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April 15, 2021

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Scot Stormo
California Regional Water Quality Control Board
Colorado River Basin Region
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Palm Desert, CA 92260

Subject: Topock IM-3 First Quarter 2021 Monitoring Report
PG&E Topock Compressor Station, Needles, California
Interim Measure No. 3 Groundwater Treatment System

Dear Ms. Innis and Mr. Stormo:

Enclosed is the First Quarter 2021 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Interim Measure No. 3 (IM-3) Groundwater Treatment System.

From July 2005 through September 2011 PG&E was operating the IM-3 groundwater treatment system as authorized by the Colorado River Basin Regional Water Quality Control Board (Regional Water Board) Order No. R7-2004-0103 (issued October 13, 2004); Order No. R7-2006-0060 (issued September 20, 2006); and the revised Monitoring and Reporting Program under Order No. R7-2006-0060 (issued August 28, 2008). Order No. R7-2006-0060 expired on September 20, 2011.

PG&E is currently operating the IM-3 groundwater treatment system as authorized by the U.S. Department of the Interior (DOI) Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) as documented in Attachment A to the Letter Agreement issued July 26, 2011 from the Regional Water Board to DOI, and the subsequent Letter of Concurrence issued August 18, 2011 from DOI to the Regional Water Board. Quarterly monitoring reports are required to be submitted by the fifteenth day of the month following the end of the quarter.

The IM-3 groundwater extraction and treatment system has extracted and treated approximately 1,038,042,905 gallons of water and removed approximately 8,120 pounds of total chromium from August 1, 2005 through March 31, 2021.

The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

If you have any questions regarding this report, please call me at (760) 791-5884.

Sincerely,

Curt Russell
Topock Project Manager

Enclosures:

Topock IM-3 First Quarter 2021 Monitoring Report

cc: Aaron Yue, California Department of Toxic Substances Control

Topock Project Executive Abstract

Document Title: Topock IM-3 First Quarter 2021 Monitoring Report Submitting Agency/Authored by: U.S. Department of the Interior and Regional Water Quality Control Board Final Document? X Yes __ No	Date of Document: April 15, 2021 Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) PG&E
Priority Status: __ HIGH __ MED X LOW	Is this time critical? __ Yes X No
Type of Document: __ Draft X Report __ Letter __ Memo __ Other / Explain:	Action Required: X Information Only __ Review and Input __ 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 (RA) __ California Environmental Quality Act (CEQA)/ Environmental Impact Report (EIR) X Interim Measures __ Other / Explain:	Is this a Regulatory Requirement? X 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 of the ARARs for waste discharge as documented in Attachment A to the Letter Agreement issued July 26, 2011.	Other Justification/s: __ Permit __ Other / Explain:
Brief Summary of attached document: This report covers the Interim Measure No. 3 (IM-3) groundwater treatment system monitoring activities during the First Quarter 2021 period. The groundwater monitoring results for wells OW 1S/M/D, OW 2S/M/D, OW 5S/M/D, CW 1M/D, CW 2M/D, CW 3M/D, and CW 4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program. Written by: Pacific Gas and Electric Company	
Recommendations: This report is for your information only.	
How is this information related to the Final Remedy or Regulatory Requirements? The Topock IM-3 First Quarter 2021 Monitoring Report is related to the Interim Measure. PG&E is currently operating the IM-3 groundwater treatment system as authorized by the U.S. Department of the Interior (DOI) Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) as documented in Attachment A to the Letter Agreement issued July 26, 2011 from the Colorado River Basin Regional Water Quality Control Board (Regional Water Board) to DOI, and the subsequent Letter of Concurrence issued August 18, 2011 from DOI to the Regional Water Board.	
Other requirements of this information? None.	

JACOBS

First Quarter 2021 Monitoring Report Interim Measure No. 3 Groundwater Treatment System

PG&E Topock Compressor Station
Needles, California

April 15, 2021

Prepared for

Colorado River Basin Regional Water Quality Control Board
and
United States Department of the Interior
on behalf of
Pacific Gas and Electric Company

First Quarter 2021 Monitoring Report
Interim Measure No. 3 Groundwater Treatment System

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April 15, 2021

This report was prepared under the supervision of a
California Certified Professional Engineer

John Porcella, P.E.
Project Engineer

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Acronyms and Abbreviations

ARARs	Applicable or Relevant and Appropriate Requirements
ASSET	ASSET Laboratories
DOI	United States Department of the Interior
gpm	gallons per minute
HMI	human-machine interface
IM	Interim Measure
IW	injection well
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
PLC	programmable logic controller
PST	Pacific Standard Time
Regional Water Board	Colorado River Basin Regional Water Quality Control Board
RO	reverse osmosis
Truesdail	Laboratories, Inc.
WDR	Waste Discharge Requirements

1. Introduction

Pacific Gas and Electric Company (PG&E) is implementing an Interim Measure (IM) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The IM consists of groundwater extraction for hydraulic control of the plume boundaries in the Colorado River floodplain, treatment of extracted groundwater, and treated groundwater injection into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. The groundwater extraction, treatment, and injection systems collectively are referred to as Interim Measure No. 3 (IM-3). Figure 1 provides a map of the project area. All figures are located at the end of this report.

From July 2005 through September 2011 PG&E was operating the IM-3 groundwater treatment system as authorized by the Colorado River Basin Regional Water Quality Control Board (Regional Water Board) Order No. R7-2004-0103 (issued October 13, 2004), Order No. R7-2006-0060 (issued September 20, 2006), and the revised Monitoring and Reporting Program (MRP) under Order No. R7-2006-0060 (issued August 28, 2008). Order No. R7-2006-0060 expired September 20, 2011.

PG&E is currently operating the IM-3 groundwater treatment system as authorized by the U.S. Department of the Interior (DOI) Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) as documented in Attachment A to the Letter Agreement issued July 26, 2011 from the Regional Water Board to DOI, and the subsequent Letter of Concurrence issued August 18, 2011 from DOI to the Regional Water Board. Quarterly monitoring reports are required to be submitted by the fifteenth day of the month following the end of the quarter.

This report covers monitoring activities related to operation of the IM-3 groundwater treatment system during the First Quarter 2021. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

2. Sampling Station Locations

Table 1 lists the locations of sampling stations. (All tables are located at the end of this report.) Sampling station locations are shown on the process and instrumentation diagrams (Figures TP-PR-10-10-04, PR-10-03, PR-10-04 and TP-PR-10-10-06) provided at the end of this report.

3. Description of Activities

The treatment system was initially operated between July 25 and July 28, 2005 for the Waste Discharge Requirement (WDR)-mandated startup phase. Discharge to the injection wells was initiated July 31, 2005 after successfully completing the startup phase in accordance with Order No. R7-2004-0103. Full-time operation of the treatment system commenced in August 2005.

Influent to the treatment facility, as listed in Attachment A, Waste Discharge ARARs, to the Letter Agreement issued July 26, 2011, includes:

- Groundwater from extraction wells TW-2S, TW-2D, TW-3D, and PE-1.
- Purged groundwater and water generated from rinsing field equipment during monitoring events.
- Groundwater generated during well installation, well development, and aquifer testing.

During the First Quarter 2021, extraction well TW-3D was operated at a target pumping rate of 135 gallons per minute (gpm), excluding periods of planned and unplanned downtime. Extraction wells TW-2D, TW-2S, and PE-01 were not operated during First Quarter 2021. The recorded operational run time for the IM-3 groundwater extraction system (combined or individual pumping), by month, was approximately:

- 89.1 percent during January 2021
- 91.4 percent during February 2021
- 95.8 percent during March 2021

Operation of the groundwater treatment system results in the following three out-flow components:

- **Treated effluent:** Treated water that is discharged to the injection well(s).
- **Reverse osmosis (RO) concentrate (brine):** Treatment byproduct that is transported and disposed of offsite at a permitted facility.
- **Sludge:** Treatment byproduct that is transported offsite for disposal at a permitted facility. Disposal occurs each time a sludge waste storage bin reaches capacity or within 90 days of the start date for accumulation in the storage container.

Activities during the First Quarter 2021 are detailed in Section 4. Additional sampling is conducted on the effluent every four hours to ensure the effluent meets the ARARs discharge requirements; however, these samples are taken at a different location than the required monthly and quarterly sampling locations and are analyzed at the on-site laboratory as opposed to a California certified laboratory.

4. Groundwater Treatment System Flow Rates

The First Quarter 2021 treatment system monthly average flow rates (influent, effluent, and RO concentrate) are presented in Table 2.

The system influent flow rate was measured by flow meters at groundwater extraction wells TW-2S, TW-2D, TW-3D, and PE-1 (Figure TP-PR-10-10-03). The treatment system effluent flow rate was measured by flow meters in the piping into injection wells IW-2 and IW-3 (Figure TP-PR-10-10-11).

The RO concentrate flow rate was measured by a flow meter at the piping carrying water from RO concentrate tank T-701 to the truck load-out station (Figure PR-10-04), or from Liquid Environmental Solutions non-hazardous waste manifests (provided in Appendix A). Due to Final Groundwater Remedy construction activities at the MW-20 Bench adjacent to the IM-3 RO concentrate storage tank, the RO concentrate is temporarily being stored and shipped from the RO concentrate process collection tank. Since the flowmeter is located between the RO concentrate process collection tank and the RO concentrate storage tank, the RO concentrate shipped from the process collection tank was not recorded by the flowmeter.

