample was diluted, was the MS/MSD spiked after the dilution? (y or n) N

QC Limits	Recovery			RPD
LCS/ BS/ BSD	80	-	120	20
SSPIKE/ SDUP	28	-	120	30

MDL (2009) = 0.02 mg/L

Matrix Key:

1	Water
15	Filtrate
11	TCLP Leachate
14	TCLP DI Leach.
12	WET Leachate
13	WET DI Leachate
16	SPLP Leachate
18	SPLP DI Leach.

Ammonia Benchbook SMWW 4500-D Enthalpy Analytical LLC - Berkeley

LIMS Batch #: 275116 ICAL LIMS S#: 41336 exp: 9/30/20 Benchbook: **BK 4410**
Matrix:: Water 0 mg/L (mV): — per SOP # Page: **42**
Prep Date: 10/15/19 0.1 mg/L (mV): 136.7 WC2.1.1 (h2o), or pH Meter ID: 1429065
Soil - Prep Start Time: — 1.0 mg/L (mV): 79.2 WC2.1.2 (soil), Slope: -57
Soil - Prep End Time: — 10. mg/L (mV): 22.5 **Revision:** 15 (slope limits: -54 to -60)
Distillation Date/Time: 10/15/19 1110 ICV LIMS S#: 39061 exp: 12/4/19 Balance ID: —
Analysis Date/Time: 10/15/19 1435 Balance has been calibrated? —
Blank 'matrix' Reagent ID: —

Sample # / Letter	CL Chk?	Soil Extraction Wt/Vol (g/mL) if applicable	Water or Extract Vol Distilled (mL)	Final Distillate Vol (mL)	Meter Reading (mg/L)	Comments
ICB	—		—	100	0.01	
ICV	—		—	100	4.9	
MB	—		50	50	0.01	
LCS	—		50	50	4.2	
314740-005	A -		50	50	0.09	
314740-006	A -		50	50	0.15	
MS	A -		50	50	4.2	
MSD	A -		50	50	4.2	
314740-007	A -		50	50	0.08	
314740-008	A -	10/15/19	50	50	0.08	
314579-001	—		50	50	0.20	LOQ: 0.1mL of a 10x into 50mL DI H_2O
2107666-051	—	EGS	50	50	~~0.10~~ 0.08 EGS 10/15/19	LoD: 0.025mL of a 10x dilution of the 1,000 mg/L std brought up to 50mL with DI.
2107666-052	—		50	50	0.08	
CCV	—		—	100	4.8	
CCB	—		—	100	0.01	
2107666-049	—		50	50	0.06	LoD: 0.025mL of a 10x brought up to 50mL DI
CCV	—		—	100	4.8	
CCB	—		—	100	~~0.2~~ 0.02 EGS 10/16/19	

EGS 10/16/19

Chlorine Check - KI paper lot #: 12/1/17 mdm
Used? ☐ 1N Sodium Thiosulfate: —
pH paper strips - lot #: 22041168
Thymol blue Reagent ID: 5/16/19 KPL
1N NaOH Reagent ID: 10/3/19 EGS
Borate Buffer ID: 6/21/19 KPL
2% Boric Acid ID: 9/16/19 EGS

Digestion Tube Lot #: 081219
Pipette - Disposable Lot#: 7242001
Pipette - Mechanical ID: 2890046, M3170GB, NH46366
ISA Reagent ID: 9/30/19 EGS
Spike S#: 41336 exp: 9/30/20
Final Spike Conc (mg/L): 5.0
Spike Vol (mL): 0.304

EGS 10/16/19
Analyst / Date

Continued on p. —
Continued from p: —
Version 6.3, March 2017

STI 10/16/19
Reviewed by / Date

Enthalpy Analytical - Berkeley Sample Batch Report

Batch Number: 274992
Date Started: 10-OCT-2019
Batched by : Elisa Gonzalez

Analysis : AMMONIA
Bgroup : N/A
Department : Wet Chemistry

Sample	Type		Client	Matrix	Analyses	Due Date
314740-001			ASSET LABS	Water	AMMONIA	18-OCT-2019
314740-002			ASSET LABS	Water	AMMONIA	18-OCT-2019
314740-003			ASSET LABS	Water	AMMONIA	18-OCT-2019
314740-004			ASSET LABS	Water	AMMONIA	18-OCT-2019
314741-001			ASSET LABS	Water	AMMONIA	18-OCT-2019
314741-002			ASSET LABS	Water	AMMONIA	18-OCT-2019
314741-003			ASSET LABS	Water	AMMONIA	18-OCT-2019
QC994544	BLANK			Water	AMMONIA	
QC994545	LCS			Water	AMMONIA	
QC994546	MS	of 314741-001		Water	AMMONIA	
QC994547	MSD	of 314741-001		Water	AMMONIA	

Analysis:	**Ammonia**	Analyst:	EGS	Prep Start Date (A):	10/10/19 12:30	(B):	10/10/19 14:58
Method:	**SM4500NH3-D**	Batch#:	**274992**	Analysis Start Date (A):	10/10/19 16:00	(B):	
SOP#:	ammonia_h2o_rv15.doc						

ICV/CCV		Reading (mg/L)	Result (mg/L) as NH3-N	RL (mg/L)	Std .Conc. (mg/L)	Recovery,%	Status	Limits, %
ICV		5.00	5.00	0.10	5.00	100		90-110%
ICB		0.02	ND	0.10				
CCV	Ammonia (mg/L) = Reading * Vf/Vi	5.00	5.00	0.10	5.00	100		90-110%
CCB	Where: Vf = Final Distillate Volume (mL)	0.02	ND	0.10				
CCV	Vi = Initial Sample Volume (mL)							
CCB								
CCV								
CCB								
CCV								
CCB								

Sample & Batch QC		Matrix?	J-flag Rqd?	.PD	.AD	Sample Vol. (mL)	Distillate Vol. (mL)	Reading (mg/L)	**Report (mg/L)** as NH3-N		RL (mg/L)	Spike Std Conc. (mg/L)	Vol Spike added (mL)	Spiked at (mg/L)	%Rec.	RPD,%
BLANK	QC994544	1	N	A	A	50	50	0.03	**ND**		0.10					
LCS/BS	QC994545	1	N	A	A	50	50	4.50	**4.500**		0.10	1000	0.25	5.0	**90**	
BSD			N			50	50									
Sample1	314741-001	1	y	A	A	50	50	0.15	**0.150**		0.10					
MS	QC994546	1	y	A	A	50	50	4.90	**4.900**		0.10	1000	0.25	5.0	**95**	
MSD	QC994547	1	y	A	A	50	50	5.00	**5.000**		0.10	1000	0.25	5.0	**97**	**2**
SDUP		1	y													
Sample2	314741-002	1	y	A	A	50	50	0.180	**0.180**		0.10					
Sample3	314741-003	1	y	A	A	50	50	0.11	**0.110**		0.10					
Sample4	314740-001	1	y	B	A	50	50	0.04	**0.040**	**J**	0.10					
Sample5	314740-002	1	y	B	A	50	50	0.03	**0.030**	**J**	0.10					
Sample6	314740-003	1	y	B	A	50	50	0.04	**0.040**	**J**	0.10					
Sample7	314740-004	1	y	B	A	50	50	0.04	**0.040**	**J**	0.10					
Sample8																
Sample9																
Sample10																
Sample11																
Sample12																
Sample13																
Sample14																
Sample15																
Sample16																
Sample17																
Sample18																
Sample19																
Sample20																

If spiked sample was diluted, was the MS/MSD spiked after the dilution? (y or n) N

QC Limits	Recovery			RPD
LCS/ BS/ BSD	80	-	120	20
SSPIKE/ SDUP	28	-	120	30

MDL (2009) = 0.02 mg/L

Matrix Key:

1	Water
15	Filtrate
11	TCLP Leachate
14	TCLP DI Leach.
12	WET Leachate
13	WET DI Leachate
16	SPLP Leachate
18	SPLP DI Leach.

Ammonia Benchbook SMWW 4500-D Enthalpy Analytical LLC - Berkeley

LIMS Batch #: 274992 ICAL LIMS S#: 41336 exp: 9/30/20 Benchbook: **BK 4410**

Matrix:: Water 0 mg/L (mV): — per SOP # Page: **41**

Prep Date: 10/10/19 0.1 mg/L (mV): 134.5 WC2.1.1 (h2o), or pH Meter ID: 1429065

Soil - Prep Start Time: — 1.0 mg/L (mV): 81.5 WC2.1.2 (soil), Slope: -55

Soil - Prep End Time: — 10. mg/L (mV): 23.7 **Revision:** 15 (slope limits: -54 to -60)

Distillation Date/Time: 10/10/19 12:30 (A) 14:58 (B) ICV LIMS S#: 39061 exp: 12/4/19 Balance ID: —