The IM-3 facility treated approximately 15,808,064 gallons of extracted groundwater during the First Quarter 2021. Four containers of solids (sludge) were transported offsite from the IM-3 facility during First Quarter 2021.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 7.9 percent downtime during First Quarter 2021) are summarized below. The times shown are in Pacific Standard Time (PST) to be consistent with other data collected (e.g., water level data) at the site.

4.1 January 2021

During January 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during January 2021. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on January 18, 2019 to allow for remedy construction activities without crossing under the PE-01 piping/conduit. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 89.1 percent during the January 2021 reporting period.

The IM-3 facility treated approximately 5,222,128 gallons of extracted groundwater during January 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, zero gallons of sampling purge water and zero gallons of groundwater from injection well backwashing/re-development during January 2021. No containers of solids from the IM-3 facility were transported offsite during January 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 10.9 percent downtime during January 2021) are summarized below.

- **January 1, 2021 (unplanned):** The extraction well system was offline from 9:08 a.m. to 11:16 a.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 8 minutes.
- **January 2-7, 2021 (unplanned):** The extraction well system was offline from 9:10 a.m. to 9:58 a.m. on January 2; from 7:52 a.m. to 9:04 a.m. on January 3; from 3:24 p.m. to 4:20 p.m. on January 4; from 8:00 p.m. to 8:52 p.m. on January 5; and from 1:32 a.m. to 2:26 a.m. on January 7, 2021 due to high-water levels in the Raw Water Storage Tank (T-100). The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 4 hours 42 minutes.

- **January 7, 2021 (unplanned):** The extraction well system was offline from 4:46 p.m. to 6:40 p.m. due to replacing microfilter modules with clean modules and cleaning-in-place dirty modules. Extraction system downtime was 1 hour 54 minutes.
- **January 7, 2021 (unplanned):** The extraction well system was offline from 10:18 p.m. to 11:50 p.m. due to TW-3D failing due to an electrical power imbalance. Extraction system downtime was 1 hour 32 minutes.
- **January 8-11, 2021 (unplanned):** The extraction well system was offline from 2:50 p.m. to 5:16 p.m. on January 8; from 10:48 a.m. to 11:46 a.m. on January 9; from 10:42 p.m. on January 9 to 12:10 a.m. on January 10; from 10:42 a.m. to 11:42 a.m. on January 10; from 7:48 p.m. to 9:38 p.m. on January 10; and from 8:38 a.m. to 12:08 p.m. on January 11 due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 11 hours 12 minutes.
- **January 11, 2021 (unplanned):** The extraction well system was offline from 12:20 p.m. to 1:16 p.m. to allow for cleaning of the piping between the Chemical Loop Reactor to Chrome Reduction Reactor. Extraction system downtime was 56 minutes.
- **January 11-13, 2021 (unplanned):** The extraction well system was offline from 8:56 p.m. to 10:04 p.m. on January 11; from 9:06 a.m. to 10:34 a.m. on January 12; from 10:28 p.m. to 11:44 p.m. on January 12; and from 9:12 a.m. to 9:58 a.m. on January 13, 2021 due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 4 hours 38 minutes.
- **January 13, 2021 (unplanned):** The extraction well system was offline from 6:18 p.m. to 8:12 p.m. due to TW-3D failing due to an electrical power imbalance. Extraction system downtime was 1 hour 54 minutes.
- **January 14, 2021 (unplanned):** The extraction well system was offline from 12:04 a.m. to 1:54 a.m. due to a high-water level in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 50 minutes.
- **January 14, 2021 (unplanned):** The extraction well system was offline from 5:02 a.m. to 7:14 p.m. due to a high-water level in T-100 and due to cleaning the piping of the 301 tanks. Operators had to dismantle all the piping between Chromium Reduction Reactor Tank 300 (T-300), Iron Oxidation Reactor Tank #1 (T-301A), and Iron Oxidation Reactor Tank #2 (T-301C) to remove the buildup of mineral scale inside the piping. Extraction system downtime was 14 hours 12 minutes.
- **January 15-17, 2021 (unplanned):** The extraction well system was offline from 2:58 a.m. to 3:52 a.m. on January 15; from 10:54 p.m. to 11:56 p.m. on January 15; and from 7:02 a.m. to 8:24 a.m. on January 17, 2021 due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 3 hours 18 minutes.
- **January 18, 2021 (unplanned):** The extraction well system was offline from 1:42 p.m. to 2:32 p.m. due to TW-3D failing due to an electrical power imbalance. Extraction system downtime was 50 minutes.
- **January 18, 2021 (unplanned):** The extraction well system was offline from 2:42 p.m. to 4:58 p.m. to troubleshoot Flow Valve (FV-100). FV-100 was not responding to the control system “open” command. Operators were eventually able to open the valve manually. Extraction system downtime was 2 hours 16 minutes.
- **January 20, 2021 (unplanned):** The extraction well system was offline from 1:34 a.m. to 2:46 a.m. due to a high-water level in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 12 minutes.
- **January 20, 2021 (unplanned):** The extraction well system was offline from 10:22 a.m. to 2:34 p.m. due to having a contractor onsite to clean off the mineral scale buildup inside of T-301C. Extraction system downtime was 4 hours 12 minutes.

- **January 21, 2021 (unplanned):** The extraction well system was offline from 8:54 a.m. to 10:38 a.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 44 minutes.
- **January 21, 2021 (unplanned):** The extraction well system was offline from 6:38 p.m. to 8:52 p.m. due to a high-water level in T-100 and T-301C. The operator shut down extraction so the tanks could drain below the high-level alarm setpoint. Extraction system downtime was 2 hours 14 minutes.
- **January 22, 2021 (unplanned):** The extraction well system was offline from 7:56 a.m. to 9:42 a.m. due to replacing Clarifier Feed Pump (P-400) and cleaning off mineral scale buildup on the static mixer in the piping between P-400 and the clarifier. Extraction system downtime was 1 hour 46 minutes.
- **January 23-27, 2021 (unplanned):** The extraction well system was offline from 12:26 a.m. to 1:34 a.m. on January 23; from 5:08 p.m. to 6:30 p.m. on January 23; from 8:16 a.m. to 9:30 a.m. on January 24; from 1:08 a.m. to 2:52 a.m. on January 25; from 5:10 p.m. to 6:30 p.m. on January 25; from 2:12 p.m. to 3:22 p.m. on January 26; and from 11:00 a.m. to 12:46 p.m. on January 27, 2021 due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 9 hours 44 minutes.
- **January 28, 2021 (unplanned):** The extraction well system was offline from 9:38 a.m. to 4:22 p.m. to inspect the P-400 discharge piping and change the microfilter modules. The piping between P-400 and the clarifier had become plugged with mineral scale causing restricted flow. Once the extent of the blockage was determined, the decision was made to install temporary piping (permanent piping was installed in February 2021). Extraction system downtime was 6 hours 44 minutes.
- **January 28, 2021 (unplanned):** The extraction well system was offline from 4:40 p.m. to 5:32 p.m. due to a high water level in Pretreated Water Tank (T-500) from an airlock in the microfilter modules. Extraction system downtime was 52 minutes.
- **January 30, 2021 (unplanned):** The extraction well system was offline from 3:30 a.m. to 4:38 a.m. due to mineral scaling in the piping between the clarifier and T-500 which caused a high-water level in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 8 minutes.
- **January 31, 2021 (unplanned):** The extraction well system was offline from 2:24 p.m. to 2:36 p.m. due to a plugged microfilter strainer. The strainer was replaced with a clean unit and the plant put back into operation. Extraction system downtime was 12 minutes.

4.2 February 2021

During February 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during February 2021. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 91.4 percent during the February 2021 reporting period.

The IM-3 facility treated approximately 4,857,852 gallons of extracted groundwater during February 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, 650 gallons of sampling purge water, and zero gallons of groundwater from injection well backwashing/re-development during February 2021. Two containers of solids from the IM-3 facility were transported offsite during February 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 8.6 percent downtime during February 2021) are summarized below.

- **February 1, 2021 (planned):** The extraction well system was offline from 11:44 a.m. to 12:26 p.m. due to testing of the pipeline critical alarms and leak detection system. Extraction system downtime was 42 minutes.