Analysis Date/Time: 10/10/19 1600 Balance has been calibrated? —

Blank 'matrix' Reagent ID: —

Sample # / Letter	CL Chk?	Soil Extraction Wt/Vol (g/mL) if applicable	Water or Extract Vol Distilled (mL)	Final Distillate Vol (mL)	Meter Reading (mg/L)	Comments
ICB	—		—	100	0.02	
ICV	—		—	100	5.0	
MB	—		50	50	0.03	
LCS	—		50	50	4.5	
314741-001	A -		50	50	0.15	
MS	A -		50	50	4.9	
MSD	A -		50	50	5.0	
-002	A -		50	50	0.18	
-003	A -		50	50	0.11	
314740-001	A -	EGS 10/10/19	50	50	0.04	B distillation
-002	A -		50	50	0.03	B distillation
-003	A -		50	50	0.04	B distillation
-004	A -		50	50	0.04	B distillation
CCV	—		—	100	5.0	
CCB	—		—	100	0.02	

EGS 10/10/19

Chlorine Check - KI paper lot #: 12/1/17 mdm

Used? ☐ 1N Sodium Thiosulfate: —

pH paper strips - lot #: 2204168

Thymol blue Reagent ID: 5/16/19 KP1

1N NaOH Reagent ID: 10/3/19 EGS

Borate Buffer ID: 6/21/19 KP1

2% Boric Acid ID: 9/16/19 EGS

Digestion Tube Lot #: 081219

Pipette - Disposable Lot#: 7242001

Pipette - Mechanical ID: 2890066, M31706B, N44636G

ISA Reagent ID: 9/30/19 EGS

Spike S#: 41336 exp: 9/30/20

Final Spike Conc (mg/L): 5.0

Spike Vol (mL): 0.304

EGS 10/10/19

Analyst / Date

Continued on p. 1

Continued from p. 1

Version 6.3, March 2017

STI 10/11/19

Reviewed by / Date

APPENDIX B

Field Data Collection Sheets (provided on CD-ROM only)

For additional assistance with the information provided in the appendix, please contact Emily Sheu with Arcadis (emily.sheu@arcadis.com)

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER ELEVATION DATA

PROJECT NAME: PG&E Topock CMP
PROJECT LOCATION: Needles, California
MEASUREMENT DATE: 2/11/2019
PERSONNEL ON SITE: JM

PROJECT NO.:
TASK: CMP quarterly snapshot
MEASURING DEVICE: Water level indicator
WEATHER CONDITIONS: Cloudy

Monitoring Well Number	Date	Time	Depth to Groundwater (ft btoc)	COMMENTS
CW-1D	2/11/2019	1308	110.52	
CW-1M	↓	1306	110.55	
CW-2D		1325	93.58	
CW-2M		1327	94.02	
CW-3D		1331	78.19	
CW-3M		1334	78.81	
CW-4D		1312	62.61	
CW-4M		1315	62.82	
OW-1D		1247	94.37	
OW-1M		1245	94.78	
OW-1S		1242	94.96	
OW-2D		1250	92.80	
OW-2M		1252	92.89	
OW-2S		1255	93.61	
OW-5D		1258	95.87	
OW-5M		1301	95.32	
OW-5S	↓	1303	96.43	

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER ELEVATION DATA

PROJECT NAME: PG&E Topock CMP
PROJECT LOCATION: Needles, California
MEASUREMENT DATE: 5/23/2019
PERSONNEL ON SITE: NT

PROJECT NO.:
TASK: CMP quarterly snapshot
MEASURING DEVICE: Water level indicator
WEATHER CONDITIONS: Partly cloudy

Monitoring Well Number	Date	Time	Depth to Groundwater (ft btoc)	COMMENTS
CW-1D	5/23/2019	7:38	108.9	
CW-1M	↓	7:43	108.84	
CW-2D		8:00	91.92	
CW-2M		8:05	92.30	
CW-3D		7:48	76.56	
CW-3M		7:54	77.11	
CW-4D		8:13	61.01	
CW-4M		8:17	61.18	
OW-1D		7:48	92.88	
OW-1M		7:46	93.18	
OW-1S		7:40	93.25	
OW-2D		7:57	91.20	
OW-2M		7:55	91.24	
OW-2S		7:53	91.83	
OW-5D		8:08	94.30	
OW-5M		8:05	93.76	
OW-5S	↓	8:02	94.75	

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER ELEVATION DATA

PROJECT NAME: PG&E Topock CMP
PROJECT LOCATION: Needles, California
MEASUREMENT DATE: 9/30/2019
PERSONNEL ON SITE: NT

PROJECT NO.:
TASK: CMP quarterly snapshot
MEASURING DEVICE: Water level indicator
WEATHER CONDITIONS: Sunny

Monitoring Well Number	Date	Time	Depth to Groundwater (ft btoc)	COMMENTS
CW-1D	9/30/2019	12:31	108.78	
CW-1M		12:34	108.77	
CW-2D		12:46	91.90	
CW-2M		12:49	92.36	
CW-3D		12:40	76.56	
CW-3M		12:43	77.14	
CW-4D		12:22	60.96	
CW-4M		12:25	61.15	
OW-1D		12:08	92.71	
OW-1M		12:15	93.14	
OW-1S		12:09	93.25	
OW-2D		12:20	91.19	
OW-2M		12:26	91.27	
OW-2S		12:23	91.86	
OW-5D		12:31	94.08	
OW-5M		12:36	93.74	
OW-5S		12:40	94.75	

ARCADIS Design & Consultancy for natural and built assets

GROUNDWATER ELEVATION DATA

PROJECT NAME: PG&E Topock CMP
PROJECT LOCATION: Needles, California
MEASUREMENT DATE: 11/22/2019
PERSONNEL ON SITE: NT

PROJECT NO.:
TASK: CMP quarterly snapshot
MEASURING DEVICE: Water level indicator
WEATHER CONDITIONS: Overcast

Monitoring Well Number	Date	Time	Depth to Groundwater (ft btoc)	COMMENTS
CW-1D	11/22/2019	7:29	109.86	
CW-1M	"	7:33	109.88	
CW-2D	"	7:37	92.99	
CW-2M	"	7:40	93.46	
CW-3D	"	7:43	77.62	
CW-3M	"	7:46	78.27	
CW-4D	"	7:52	62.04	
CW-4M	"	7:55	62.27	
OW-1D	"	8:03	93.77	
OW-1M	"	8:06	94.14	
OW-1S	"	8:09	94.31	
OW-2D	"	8:12	92.12	
OW-2M	"	8:15	92.30	
OW-2S	"	8:18	93.01	
OW-5D	"	8:21	95.11	
OW-5M	"	8:24	94.78	
OW-5S	"	8:27	95.80	

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-05M-LF

Date	10/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	93.66
Water Quality Meter	YSI	Gallons in Well	25.5
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	250.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	230
Water Column in Well	156.34	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	14:42	MS/MSD Sample Time	
Sample ID	OW-05M-LF-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-905-Q419	Post Sampling Turbidity	
Dup Sample Time	14:52	Purge Date	10/03/2019
Single Filter Turbidity	1		
Without Filter Turbidity	1		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:17	500	2000	29.1	7.79	7649	71.6	8.08	3	93.73	4.14	4.94
14:21	500	4000	29.1	7.79	7627	71.0	8.20	1	93.73	4.22	4.94
14:25	500	6000	29.1	7.78	7590	72.1	8.31	1	93.73	4.20	4.92
14:29	500	8000	29.1	7.78	7617	72.6	8.16	1	93.73	4.21	4.95
14:33	500	10000	29.1	7.78	7620	73.0	8.19	1	93.73	4.21	4.95
14:37	500	12000	29.2	7.78	7623	73.2	8.21	1	93.73	4.21	4.95
14:41	500	14000	29.2	7.78	7626	73.6	8.17	1	93.73	4.21	4.95

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			

Powered by:

ARCADIS Design & Consultancy for natural and built assets

Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock

Topock, CA

Item	Yes	No	NA	Notes
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-01D

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	108.85
Water Quality Meter	YSI	Gallons in Well	31.18
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	300.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	275
Water Column in Well	191.15	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	13:18	MS/MSD Sample Time	
Sample ID	CW-01D-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:00	.2	1500	28.5	7.00	7877	160.0	7.85	4	108.95	4.35	5.13
13:03	.2	3000	28.5	7.11	7907	150.4	8.44	2	108.97	4.36	5.14
13:06	.2	4500	29.2	7.19	7898	143.8	8.44	2	108.97	4.36	5.14
13:09	.2	6000	29.3	7.22	8021	143.0	8.50	2	108.97	4.36	5.14
13:12	.2	7500	29.3	7.24	8029	143.6	8.53	2	108.97	4.36	5.14
13:15	.2	9000	29.3	7.25	8034	144.0	8.60	2	108.97	4.36	5.14

Well Integrity Checklist

Item	Yes	No	NA	Notes

Photos and Drawings

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Oct 02,2019 12:48:04 PM
Location:CW-01D Latitude:0 , Longitude:0