- **February 2, 2021 (unplanned):** The extraction well system was offline from 2:42 a.m. to 4:16 a.m. due to high-water levels in Raw Water Storage Tank (T-100). The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 34 minutes.
- **February 2, 2021 (unplanned):** The extraction well system was offline from 5:48 a.m. to 10:26 a.m. due to replacing microfilter modules. Extraction system downtime was 4 hours 38 minutes.
- **February 2, 2021 (unplanned):** The extraction well system was offline from 11:34 a.m. to 1:22 p.m. due to higher turbidity. After just changing the microfilter modules (previous downtime), clarifier effluent turbidity was too high to feed through the microfilter. The contents of the Pre-Treated Water Tank (T-500) were sent back to T-100 until the turbidity was low enough to pass through the microfilter. Extraction system downtime was 1 hour 48 minutes.
- **February 3, 2021 (unplanned):** The extraction well system was offline from 2:54 a.m. to 3:58 a.m.; and from 4:00 a.m. to 4:28 a.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 32 minutes.
- **February 3, 2021 (planned):** The extraction well system was offline from 7:24 a.m. to 4:46 p.m. due to plant maintenance. The operator shut down extraction to drain the T-100 tank and then the temporary piping from Clarifier Feed Pump (P-400) to the clarifier was replaced with permanent piping. Extraction system downtime was 9 hours 22 minutes.
- **February 4, 2021 (unplanned):** The extraction well system was offline from 2:38 a.m. to 3:44 a.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 6 minutes.
- **February 5, 2021 (unplanned):** The extraction well system was offline from 10:20 a.m. to 11:52 a.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 32 minutes.
- **February 6, 2021 (unplanned):** The extraction well system was offline from 9:46 a.m. to 9:56 a.m. to allow the motor control center (MCC) control wire connection points to be tightened in an attempt to find the root cause for the TW-3D electrical trips. Extraction system downtime was 10 minutes.
- **February 8, 2021 (unplanned):** The extraction well system was offline from 11:50 a.m. to 12:38 p.m. due to cleaning out the microfilter basket strainer. Extraction system downtime was 48 minutes.
- **February 8, 2021 (unplanned):** The extraction well system was offline from 1:42 p.m. to 3:04 p.m.; and from 10:08 p.m. to 10:50 p.m. due to TW-3D tripping its circuit breaker without an alarm sounding. The circuit breaker was reset as soon as the fault was discovered. Extraction system downtime was 2 hours 4 minutes.
- **February 9, 2021 (unplanned):** The extraction well system was offline from 4:34 a.m. to 6:36 a.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 2 minutes.
- **February 10, 2021 (unplanned):** The extraction well system was offline from 1:12 p.m. to 1:38 p.m. due to TW-3D tripping its circuit breaker without an alarm sounding. The circuit breaker was reset as soon as the fault was discovered. Extraction system downtime was 26 minutes.
- **February 10, 2021 (unplanned):** The extraction well system was offline from 3:42 p.m. to 7:04 p.m. due to cleaning the clogged air lines for the microfilter scrub air hoses. Extraction system downtime was 3 hours 22 minutes.
- **February 11, 2021 (unplanned):** The extraction well system was offline from 12:28 p.m. to 1:42 p.m. due to replacing the air valve on the microfilter air flow filtration module. Extraction system downtime was 1 hour 14 minutes.

- **February 11, 2021 (unplanned):** The extraction well system was offline from 7:38 p.m. to 9:08 p.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 30 minutes.
- **February 12-13, 2021 (unplanned):** The extraction well system was offline from 4:22 a.m. to 5:30 a.m. on February 12, 2021; and from 2:02 a.m. to 3:24 a.m. on February 13, 2021 due to a high-water level in the process drain tank (T-900). T-900 had a buildup of solid material that was inhibiting the performance of the pump (P-900). Extraction was halted to unplug P-900. Extraction system downtime was 2 hours 30 minutes.
- **February 13, 2021 (unplanned):** The extraction well system was offline from 2:06 p.m. to 7:20 p.m. to change pressure transmitters in the microfilter. Extraction system downtime was 5 hours 14 minutes.
- **February 17, 2021 (unplanned):** The extraction well system was offline from 5:04 a.m. to 6:26 a.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 22 minutes.
- **February 17, 2021 (planned):** The extraction well system was offline from 9:20 a.m. to 6:54 p.m. to allow a tank cleaning services vendor to clean out tank T-900. Extraction system downtime was 9 hours 34 minutes.
- **February 23-25, 2021 (unplanned):** The extraction well system was offline from 3:18 a.m. to 3:40 a.m. on February 23, 2021; from 4:46 a.m. to 5:06 a.m. on February 23, 2021; and from 11:24 p.m. to 11:34 p.m. on February 25, 2021 due to TW-3D tripping its circuit breaker without an alarm sounding. The circuit breaker was reset as soon as the fault was discovered. Extraction system downtime was 52 minutes.
- **February 26, 2021 (unplanned):** The extraction well system was offline from 8:30 a.m. to 8:32 a.m. and from 8:36 a.m. to 8:38 a.m. due to the operator switching TW-3D motor control from “auto” to “manual” while troubleshooting the random shutdown. Extraction system downtime was 4 minutes.
- **February 26, 2021 (unplanned):** The extraction well system was offline from 10:30 a.m. to 11:44 a.m. to change the Reverse Filtration Pump (P-502). The pump seal failed so the pump was replaced. Extraction system downtime was 1 hour 14 minutes.
- **February 27, 2021 (unplanned):** The extraction well system was offline from 5:30 a.m. to 7:46 a.m. due to replacing the Pretreated Water Transfer Pump (P-500) which failed. Extraction system downtime was 2 hours 16 minutes.
- **February 27, 2021 (unplanned):** The extraction well system was offline from 11:58 a.m. to 12:44 p.m. due to replacing microfilter modules. Extraction system downtime was 46 minutes.

4.3 March 2021

During March 2021, extraction well TW-3D operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S, TW-2D, and PE-01 were not operated during March 2021. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 95.8 percent during the March 2021 reporting period.

The IM-3 facility treated approximately 5,728,083 gallons of extracted groundwater during March 2021. The IM-3 facility also treated zero gallons of Final Groundwater Remedy wastewater, zero gallons of sampling purge water, and zero gallons of groundwater from injection well backwashing/re-development during March 2021. Two containers of solids from the IM-3 facility were transported offsite during March 2021.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 4.2 percent downtime during March 2021) are summarized below.

- **March 1, 2021 (unplanned):** The extraction well system was offline from 11:06 a.m. to 1:00 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 54 minutes.
- **March 4, 2021 (unplanned):** The extraction well system was offline from 6:48 p.m. to 11:18 p.m.to figure out the microfilter system. The piping between P-501 (the microfilter feed pump) and the filtration modules had become so fouled by mineral scale that P-501 could no longer force enough water through the pipes to keep up with plant flow. The piping was removed and temporary piping installed. Extraction system downtime was 4 hours 30 minutes.
- **March 9, 2021 (unplanned):** The extraction well system was offline from 2:48 a.m. to 3:56 a.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 1 hour 8 minutes.
- **March 9, 2021 (unplanned):** The extraction well system was offline from 7:48 p.m. to 9:42 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 54 minutes.
- **March 10, 2021 (unplanned):** The extraction well system was offline from 9:00 a.m. to 9:52 a.m. due to the microfilter shutting down. Particles of mineral scale were plugging the microfilter basket strainer. The source of the particles was from the Pre-treated Water Tank (T-500). Extraction system downtime was 52 minutes.
- **March 10, 2021 (unplanned):** The extraction well system was offline from 11:26 a.m. to 5:06 p.m. due to the microfilter shutting down (previous downtime). Tank (T-500) was cleaned out to remove scale that was clogging the microfilter. Extraction system downtime was 5 hours 40 minutes.
- **March 17, 2021 (planned):** The extraction well system was offline from 11:46 a.m. to 12:16 p.m. due to testing of the pipeline critical alarms and leak detection system. Extraction system downtime was 30 minutes.
- **March 19, 2021 (unplanned):** The extraction well system was offline from 8:02 p.m. to 8:10 p.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 8 minutes.
- **March 21, 2021 (unplanned):** The extraction well system was offline from 2:02 p.m. to 3:12 p.m. because the microfilter basket strainer failed. A completely new strainer assembly was installed. Extraction system downtime was 1 hour 10 minutes.
- **March 24, 2021 (unplanned):** The extraction well system was offline from 3:24 a.m. to 3:32 a.m. due to cleaning out the microfilter basket strainer. Extraction system downtime was 8 minutes.
- **March 28, 2021 (unplanned):** The extraction well system was offline from 2:36 p.m. to 4:46 p.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 10 minutes.
- **March 28, 2021 (unplanned):** The extraction well system was offline from 6:00 p.m. to 6:32 p.m. due to the microfilter leaking. After changing the filter modules, leaks were discovered at the module end caps. New O-rings were installed to stop the leaks. Extraction system downtime was 32 minutes.
- **March 29, 2020 (unplanned):** The extraction well system was offline from 8:32 p.m. to 8:42 p.m. due to a City of Needles power outage. Extraction system downtime was 10 minutes.
- **March 30, 2021 (unplanned):** The extraction well system was offline from 2:00 a.m. to 2:34 a.m. due to high-water levels in T-100. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. Extraction system downtime was 34 minutes.
- **March 31, 2021 (planned):** The extraction well system was offline from 6:34 a.m. to 4:40 p.m. for scheduled plant maintenance (part of the semiannual maintenance). Extraction system downtime was 10 hours 6 minutes.

5. Sampling and Analytical Procedures

With the exception of pH, all samples were collected at the designated sampling locations and placed directly into containers provided by ASSET Laboratories (ASSET) and Truesdail Laboratories, Inc. (Truesdail). Sample containers were labeled and packaged according to standard sampling procedures.

The samples were stored in a sealed container chilled with ice and transported to ASSET or Truesdail via courier under chain-of-custody documentation. The laboratories confirmed the samples were received in chilled condition upon arrival.

ASSET is certified by the California Department of Health Services (Certification No. 2676) under the State of California's Environmental Laboratory Accreditation Program. Truesdail is certified by the California Department of Health Services (Certification No. 1237) under the State of California's Environmental Laboratory Accreditation Program. California-certified laboratory analyses were performed in accordance with the latest edition of the *Guidelines Establishing Test Procedures for Analysis of Pollutants* (40 Code of Federal Regulations Part 136), promulgated by the U.S. Environmental Protection Agency.

During the First Quarter 2021, analysis of pH was conducted by field method pursuant to the Regional Water Board letter dated October 16, 2007 (subject: Clarification of Monitoring and Reporting Program Requirements), authorizing pH measurements to be conducted in the field. The field method pH samples were collected at the designated sampling locations and field tested within 15 minutes of sampling.