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-01M

Date	10/02/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	108.88
Water Quality Meter	YSI	Gallons in Well	13.23
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	190.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	160.00
Water Column in Well	81.12	Total Volume to Remove	
		EB Sample ID	EB-709-Q319
Did Well Dewater?	No	EB Time	14:32
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	14:18	MS/MSD Sample Time	
Sample ID	CW-01M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:58	.2	1500	30.9	7.56	8090	118.3	6.74	8	108.92	4.44	5.25
14:01	.2	3000	31.0	7.54	8116	122.4	7.04	3	108.94	4.45	5.28
14:04	.2	4500	31.1	7.53	8262	124.2	6.98	2	108.94	4.56	5.30
14:07	.2	6000	31.1	7.54	8316	125.2	8.02	2	108.94	4.56	5.30
14:10	.2	7500	31.1	7.54	8324	125.8	8.12	2	108.94	4.56	5.30
14:13	.2	9000	31.1	7.54	8330	126.2	8.22	2	108.94	4.56	5.30
14:16	.2	10500	31.1	7.54	8337	127.5	8.25	2	108.94	4.56	5.30

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



Powered by:
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Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-02D

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	92.09
Water Quality Meter	YSI	Gallons in Well	39.62
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	335
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	310
Water Column in Well	242.91	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	11:50	MS/MSD Sample Time	
Sample ID	CW-02D-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-903-Q419	Post Sampling Turbidity	
Dup Sample Time	12:00	Purge Date	10/02/2019
Single Filter Turbidity	0		
Without Filter Turbidity	4		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:30	.2	1500	28.3	7.52	8040	164.3	7.32	7	92.13	4.47	5.26
11:33	.2	3000	28.4	7.56	8006	163.9	7.49	3	92.13	4.44	5.23
11:36	.2	4500	28.6	7.59	8015	161.6	7.55	4	92.13	4.46	5.27
11:39	.2	6000	28.7	7.59	8135	160.6	7.61	4	92.13	4.46	5.27
11:42	.2	7500	28.8	7.60	8106	160.0	7.74	4	92.13	4.46	5.27
11:45	.2	9000	28.9	7.60	8113	160.1	7.81	4	92.13	4.46	5.27

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock

Topock, CA

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-02M

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	92.51
Water Quality Meter	YSI	Gallons in Well	17.86
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	202
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	177
Water Column in Well	109.49	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	10:28	MS/MSD Sample Time	
Sample ID	CW-02M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:11	.2	1500	28.2	7.44	8042	169.8	8.02	17	92.57	4.43	5.23
10:14	.2	3000	29.3	7.53	8039	168.8	8.03	11	92.57	4.43	5.22
10:17	.2	4500	29.4	7.55	8045	168.7	8.07	6	92.57	4.43	5.23
10:20	.2	6000	29.4	7.54	8053	169.0	8.11	2	92.57	4.43	5.23
10:23	.2	7500	29.4	7.55	8059	169.3	8.08	2	92.57	4.43	5.23
10:26	.2	9000	29.5	7.55	8057	169.8	8.07	2	92.57	4.43	5.23

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-03D

Date	10/02/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	76.60
Water Quality Meter	YSI	Gallons in Well	39.7
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	320.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	295
Water Column in Well	243.4	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	08:30	MS/MSD Sample Time	
Sample ID	CW-03D-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:08	.2	1500	27.8	7.54	8057	178.5	8.33	7	76.67	4.45	5.26
08:11	.2	3000	27.3	7.49	8053	177.3	8.40	4	76.67	4.45	5.26
08:14	.2	4500	27.0	7.47	8046	175.9	8.41	2	76.67	4.45	5.26
08:17	.2	6000	26.8	7.45	8055	176.8	8.45	2	76.67	4.45	5.26
08:20	.2	7500	26.7	7.46	8047	174.4	8.45	2	76.67	4.45	5.25
08:23	.2	9000	26.8	7.48	8046	172.7	8.40	2	76.67	4.45	5.25

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

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Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-03M

Date	10/02/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	77.33
Water Quality Meter	YSI	Gallons in Well	23.6
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	222
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	197
Water Column in Well	144.67	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/02/2019	MS/MSD Sample ID	
Sample Time	09:36	MS/MSD Sample Time	
Sample ID	CW-03M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/02/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:08	.2	1500	28.6	7.41	8632	172.4	6.88	54	77.40	4.78	5.60
09:11	.2	3000	28.7	7.43	8641	172.3	6.83	23	77.41	4.78	5.61
09:14	.2	4500	28.2	7.42	8632	172.9	6.41	11	77.41	4.77	5.59
09:17	.2	6000	27.9	7.39	8597	173.6	6.42	5	77.41	4.74	5.58
09:20	.2	7500	27.8	7.39	8555	173.9	6.29	3	77.41	4.75	5.57
09:23	.2	9000	27.7	7.38	8585	173.9	6.25	3	77.41	4.74	5.57
09:26	.2	10500	27.6	7.36	8576	173.6	6.28	3	77.41	4.74	5.57
09:29	.2	12000	27.5	7.35	8562	173.6	6.25	3	77.41	4.74	5.57

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-04D

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	60.90
Water Quality Meter	YSI	Gallons in Well	36.23
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	283.0
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	253
Water Column in Well	222.1	Total Volume to Remove	
		EB Sample ID	EB-708-Q319
Did Well Dewater?	No	EB Time	15:23
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	15:08	MS/MSD Sample Time	
Sample ID	CW-04D-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:44	.2	1500	29.4	7.90	8135	132.8	8.65	6	61.05	4.52	5.31
14:47	.2	3000	29.5	7.85	8154	136.5	8.58	5	61.09	4.52	5.31
14:50	.2	4500	29.5	7.81	8169	135.2	8.52	5	61.09	4.52	5.31
14:53	.2	6000	29.8	7.78	8098	134.7	8.44	5	61.09	4.52	5.31
14:56	.2	7500	29.8	7.77	8092	133.8	8.42	5	61.09	4.52	5.31
14:59	.2	9000	29.8	7.76	8088	134.1	8.42	5	61.09	4.52	5.31
15:02	.2	10500	29.8	7.76	8087	134.2	8.40	5	61.09	4.52	5.31
15:05	.2	12000	29.5	7.76	8068	134.1	8.37	5	61.09	4.52	5.31

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

CW-04M

Date	10/01/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	ml	Depth to Water (ft bmp)	61.15
Water Quality Meter	YSI	Gallons in Well	17.67
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	169.5
Casing Material	PVC	Odor	none
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	142
Water Column in Well	108.35	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/01/2019	MS/MSD Sample ID	
Sample Time	13:57	MS/MSD Sample Time	
Sample ID	CW-04M-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/01/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:33	0.2	1500	29.8	7.47	7979	136.9	7.78	9	61.18	4.39	5.18
13:36	0.2	3000	29.7	7.48	7974	136.6	7.71	5	61.18	4.39	5.18
13:39	0.2	4500	29.8	7.50	7959	135.7	7.69	4	61.8	4.39	5.18
13:42	0.2	6000	29.8	7.50	7961	134.7	7.60	4	61.18	4.37	5.18
13:45	0.2	7500	29.8	7.49	7957	134.4	7.59	4	61.18	4.37	5.18
13:48	0.2	9000	29.8	7.51	7952	134.4	7.58	3	61.18	4.37	5.18
13:51	0.2	10500	29.8	7.50	7953	134.2	7.55	3	61.18	4.37	5.18
13:54	0.2	12000	29.8	7.50	7953	134.1	7.55	3	61.18	4.37	5.18

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-01D

Date	10/03/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	92.89
Water Quality Meter	YSI	Gallons in Well	30.03
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	277.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	267
Water Column in Well	184.11	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	09:41	MS/MSD Sample Time	
Sample ID	OW-01D-Q419	Double Filter Turbidity	
Duplicate Sample ID	MW-904-Q419	Post Sampling Turbidity	
Dup Sample Time	09:51	Purge Date	10/03/2019
Single Filter Turbidity	0		
Without Filter Turbidity	2		

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
09:18	.2	1500	27.3	7.04	7932	-2.9	1.60	4	92.93	4.37	5.16
09:21	.2	3000	27.6	7.07	7975	4.0	1.61	3	92.93	4.40	5.18
09:24	.2	4500	28.0	7.13	8026	20.7	1.98	2	92.93	4.46	5.25
09:27	.2	6000	28.1	7.16	8114	32.5	2.49	2	92.93	4.48	5.29
09:30	.2	7500	28.2	7.18	8130	37.8	2.63	2	92.93	4.48	5.29
09:33	.2	9000	28.1	7.19	8138	40.4	2.70	2	92.93	4.49	5.29
09:36	.2	10500	28.1	7.20	8142	42.7	2.74	2	92.93	4.48	5.29
09:39	.2	12000	28.2	7.21	8155	44.5	2.80	2	92.93	4.51	5.30

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		

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Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