As required by the MRP, the analytical method selected for total chromium has a method detection limit of 1 part per billion, and the analytical method selected for hexavalent chromium has a method detection limit of 0.2 part per billion.

Influent, effluent, RO concentrate, and sludge sampling frequency were in accordance with the MRP.

Groundwater quality is being monitored in observation and compliance wells according to Attachment A, Waste Discharge ARARs, to the Letter Agreement issued July 26, 2011, and the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* submitted to the Regional Water Board on June 17, 2005. Quarterly groundwater monitoring analytical results for the injection area (wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D) are reported in a separate document, in conjunction with groundwater level maps of the same monitoring wells.

6. Analytical Results

Laboratory reports for samples collected in the First Quarter 2021 were prepared by certified analytical laboratories, and are presented in Appendix B.

Samples were collected in accordance with the ARARs sampling frequency requirements. See Table 3 for sample collection dates.

The influent sampling analytical results are presented in Table 4. The effluent sampling analytical results are presented in Table 5. The RO concentrate sampling analytical results are presented in Table 6. The sludge sampling analytical results are presented in Table 7.

Table 8 identifies the laboratory that performed each analysis and lists the following required information:

- Sample location
- Sample identification number
- Sampler name
- Sample date
- Sample time
- Laboratory performing analysis
- Analysis method
- Analysis date
- Laboratory technician

7. Conclusions

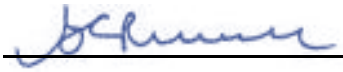
There were no exceedances of effluent limitations during the reporting period.

In addition, no incidents of non-compliance were identified during the reporting period. No events that caused an immediate or potential threat to human health or the environment, or new releases of hazardous waste or hazardous waste constituents, or new solid waste management units were identified during the reporting period.

8. Certification

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 Site Manager

Date: April 15, 2021

Tables

Table 1. Sampling Station Descriptions

First Quarter 2021 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Sample Station	Sample IDa	Location
Sampling Station A: Groundwater Treatment System Influent	SC-100B-WDR-###	Sample collected from tap on pipe into T-100 (Figure TP-RP-10-10-04).
Sampling Station B: Groundwater Treatment System Effluent	SC-700B-WDR-###	Sample collected from tap on pipe downstream from T-700 (Figure TP-RP-10-10-04).
Sampling Station D: Groundwater Treatment System Reverse Osmosis Concentrate	SC-701-WDR-###	Sample collected from tap on pipe into T-701 (Figure PR-10-03 and PR-10-04).
Sampling Station E: Groundwater Treatment System Sludge	SC-SLUDGE-WDR-###	Sample collected from sludge accumulated in the phase separator used this quarter (Figure TP-RP-10-10-06).

Note:

= Sequential sample identification number at each sample station.

[a] The sample event number is included at the end of the sample ID (e.g., SC-100B-WDR-015).

Table 2. Flow Monitoring Results

First Quarter 2021 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	System Influent[a,b] (gpm)	System Effluent[b] (gpm)	Reverse Osmosis Concentrate[b, c] (gpm)
January 2021 Average Monthly Flowrate	117.0	115.4	0.2
February 2021 Average Monthly Flowrate	120.5	120.1	0.3
March 2021 Average Monthly Flowrate	128.3	127.0	0.4

Notes:

gpm: gallons per minute

[a] Extraction well TW-3D was operated during the First Quarter 2021. Extraction wells PE-01, TW-2D, and TW-2S were not operated during First Quarter 2021.

[b] The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the First Quarter 2021 is approximately 0.63 percent.

[c] Due to Final Groundwater Remedy construction activities at the MW-20 bench, brine (RO) concentrate was no longer sent to the brine tanks since May 8, 2019. The total gallons removed from IM-3 since that date are an estimate from the Liquid Environmental Systems non-hazardous waste manifests.

Table 3. Sample Collection Dates

First Quarter 2021 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	Sample Collection Dates	Results
Influent	January 4, 2021 January 5, 2021 February 2, 2021 March 2, 2021	See Table 4
Effluent	January 4, 2021 January 5, 2021 February 2, 2021 March 2, 2021	See Table 5
Reverse Osmosis Concentrate	January 4, 2021 January 5, 2021	See Table 6
Sludge[a]	January 4, 2021	See Table 7

Notes:

[a] Sludge samples analysis is required quarterly by composite; sludge samples were collected from each container prior to shipment off-site, and combined for the composite sample of the preceding quarter.

Table 4. Influent Monitoring Results [a]

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes	TDS	Turbidity	Specific Conductance	Field pH [c]	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate/Nitrite (as N)	Sulfate	Iron	Zinc
Units [b]	mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	µg/L	µg/L
MDL	50.0	0.100	0.100	---	0.650	1.70	40.0	0.0670	0.160	0.0810	0.150	0.0740	0.550	0.0480	0.130	0.260	0.210	0.260	0.0680	2.00	18.0	2.30
Sampling Frequency	**Monthly**						**Quarterly**															
Sample ID **Date**																						
SC-100B-WDR-611 **1/5/2021** [d]	**4300**	**0.270**	**7300**	**7.0**	**410**	**430**	**ND (50.0)**	**ND (0.200)**	**ND (0.500)**	**0.390**	**32.0**	**1.20**	**ND (1.00)**	**2.60**	**ND (1.00)**	**7.00**	**21.0**	**ND (1.00)J**	**2.90**	**490**	**ND (20.0)**	**ND (10.0)**
RL	50.0	0.100	0.100	---	5.00	10.0	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	1.00	0.200	25.0	20.0	10.0
SC-100B-WDR-612 **2/2/2021**	**4300**	**0.210**	**7400**	**6.9**	**430**	**430**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**6.40**	**---**	**---**	**---**	**---**	**57.0 J**	**---**
RL	50.0	0.100	0.100	---	5.00	10.0	---	---	---	---	---	---	---	---	---	0.500	---	---	---	---	20.0	---
SC-100B-WDR-613 **3/2/2021**	**4300**	**ND (0.100)**	**7500**	**7.0**	**420**	**410**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**7.10**	**---**	**---**	**---**	**---**	**220 J**	**---**
RL	50.0	0.100	0.100	---	5.00	10.0	---	---	---	---	---	---	---	---	---	0.500	---	---	---	---	20.0	---

Notes:

(---) = not required by the ARARs Monitoring and Reporting Program
J = concentration or reporting limits estimated by laboratory or validation
MDL = method detection limit
mg/L = milligrams per liter
N = nitrogen
ND = parameter not detected at the listed value
NTU = nephelometric turbidity units
RL = project reporting limit
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter

[a] Sampling Location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

[b] Units reported in this table are those units required in the ARARs.

[c] Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

[d] pH was sampled 1/4/2021.

Table 5. Effluent Monitoring Results [a]

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes		TDS	Turbidity	Specific Conductance	Field pH [e]	Chromium	Hexavalent Chromium	Aluminiur	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate/Nitrite (as N)		Sulfate	Iron	Zinc
Units [c]		mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L		mg/L	µg/L	µg/L
MDL [d]		50.0	0.100	0.100	---	0.130	0.0330	40.0	0.0670	0.160	0.0810	0.150	0.0740	0.550	0.0480	0.130	0.260	0.210	0.260	0.0340		2.00	18.0	2.30
Effluent Limits [b]	Ave. Monthly	NA	NA	NA	6.5-8.4	25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Max Daily	NA	NA	NA	6.5-8.4	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sampling Frequency		**Monthly**																						
Sample ID	**Date**																							
SC-700B-WDR-611	**1/5/2021** [f]	**4300**	**0.110**	**7300**	**7.1**	**ND (1.00)**	**ND (0.200)**	**ND (50.0)**	**ND (0.200)**	**ND (0.500)**	**ND (0.100)**	**23.0**	**1.20**	**ND (1.00)**	**2.20**	**ND (1.00)**	**11.0**	**22.0**	**ND (1.00)**	**2.90**		**490**	**ND (20.0)**	**ND (10.0)**
RL		50.0	0.100	0.100	---	1.00	0.200	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	1.00	0.100		25.0	20.0	10.0
SC-700B-WDR-612	**2/2/2021**	**4400**	**0.230**	**7400**	**6.9**	**1.10**	**0.320**	**ND (50.0)**	**ND (0.200)**	**ND (0.500)**	**ND (0.100)**	**20.0**	**1.10**	**ND (1.00)**	**2.10**	**ND (1.00)**	**14.0**	**20.0**	**ND (1.00)**	**2.90**		**490**	**62.0**	**ND (10.0)**
RL		50.0	0.100	0.100	---	1.00	0.200	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	1.00	0.250		25.0	20.0	10.0
SC-700B-WDR-613	**3/2/2021**	**4500**	**0.150**	**7300**	**7.0**	**ND (1.00)**	**ND (0.200)**	**ND (50.0)**	**ND (0.200)**	**ND (0.500)**	**ND (0.100)**	**20.0**	**1.30**	**ND (1.00)**	**2.80**	**ND (1.00)**	**7.10**	**21.0**	**ND (5.00)J**	**2.60**		**470**	**52.0**	**ND (10.0)**
RL		50.0	0.100	0.100	---	1.00	0.200	50.0	0.200	0.500	0.100	1.00	0.100	1.00	0.500	1.00	0.500	0.500	5.00	0.250		25.0	20.0	10.0

Notes:

(---) = not required by the ARARs Monitoring and Reporting Program
J = concentration or reporting limits estimated by laboratory or validation
MDL = method detection limit
mg/L = milligrams per liter
N = nitrogen
NA = not applicable
ND = parameter not detected at the listed value
NTU = nephelometric turbidity units
RL = project reporting limit
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter

[a] Sampling location for all effluent samples is tap on pipe downstream from tank T-700 to injection wells (see attached P&ID TP-PR-10-10-04).