Item	Yes	No	NA	Notes
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings




Oct 03,2019 09:07:04 AM
Location:OW-01D Latitude:0 , Longitude:0

Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-01M

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	93.18
Water Quality Meter	YSI	Gallons in Well	14.98
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	185.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	175
Water Column in Well	91.82	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	08:48	MS/MSD Sample Time	
Sample ID	OW-01M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	9	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
08:32	.2	1500	28.3	6.75	8347	65.6	3.85	24	93.22	4.59	5.43
08:35	.2	3000	28.5	6.76	8381	65.9	3.86	14	93.22	4.57	5.42
08:38	.2	4500	28.7	6.78	8390	67.2	3.81	10	93.22	4.57	5.42
08:41	.2	6000	28.7	6.78	8388	66.8	3.92	9	93.22	4.57	5.42
08:43	.2	7500	28.7	6.77	8391	67.1	3.92	9	93.22	4.57	5.42
08:46	.2	9000	28.7	6.77	8394	67.5	3.92	9	93.22	4.57	5.42

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

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Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings



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Groundwater Monitoring Field Data Form

Site: PGE Topock

Topock, CA

Project Number:
RC000753.0801

OW-01S

Date	10/03/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	93.26
Water Quality Meter	YSI	Gallons in Well	3.3
Sampling Type	Volume Purge – Grundfos RF2	Measured Well Depth (ft bmp)	113.5
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	103.5
Water Column in Well	20.24	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	10:36	MS/MSD Sample Time	
Sample ID	OW-01S-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
10:20	.2	1500	29.5	7.04	6259	66.9	3.70	11	93.30	3.38	4.08
10:23	.2	3000	29.3	6.93	6369	68.5	3.77	6	93.33	3.41	4.16
10:26	.2	4500	29.8	6.98	6393	72.7	3.61	5	93.30	3.45	4.16
10:29	.2	6000	30.0	6.97	6404	73.2	3.59	5	93.33	3.47	4.15
10:32	.2	7500	30.0	6.97	6407	73.6	3.58	5	93.33	3.47	4.15
10:35	.2	9000	30.1	6.97	6412	74.2	3.55	5	93.33	3.47	4.15

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

OW-02D

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.26
Water Quality Meter	YSI	Gallons in Well	37.31
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	320
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	310
Water Column in Well	228.74	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	11:30	MS/MSD Sample Time	
Sample ID	OW-02D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	7	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
11:10	.2	1500	27.9	7.20	7969	76.4	4.08	19	91.32	4.40	5.18
11:13	.2	3000	27.9	7.24	7982	75.1	4.11	11	91.35	4.41	5.21
11:16	.2	4500	28.1	7.24	7991	74.5	4.19	8	91.35	4.42	5.21
11:19	.2	6000	28.2	7.25	7988	74.2	4.22	7	91.35	4.42	5.21
11:21	.2	7500	28.2	7.24	7993	72.9	4.22	7	91.35	4.42	5.22
11:24	.2	9000	28.1	7.25	8002	72.4	4.22	7	91.35	4.42	5.22

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

OW-02M

Date	10/03/2019	Sampler	Kt
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.20
Water Quality Meter	YSI	Gallons in Well	19.38
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	210
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	200
Water Column in Well	118.8	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	13:40	MS/MSD Sample Time	
Sample ID	OW-02M-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	5	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:27	500	1500	30.0	7.39	8057	57.3	2.60	8	91.23	4.45	5.24
13:30	500	3000	30.0	7.41	8080	59.2	2.44	5	91.25	4.45	5.25
13:33	500	4500	30.2	7.42	8083	59.6	2.40	5	91.25	4.44	5.25
13:36	500	6000	30.1	7.42	8100	60.4	2.43	5	91.25	4.45	5.25
13:39	500	7500	30.3	7.44	8121	62.8	2.46	5	91.25	4.46	5.25

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			
Photo Taken?	X			

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Photos and Drawings



Groundwater Monitoring Field Data Form

Site: PGE Topock
Topock, CA

Project Number:
RC000753.0801

OW-02S

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	91.99
Water Quality Meter	YSI	Gallons in Well	1.47
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	101.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	96
Water Column in Well	9.01	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	12:25	MS/MSD Sample Time	
Sample ID	OW-02S-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	3	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
12:03	.2	1500	31.3	7.69	3877	80.4	3.88	8	92.05	2.03	2.52
12:06	.2	3000	31.3	7.69	3885	80.1	3.84	4	92.05	2.04	2.52
12:09	.2	4500	31.3	7.68	3883	79.5	3.82	3	92.05	2.04	2.52
12:12	.2	6000	31.2	7.67	3881	79.4	3.83	3	92.05	2.04	2.52
12:15	.2	7500	31.2	7.67	3877	79.1	3.80	3	92.05	2.04	2.52
12:18	.2	9000	31.2	7.67	3879	79.2	3.80	3	92.05	2.04	2.52

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock

Topock, CA

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

OW-05D

Date	10/03/2019	Sampler	Nara Tep
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	94.16
Water Quality Meter	YSI	Gallons in Well	36.84
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	320.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	310
Water Column in Well	225.84	Total Volume to Remove	
		EB Sample ID	
Did Well Dewater?	No	EB Time	
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	13:36	MS/MSD Sample Time	
Sample ID	OW-05D-Q419	Double Filter Turbidity	
Single Filter Turbidity	1	Post Sampling Turbidity	
Without Filter Turbidity	1	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
13:11	500	2000	30.0	7.69	7340	70.1	8.09	3	94.20	4.03	4.77
13:15	500	4000	30.1	7.72	7154	69.1	8.60	2	94.20	3.96	4.77
13:19	500	6000	30.2	7.73	7493	69.7	8.69	2	94.20	4.11	4.77
13:23	500	8000	30.2	7.74	7475	69.9	8.31	1	94.20	4.09	4.80
13:27	500	10000	30.2	7.74	7490	70.1	8.39	1	94.20	4.09	4.81
13:31	500	12000	30.2	7.74	7496	70.6	8.43	1	94.20	4.09	4.81
13:35	500	14000	30.2	7.74	7489	70.8	8.41	1	94.20	4.09	4.81

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock

Topock, CA

Item	Yes	No	NA	Notes
Well Casing Intact?	X			
Photo Taken?	X			

Photos and Drawings



Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

OW-05S

Date	10/03/2019	Sampler	KT
Weather Conditions	Sunny	Color	Clear
Purge Method	Low Flow	Casing Volume to Remove	
Purge Volume Units	Ml	Depth to Water (ft bmp)	94.62
Water Quality Meter	YSI	Gallons in Well	2.51
Sampling Type	Low Flow – Grundfos RF2	Measured Well Depth (ft bmp)	110.00
Casing Material	PVC	Odor	None
Casing Diameter (in)	2	Pump Intake Depth (ft bmp)	102
Water Column in Well	15.38	Total Volume to Remove	
		EB Sample ID	EB-710-Q319
Did Well Dewater?	No	EB Time	14:47
Sample Date	10/03/2019	MS/MSD Sample ID	
Sample Time	14:33	MS/MSD Sample Time	
Sample ID	OW-05S-Q419	Double Filter Turbidity	
Single Filter Turbidity	0	Post Sampling Turbidity	
Without Filter Turbidity	2	Purge Date	10/03/2019

Field Parameters

Time	Flow Rate (ml/min or gal/min)	Cuml Vol Purged	Temp (C)	pH	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Salinity (ppt)	TDS (g/L)
14:16	500	1500	29.1	7.28	6425	63.7	3.10	3	94.68	3.48	4.16
14:19	500	3000	30.0	7.30	6297	60.7	2.74	2	94.69	3.40	4.05
14:22	500	4500	30.2	7.30	6080	60.3	2.72	2	94.69	3.32	3.90
14:25	500	6000	30.3	7.31	6098	60.8	2.74	2	94.69	3.31	3.86
14:28	500	7500	30.3	7.31	6072	61.4	2.74	2	94.69	3.30	3.84
14:31	500	9000	30.3	7.31	6066	62.3	2.75	2	94.69	3.29	3.83

Well Integrity Checklist

Item	Yes	No	NA	Notes
Date				
Time				
Survey Mark Present?	X			
Standing or Ponded Water?		X		
Lock in Place?	X			
Evidence of well subsidence?		X		
Well Labeled on Casing or Pad?	X			
Traffic Poles Intact?			X	
Concrete Pad Intact?	X			
Erosion Around Wellhead?		X		
Steel Casing Intact?	X			
PVC Cap Present?	X			
Standing Water in Annulus?		X		
Well Casing Intact?	X			

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Groundwater Monitoring Field Data Form

Project Number:
RC000753.0801

Site: PGE Topock
Topock, CA

Item	Yes	No	NA	Notes
Photo Taken?	X			

Photos and Drawings



Arcadis U.S., Inc.

100 Montgomery Street

Suite 300

San Francisco, California 94104

Tel 415 374 2744

Fax 415 374 2745

www.arcadis.com