[b] In addition to the listed effluent limits, the ARARs state that the effluent shall not contain heavy metals, chemicals, pesticides or other constituents in concentrations toxic to human health.

[c] Units reported in this table are those units required in the ARARs.

[d] MDL listed is the target MDL by analysis method; however, the MDL may change for each sample analysis due to the dilution required by the matrix to meet the method QC requirements. The target MDL for each method/analyte combination is calculated annually.

[e] Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

[f] pH was sampled 1/4/2021.

Table 6. Reverse Osmosis Concentrate Monitoring Results[a]

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes	TDS	Specific Conductance	Field pH [c]	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units [b]	mg/L	µmhos/cm	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MDL	500	0.100	---	0.00013	0.00017	0.00016	0.000081	0.00015	0.000042	0.000053	0.000042	0.00055	0.190	0.00064	0.00021	0.00013	0.00026	0.00036	0.00023	0.00096	0.00028	0.0023
Sampling Frequency	**Quarterly**																					
Sample ID **Date**																						
SC-701-WDR-611 **1/5/2021 [d]**	**23000**	**36000**	**7.5**	**0.00530**	**ND (0.0010)**	**ND (0.00050)**	**0.00220**	**0.110**	**ND (0.00050)**	**ND (0.00050)**	**0.000550**	**0.00710**	**16.0**	**ND (0.0050)**	**0.140**	**0.000200 R**	**0.0110**	**0.0270**	**ND (0.00050)**	**ND (0.0025)**	**0.00450**	**ND (0.0100)**
RL	500	0.100	---	0.0010	0.0010	0.00050	0.00010	0.0010	0.00050	0.00050	0.00050	0.0010	2.00	0.0050	0.00050	0.00020	0.0010	0.00050	0.00050	0.0025	0.0010	0.0100

Notes:
(---) = not required by the ARARs Monitoring and Reporting Program
MDL = method detection limit
mg/L = milligrams per liter
ND = parameter not detected at the listed value
R = The result was rejected by the laboratory or during data validation.
RL = project reporting limit
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter

[a] Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID PR-10-04).

[b] Units reported in this table are those units required in the ARARs.

[c] Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

[d] pH was sampled 1/4/2021.

Table 7. Sludge Monitoring Result[a]

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units [b]	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2200	52.0	14.0	14.0	65.0	ND (2.10)	ND (2.10)	4.20	ND (4.30)	19.0	ND (2.10)	4.00	ND (0.210)	4.30	ND (2.10)	ND (2.10)J	ND (4.30)	62.0	22.0
Sampling Frequency	**Quarterly**																		
Sample ID / Date																			
Phase Separator-611-Sludge 1/4/2021	**2200**	**52.0**	**14.0**	**14.0**	**65.0**	**ND (2.10)**	**ND (2.10)**	**4.20**	**ND (4.30)**	**19.0**	**ND (2.10)**	**4.00**	**ND (0.210)**	**4.30**	**ND (2.10)**	**ND (2.10)J**	**ND (4.30)**	**62.0**	**22.0**
RL	2.10	2.10	4.30	0.530	2.10	2.10	2.10	2.10	4.30	2.10	2.10	2.10	0.210	2.10	2.10	2.10	4.30	2.10	2.10

Notes:

(---) = not required by the ARARs Monitoring and Reporting Program
J = concentration or reporting limits estimated by laboratory or validation
mg/kg = milligrams per killogram
mg/L = milligrams per liter
MDL = method detection limit
ND = parameter not detected at the listed reporting limit
RL = project reporting limit

[a] Sampling location for all sludge samples is the sludge collection bin (see attached P&ID TP-PR-10-10-06).

[b] Units reported in this table are those units required in the ARARs.

[c] Sludge samples analysis is required quarterly by composite; sludge samples were collected from each container prior to shipment off-site, and combined for the composite sample of the preceding quarter.

Table 8. Monitoring Information

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-611	Cameron Stone	1/4/2021	2:00:00 PM	Field	HACH	PH	1/4/2021	Cameron Stone
			1/5/2021	12:18:00 PM	ASSET	EPA 120.1	SC	1/6/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.7	B	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	1/8/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	1/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	1/7/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	1/6/2021	Ria Abes
					ASSET	EPA 300.0	FL	1/6/2021	Ria Abes
					ASSET	EPA 300.0	SO4	1/6/2021	Ria Abes
					ASSET	SM 2540C	TDS	1/6/2021	Lilia Ramit
					ASSET	SM2130B	TRB	1/6/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	1/19/2021	Marion Cartin
					BCLabs	SM4500NO3-E	NO3NO2N	1/13/2021	Marion Cartin
SC-100B	SC-100B-WDR-612	Cameron Stone	2/2/2021	1:05:00 PM	ASSET	EPA 120.1	SC	2/3/2021	Lilia Ramit
					ASSET	EPA 200.7	FE	2/10/2021	Diane Jetajobe
					ASSET	EPA 200.8	CR	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	2/6/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	2/3/2021	Ria Abes
					Field	HACH	PH	2/2/2021	Cameron Stone
					ASSET	SM 2540C	TDS	2/3/2021	Lilia Ramit
					ASSET	SM2130B	TRB	2/3/2021	Lilia Ramit
SC-100B	SC-100B-WDR-613	Jaren Hernandez	3/2/2021	2:40:00 PM	ASSET	EPA 120.1	SC	3/3/2021	Lilia Ramit
					ASSET	EPA 200.7	FE	3/11/2021	Diane Jetajobe
					ASSET	EPA 200.8	CR	3/5/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	3/5/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	3/3/2021	Ria Abes
					Field	HACH	PH	3/2/2021	Jaren Hernandez
					ASSET	SM 2540C	TDS	3/3/2021	Lilia Ramit
					ASSET	SM2130B	TRB	3/3/2021	Lilia Ramit

Table 8. Monitoring Information

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-611	Cameron Stone	1/4/2021	2:00:00 PM	Field	HACH	PH	1/4/2021	Cameron Stone
			1/5/2021	12:25:00 PM	ASSET	EPA 120.1	SC	1/6/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.7	B	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	1/8/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	1/7/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	1/6/2021	Ria Abes
					ASSET	EPA 300.0	FL	1/6/2021	Ria Abes
					ASSET	EPA 300.0	SO4	1/6/2021	Ria Abes
					ASSET	SM 2540C	TDS	1/6/2021	Lilia Ramit
					ASSET	SM2130B	TRB	1/6/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	1/19/2021	Marion Cartin
					BCLabs	SM4500NO3-E	NO3NO2N	1/13/2021	Marion Cartin
SC-700B	SC-700B-WDR-612	Cameron Stone	2/2/2021	1:15:00 PM	ASSET	EPA 120.1	SC	2/3/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	2/10/2021	Diane Jetajobe
					ASSET	EPA 200.7	B	2/15/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	2/10/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	2/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	2/10/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	2/6/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	2/6/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	2/3/2021	Ria Abes
					ASSET	EPA 300.0	FL	2/6/2021	Ria Abes

Table 8. Monitoring Information

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-612	Cameron Stone	2/2/2021	1:15:00 PM	ASSET	EPA 300.0	SO4	2/4/2021	Ria Abes
					Field	HACH	PH	2/2/2021	Cameron Stone
					ASSET	SM 2540C	TDS	2/3/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	2/8/2021	Julia Bundalian
					ASSET	SM2130B	TRB	2/3/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	2/5/2021	Marion Cartin
SC-700B	SC-700B-WDR-613	Jaren Hernandez	3/2/2021	2:46:00 PM	ASSET	EPA 120.1	SC	3/3/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	3/11/2021	Diane Jetajobe
					ASSET	EPA 200.7	B	3/11/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	3/11/2021	Diane Jetajobe
					ASSET	EPA 200.8	AS	3/5/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	3/10/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	3/5/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	3/9/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	3/5/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	3/5/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	3/10/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	3/5/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	3/5/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	3/5/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	3/3/2021	Ria Abes
					ASSET	EPA 300.0	FL	3/4/2021	Ria Abes
					ASSET	EPA 300.0	SO4	3/3/2021	Ria Abes
					Field	HACH	PH	3/2/2021	Jaren Hernandez
					ASSET	SM 2540C	TDS	3/3/2021	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	3/10/2021	Julia Bundalian
					ASSET	SM2130B	TRB	3/3/2021	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	3/16/2021	Marion Cartin
SC-701	SC-701-WDR-611	Cameron Stone	1/4/2021	2:00:00 PM	Field	HACH	PH	1/4/2021	Cameron Stone
			1/5/2021	12:30:00 PM	ASSET	EPA 120.1	SC	1/6/2021	Lilia Ramit
					ASSET	EPA 200.7	AL	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.7	B	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.7	FE	1/7/2021	Diane Jetajobe
					ASSET	EPA 200.8	AG	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	AS	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	BA	1/8/2021	Claire Ignacio
					ASSET	EPA 200.8	BE	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	CD	1/7/2021	Claire Ignacio

Table 8. Monitoring Information

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-701	SC-701-WDR-611	Cameron Stone	1/5/2021	12:30:00 PM	ASSET	EPA 200.8	CO	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	CR	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	CU	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	MN	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	MO	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	NI	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	PB	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	SB	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	SE	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	TL	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	V	1/7/2021	Claire Ignacio
					ASSET	EPA 200.8	ZN	1/7/2021	Claire Ignacio
					ASSET	EPA 218.6	CR6	1/6/2021	Ria Abes
					ASSET	EPA 245.1	HG	4/5/2021	Diane Jetajobe
					ASSET	EPA 300.0	FL	1/6/2021	Ria Abes
					ASSET	SM 2540C	TDS	1/6/2021	Lilia Ramit
Phase Separator	Phase Separator-611-Sludge	Cameron Stone	1/4/2021	1:03:00 PM	ASSET	EPA 300.0	FL	1/11/2021	Ria Abes
					ASSET	EPA 6010B	AG	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	BA	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	BE	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	CD	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	CO	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	CR	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	CRTTCLP	3/16/2021	Diane Jetajobe
					ASSET	EPA 6010B	CU	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	MN	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	MO	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	NI	1/8/2021	Diane Jetajobe
					ASSET	EPA 6010B	PB	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	SB	1/8/2021	Diane Jetajobe
					ASSET	EPA 6010B	SE	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	TL	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	V	1/6/2021	Diane Jetajobe
					ASSET	EPA 6010B	ZN	1/6/2021	Diane Jetajobe
					ASSET	EPA 7471A	HG	1/6/2021	Diane Jetajobe
					ASSET	SW 6020A	AS	1/8/2021	Claire ignacio
					ASSET	SW 7199	CR6	1/19/2021	Ria Abes

Table 8. Monitoring Information

First Quarter 2021 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Notes:

SC-700B = Sampling location for all effluent samples is tap on pipe downstream from tank T-700 to injection well IW-2 (see attached P&ID TP-PR-10-10-04).

SC-100B = Sampling location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

SC-701 = Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID PR-10-04).

Prior to April 11, 2007 the analytical methods listed in the 40 CFR Part 136 for pH and TDS were E150.1 and E160.1, respectively. Per EPA and Department of Health Services guidelines, the analytical methods listed in the current 40 CFR Part 136 have changed to SM4500-H B and SM2540C as shown on the table.

ALKB =	alkalinity, bicarb as CaCO3	MO =	molybdenum
ALKC =	alkalinity, carb as CaCO3	MOIST =	moisture
AL =	aluminum	NH3N =	ammonia (as N)
Ag =	silver	NI =	nickel
AS =	arsenic	NO3NO2N =	nitrate/nitrite (as N)
B =	boron	PB =	lead
BA =	barium	PH =	pH
BE =	beryllium	SB =	antimony
CD =	cadmium	SC =	specific conductance
CO =	cobalt	SE =	selenium
CR =	chromium	SO4 =	sulfate
CR6 =	hexavalent chromium	TDS =	total dissolved solids
CU =	copper	TL =	thallium
FE =	iron	TRB =	turbidity
FETD =	iron, dissolved	V =	vanadium
FL =	fluoride	ZN =	zinc
HG =	mercury		
MN =	manganese		
MND =	manganese, dissolved		

Figures

Parcel No. 650-151-06
Fort Mojave Indian Tribe
(Formerly owned by PG&E)

BLM

BLM

CW-3

CW-4

CW-2

CW-1

East Mesa
Injection Area

IW-2

IW-3

IW-1

IM-3
Treatment
Plant

Historic Route 66

BAT CAVE WASH

Park Moabi Rd./National Trails Highway

Colorado River

MW-20
Bench

TW-02S

TW-02D

TW-03D

MW-20-130

PE-01

BN&SF RAILROAD

INTERSTATE 40

500

550

600

66

LEGEND

- IM-3 Injection Well
- Compliance Monitoring Well Cluster
- Exploratory Boring
- Groundwater Monitoring Well
- IM Extraction Well
- IM-3 Effluent Pipeline
- IM-3 Treatment Facility Pipelines
- PG&E Property Boundary

N

0 170 340 680 Feet

California State Plane NAD83 Zone 5 US Feet

FIGURE 1
IM-3 PROJECT SITE FEATURES
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2010\IM3\IM3_PROJECT_AREA_APRIL10.MXD JLAMANTI 10/8/2010 12:12:30

TREATMENT PLANT CONTROL PANEL LCP - 100

LEAK DETECTION PANEL - 003

ALM

120V

PLANT ALARM R YL1000

PLANT ALARM R YL1001

PLANT ALARM R YL1002

PLANT ALARM R YL1003

PLANT ALARM HORN H YL1004

CLOSED OPENED OPEN TEMP REM pH LVL COND.

RUN ON REM FLOW

LVL POSITION FLOW CONTROL

RUN ON REM PSL FLOW FLOW

CH-104-1HB-E

TP-PR-10-10- 09 [B6]

SULFURIC ACID P-801B

1/2"-CH-104-1HB-E

V-CH-104-01

BPR

TW-103-1HB

TP-PR-10-10- 08 [D6]

TREATED WATER R.O. BYPASS

4"-TW-103-1HB

TW-105-1HB

TP-PR-10-10- 08 [B6]

R.O. TREATED WATER

4"-TW-105-1HB

STATIC MIXER 4"x3" 4"x3"

120 VAC

AIT 606

AE 606

AIT 702

AE 702

V-1390

V-TW-105-02

HS 200 HOA

HS 700 HOA

TW-128-1HB

TP-PR-10-10- 04 [B6]

SEAL WATER

1/2"-TW-128-1HB

N.C. V-TW-114-01

V-TW-114-02

HOA HS 100A

TW-104-1HB

TP-PR-10-10- 08 [A1]

OFF-SPEC RECYCLE FROM R.O. FEED

4"-TW-104-1HB

RW-125-1HB

TP-PR-10-10- 07 [B1]

OFF-SPEC RECYCLE FROM MICROFILTER FEED

4"-RW-125-1HB

LIT 200

LE 200

120 VAC

WS-111-1HB

TP-PR-10-10-06 [C6]

FROM PROCESS DRAINS TANK

4"-WS-111-1HB

LIT 700

LE 700

120 VAC

VFD - 1100

3"-TW-143-1HB

VENT

MANHOLE

SET @ 50 PSI

PRV 700

3"x2"

3"x2"

TOTAL FLOWMETER TO INJECTION WELLS

1"-TW-129-1HB

V-1390

TW-129-1HB

TP-PR-10-10- 09 [C1]

TO POLYELECTROLYTE MAKE-DOWN SYSTEM

1/2"-TW-128-1HB

V-1390

TW-128-1HB

TP-PR-10-10- 04,05..

SEAL WATER TO PUMPS SHTS 04, 05, 06, 07, 08

FUTURE

SAMPLING STATION B

FIT 702

FE 702

SC

4"x3" 4"x3"

TW-120-1HB

MAG

TP-PR-10-10- 11 [C1]

TO INJECTION WELLS

4"-TW-120-1HB

2"-TW-127-1HB

V-TW-120-01

LSH 201A-(H)

SAMPLING STATION A

ZSC 100 ZSO 100 SV 100

90 PSIG AIR SET

4"-RW-110-1HB

F.C.

RW-107-1KB

TP-PR-10-10-03 [B6]

RAW WATER FROM EXTRACTION WELLS

4" IN 8"-RW-107-1KB

RW 1KB RW V-RW-110-01 1HB

FV 100

RO 200

2"-RW-113-1HB

MINIMUM RECIRC. 40 GPM MIN.

27,000 GAL. TREATED WATER STORAGE TANK PERMEATE T-700

6"-DR-115-1HB

V-TW-116-01

6"-TW-116-1HB

6"x3"

T

EJ-TW-116-01

4"x1 1/2"

V-TW-117-01

TS-TW-116-01

P-700 TREATED WATER TRANSFER PUMP 150 GPM X 150 FT. H20

PSL 1100

V-TW-117-02

4"x3" 4"x3"

TW-117-1HB

MAG

TP-PR-10-10- 10 [A1]

TREATED WATER TO BAKER TANKS

FE 700

2"

TW-125-1HB

TP-PR-10-10- 05,06..

FIELD ROUTE TO FLUSH SYS. HOSE CONNS.

RW-127-1KB

TP-PR-10-10-03 [B6]

FROM VALVE VAULT 1 SPARE

NOTE 1 LEAK DETECTION (TYP 8)

4" IN 8"-RW-127-1KB

NOTE 1 SPARE

4" IN 8" RW-107-1KB

4" IN 8" RW-127-1KB

RW 1KB RW 1HB RW 1HB RW 1KB

V-RW-107-01 V-RW-127-01

VALVE VAULT No. 4

FUTURE

4" IN 8" SPARE

4" IN 8" PE-3

6"-DR-114-1HB

6"-DR-100-1HB

V-DR-100-01

27,000 GAL. RAW WATER STORAGE TANK T-100

V-RW-111-01

SOV 200

1/2" x 3/8"

PI 200

V-1390

SC

EJ-RW-111-01

6"x4"

6"-RW-111-1HB

PS-RW-111-01

4"x3"

V-RW-112-01

P-200 RAW WATER FEED PUMP 190 GPM X 35 FT H20

V-1390

V-RW-112-02

FE 200

FIT 200

6"-DR-101-1HB

V-DR-101-01

V-TW-126-01

3"-TW-126-1HB

4"x3" 4"x2 1/2"

F.C.

FCV - 200

FIC 200

ZT 200

SEAL WATER PUMP 25 GPM X 115 FT. H20

3"x1 1/4"

V-TW-126-02

4"x2 1/2"

AIR SET 90 PSIG

SEAL WATER TANK T-1100

PI 1100

PT 1100

P-1100

BFP

2"x1"

V-TW-127-01

PS-TW-127-01

4"-RW-112-1HB

RW-112-1HB

TP-PR-10-10- 05 [C1]

TO TREATMENT SYSTEM CONTINUOUS FLOW

NOTES

1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.

THIS CONTAINMENT ENCOMPASSES ENTIRE PLANT, WITH EXCEPTION OF SEPARATE CHEMICAL CONTAINMENTS.

SECONDARY CONTAINMENT - PROCESS PLANT

NO.	DATE	REVISION	BY	CHK
D	07/28/04	FOR INTERNAL REVIEW	EFC	AJ
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
3	02/14/05	ADDED RECIRC. LINE AND PRV VALVE TO T-700 – APPROVED FOR CONSTRUCTION	EFC	AJ
4	09/21/05	REVISED PER AS-BUILT CONDITIONS	EFC	AJ

REVISION APPROVAL		REV 4	DATE 09/21/05	PRINT DISTRIBUTION
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE
CIVIL		ELECTRICAL		STATUS
STRUCTURAL		INST & CONTROL		REV.
MECHANICAL		ARCHITECTURAL		CLIENT
PROCESS		ENVIRONMENTAL		FIELD
PIPING		GEN. ARRANG.		INTRA CO.

RESPONSIBLE ENGINEER: Kenneth L. Martins CH4876 Exp. 6-30-05 PE #

STATUS	REV	DATE	SDE	PEM
ISSUED				
PRELIMINARY				
FOR REVIEW AND APPROVAL	D	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	4	/ /		

SCALE NONE

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

PROJ NO. 315994

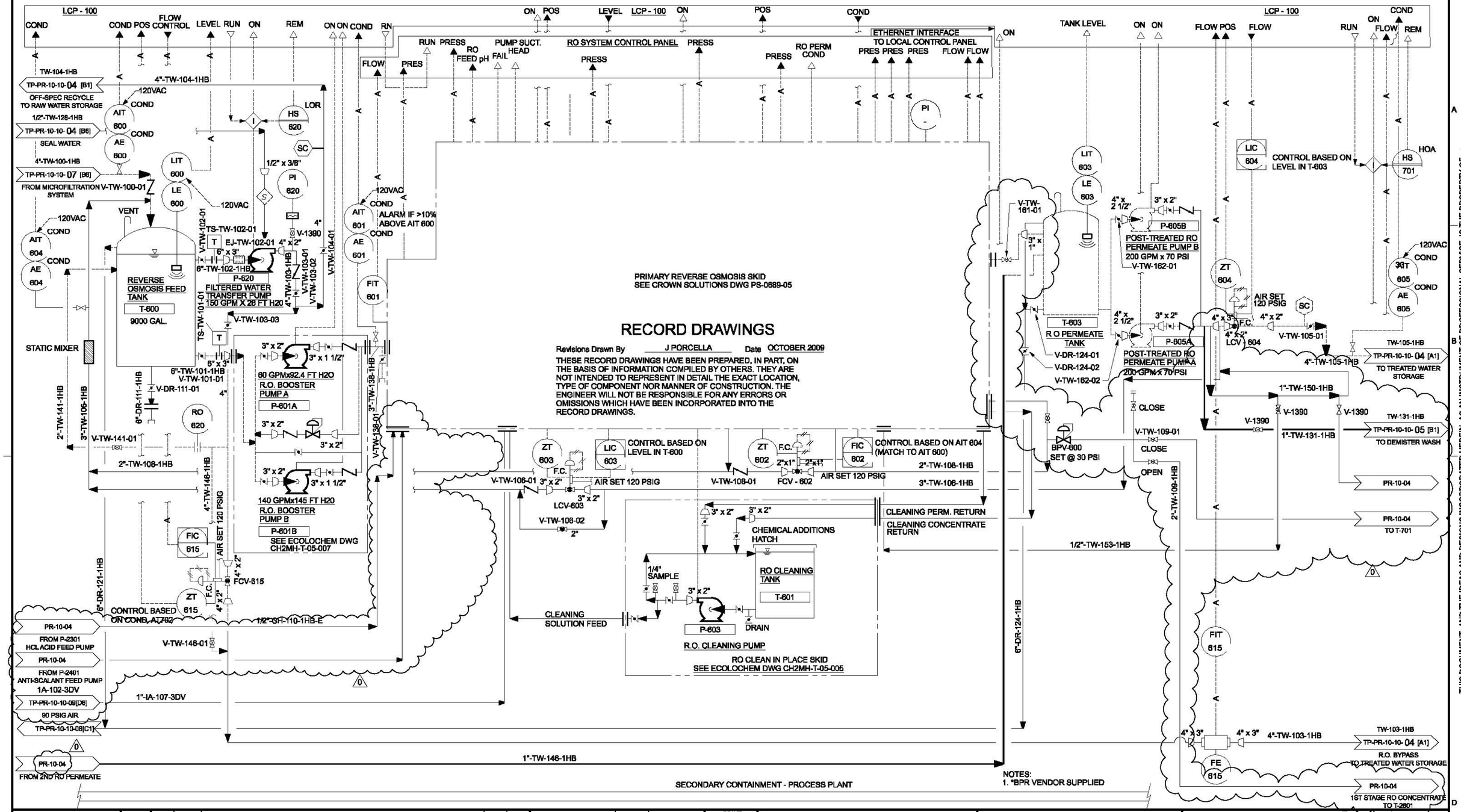
CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 04
STORAGE AREA

DWG. NO. TP-PR-10-10-04 REV. 4

BAR IS ONE INCH ON ORIGINAL DRAWING

FILENAME: tppr101004.dwg PLOT DATE: 21-SEP-2005 PLOT TIME:



NO.	DATE	REVISION	BY	CHK
A	2/12/09	INTERNAL REVIEW		
B	2/12/09	CLIENT REVIEW		
C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP
0	11/17/09	FINAL RECORD ISSUE	JR	JP

REVISION APPROVAL	REV 0	DATE 10/02/09	
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED
CIVIL	SJ	ELECTRICAL	FH
STRUCTURAL		INST & CONTROL	JG
MECHANICAL	SJ	ARCHITECTURAL	
PROCESS	DF	ENVIRONMENTAL	
PIPING	SJ	GEN. ARRANG.	SJ

PRINT DISTRIBUTION: DATE, STATUS, CLIENT, FIELD, INTRA CO.

STATUS	REV	DATE	SDE	PEM
ISSUED				
PRELIMINARY	A	2/12/09	JP	JP
FOR REVIEW AND APPROVAL	C	4/01/09	JP	JP
APPROVED FOR CONSTRUCTION				
REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP

**
ORIGINALLY STAMPED AND SIGNED BY:
JOHN PORCELLA
CALIFORNIA PE NO. C70145
ON 04-01-2009
**

RESPONSIBLE ENGINEER: John Porcella C70145 Exp. 3-30-10
PE#

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
PLANT PERFORMANCE IMPROVEMENTS

PROJ NO. 362032

SCALE NONE

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
REVERSE OSMOSIS SYSTEM
SHEET ONE OF TWO

DWG. NO. PR-10-03 REV. 0

BAR IS ONE INCH ON ORIGINAL DRAWING
D 1"

FILENAME: PR-10-03.dgn PLOT DATE: 11/19/2009 PLOT TIME: 10:27:54 AM

COND LVL RUN ON FLOW

PR-10-03 — TO SEAL WATER TRUNK LINE

HOA HS 701

1 1/2" TW-154-1HB

PR-10-03
TO PRIMARY RO FROM P-2301 HCl ACID PUMP

LOCATED IN CHEMICAL STORAGE AREA

1/2" CH-112-1HB

HCl ACID TOTE

HYDRO-CHLORIC ACID (HCl) PUMP SKID SEE CROWN DWG PS-0689-03

FROM P-2302 3/8" CH-113-1HB

LOCATED NEAR EXISTING RO

1/2" CH-114-1HB

SECONDARY RO ANTI-SCALANT CHEMICAL DRUM

ANTISCALANT FEED PUMP SKID SEE CROWN DWG PS-0689-04

PRIMARY RO ANTI-SCALANT CHEMICAL DRUM

V-1390

1/4" CH-115-1HB FROM P-2402

PR-10-03
TO PRIMARY RO FROM P-2401 ANTI-SCALANT FEED PUMP

1A-102-3DV
TP-PR-10-10-09[06]
90 PSIG AIR

1"-1A-108-3DV

120VAC

AIT 701 COND

AE 701 COND

1 1/2" TW-152-1HB
RECYCLE

1ST STAGE RO CONCENTATE
PR-10-03

1 1/2"-TW-148-1HB

2"x1 1/2"

V-1390 NO

2" TW-109-1HB

V-1390 NC

LIT 701

LE 701

120VAC

VENT

PI 701

SAMPLING STATION D

SC

PR-10-03
FROM PRIMARY RO

CLOSE

2"x1"

OPEN V-1390

V-DR-112-01

TS-TW-111-01

RO CONCENTRATE STORAGE TANK 7,200 GAL.
T-701
8000 GAL.

V-1390

FIT 701

RD CONCENTRATE FLOWMETER

FE 701

SEAL WATER

SOV 701

S

1/2"x3/8"

SEAL WATER
TP-PR-10-10-08 [B6]

6"-DR-112-1HB

V-TW-111-01

T 6"x1 1/2"

EJ-TW-111-01

6"-TW-111-1HB

P-107

3"x1"

3"x1"

V-TW-112-01

MAG

3"x2"

V-TW-112-03

RO CONCENTRATE TRANSFER PUMP 80 GPM X 85 FT H20

TO TRENCH DRAIN

T-2601 SECONDARY RO FEED TANK SEE CROWN DWG PS-0689-08

1 1/2" TW-149-1HB

V-1390 NC

P-2701 SECONDARY RO FEED PUMP SEE CROWN DWG PS-0689-07

1 1/2" TW-151-1HB

SECONDARY REVERSE OSMOSIS SKID
SEE CROWN SOLUTION DWG:
PS-0689-08
(NOTE 3)

1" TW-148-1HB

PERMEATE

PR-10-03
TO T-603 TANK

V-1390

1" TW-147-1HB

TW-112-1RB
TP-PR-10-10 [C1]
RO CONCENTRATE

RECORD DRAWINGS

Revisions Drawn By J PORCELLA Date OCTOBER 2009

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

** ORIGINALLY STAMPED AND SIGNED BY: JOHN PORCELLA CALIFORNIA PE NO. C70145 ON 04-01-2009 **

RESPONSIBLE ENGINEER: John Porcella Exp. 6-30-10 C70145 PE #

NO.	DATE	REVISION	BY	CHK
A	2/12/09	INTERNAL REVIEW		
B	2/12/09	CLIENT REVIEW		
C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP
0	11/17/09	FINAL RECORD ISSUE	JR	JP

REVISION APPROVAL		REV 0 DATE 10/02/09		PRINT DISTRIBUTION	
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE	
CIVIL	SJ	ELECTRICAL	FH	STATUS	
STRUCTURAL		INST & CONTROL	JG	REV.	
MECHANICAL	SJ	ARCHITECTURAL		CLIENT	
PROCESS	DF	ENVIRONMENTAL		FIELD	
PIPING	SJ	GEN. ARRANG.	SJ	INTRA CO.	

STATUS	REV	DATE	SDE	PEM
ISSUED				
PRELIMINARY	A	2/12/09	JP	JP
FOR REVIEW AND APPROVAL	C	4/01/09	JP	JP
APPROVED FOR CONSTRUCTION				
REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP

SCALE NONE

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
PLANT PERFORMANCE IMPROVEMENTS

PROJ NO. 362032

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
REVERSE OSMOSIS SYSTEM
SHEET TWO OF TWO

DWG. NO. PR-10-04 REV. 0

BAR IS ONE INCH ON ORIGINAL DRAWING. D 1"

FILENAME: PR-10-04.dgn PLOT DATE: 11/19/2009 PLOT TIME: 10:28:28 AM

CONTROL PANEL

PLC

REM ON RUN REM ON RUN HI TORQUE REM ON RUN CLOSE OPEN REM REM OPEN OPEN LAH TURB OPEN REM RUN LVL ON REM REM LT ON RUNOPEN LAH RM OPEN REM LAH LAH

HS 400A LOR · HS 400B LOR · HS 400C LOR · HS 401 HOA · HS 402 LOR · HS 404 HOA

CH-108-1HB-E
TP-PR-10-10- 09 [C6]
POLYELECTROLYTE FEED CH-108-1HB-E
1/2"-CH-109-1HB-E
V-CH-109-01
TP-PR-10-10- 09 [C6]
POLYELECTROLYTE FEED
1/2"-CH-108-1HB-E
V-CH-108-01

RW-121-1HB
TP-PR-10-10- 05 [C6]
FROM CHEM REDUCTION AND COAGULATION SYSTEM IA-104-3DV
4"-RW-121-1HB
TP-PR-10-10- 09 [D6]
90 PSIG AIR
1"-IA-104-3DV

HS 400 HOA · HS 410 HOA · NSH 400 TORQUE · AIT 400 120VAC TURB · LIT 402 120VAC · SV 404

M-400-A · M-400-B · M-400-C · CL-400 CLARIFIER

SEE PARKSON DRAWING 10086701-01

6"-DR-107-1HB

ZSC 400 · ZSO 400 · AIR SET 120 PSIG · F. C. · FV - 400 · AE 400 TURB · SV 400 · SV 401 120 PSIG AIR SET · 4"-WS-102-1HB · PI 401 · PE 401 · LE 402 · M-402

ZSC 410 · ZSO 410 · SV 410 · F. C. · FV - 410 · V-WS-104-01 · 4"-WS-100-1HB

1/4" / 1" SLOPE TO PRE-TREATED WATER TANK

6"-RW-122-1HB
RW-122-1HB
TP-PR-10-10- 07 [B1]
MICRCFILTRATION SYSTEM

120 PSIG AIR SET · HS 403 HOA · SV 403 · PI 404 · PE 404 · 1/2" · 2" x 1" · V-WS-103-01 · V-WS-103-02 · WS-103-1HB
TP-PR-10-10- 05 [B1]
SLUDGE RECYCLE

4" x 1" · P-404 SLUDGE RECYCLE PUMP 20 GPM X 30 FT. H2O · 2"-WS-103-1HB · V-WS-109-01 · 2"-WS-109-1HB

2"-WS-101-1HB · 2" x 1" · V-WS-101-01 · 4" x 2" · P-401 SLUDGE WITHDRAWAL PUMP 20 GPM X 30 FT. H2O · 6" x 4"

SLUDGE HOLDING TANK 6000 GAL T-402 · VENT · DECANT · 2"-V-1790 (TYP 5) · 4" (TYP 5) AIR/SIGHT GAP · 4"

HS 900 LOR · 3% - 5% SOLIDS · 2"-WS-105-1HB · V-WS-108-01 · V-WS-105-01 · 2"-WS-107-1HB · V-WS-107-01 · P-403 SEPARATOR FEED PUMP 20 GPM X 30 FT. H2O · 4"-WS-108-1HB · V-WS-110-01 · 4"-WS-110-1HB

PI 403 · PE 403 · 2"-WS-106-1HB · V-WS-106-01

TRUCK FILL FOR OFF-SITE DISPOSAL

TRENCH
TP-PR-10-10- 08 [D6]
R.O. GRAVITY DRAINS

DR-109-1HB
TP-PR-10-10- 07 [C6]
FROM M.F. SYSTEM GRAVITY DRAIN
3"-DR-109-1HB

TRENCH
TP-PR-10-10- 07 [D6]
FROM M.F. SYSTEM PRETREATED WATER TANK

DR-110-1HB
TP-PR-10-10- 07 [C6]
FILTER BACKWASH FROM MICROFILTRATION SYSTEM
4"-DR-110-1HB

TRENCH
TP-PR-10-10- 05 [D6]
GRAVITY DRAIN

TW-128-1HB
TP-PR-10-10- 04 [B6]
SEAL WATER
1/2"-TW-128-1H3

4"-WS-104-1HB

LIT 900 120VAC · LE 900 · 1/2" x 3/8" · VENT

V-WS-111-02 · V-WS-111-03 · 4"-WS-111-1HB · V-WS-111-01 · PS-WS-111-01 · V-1390 · 1"-DR-106-1HB · V-WS-113-01 · 2"-WS-113-1HB · 4" x 2"

WS-111-1HB
TP-PR-10-10- 04 [B1]
TO RAW WATER STORAGE TANK

LSH 405B · FH-WS-106-01 · LSH 405A · SAMPLING STATION E

UNIT 2 CAKE CAKE · UNIT 1 CAKE CAKE · FH-WS-112-02 · 2"-WS-112-1HB · FH-WS-112-01

LSHH 405

480 VAC · LCP - 405 · P-405 PHASE SEPARATOR SUMP PUMP PACKAGE 25 GPM x 25 FT. H2O · PUMPOUT VAULT · PS-405 PHASE SEPARATORS ALTERNATING DURING OPERATION

PROCESS DRAIN TANK 5,000 GAL. T-900 · P-900 PROCESS DRAIN PUMP · V-DR-113-01 · 6"-DR-113-1HB · VERTICAL WET PIT 175 GPM x 37 FT. H2O · LSH 900

T-900A PROCESS SUMP · NOTE 1

SECONDARY CONTAINMENT - PROCESS PLANT

NOTES:

1. USE PORTABLE SUMP PUMP (OPERATIONS SUPPLIED) FOR PUMP OUT

NO.	DATE	REVISION	BY	CHK
0	07/28/04	FOR INTERNAL REVIEW	EFC	AJ
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ

REVISION APPROVAL	REVIEWED	REV 2 DATE 01/23/05	REVIEWED
DISCIPLINE		DISCIPLINE	
CIVIL		ELECTRICAL	
STRUCTURAL		INST & CONTROL	
MECHANICAL		ARCHITECTURAL	
PROCESS		ENVIRONMENTAL	
PIPING		GEN. ARRANG.	

PRINT DISTRIBUTION: DATE · STATUS · FIELD · INTRA CO.

RESPONSIBLE ENGINEER: Kenneth L. Martins Exp. 6-30-05 PE# CH4876

STATUS	REV	DATE	SDE	PEM
PRELIMINARY				
FOR REVIEW AND APPROVAL	D	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	2	01/23/05		

SCALE NONE

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
PROJ NO. 315994

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 06
CLARIFICATION AND SLUDGE REMOVAL

DWG. NO. TP-PR-10-10-06 REV. 2

FILENAME: tppr101006.dwg PLOT DATE: 23-JAN-2005 PLOT TIME:

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

CONTROL PANEL LCP-100

WELL TW-3D CONTROL | WELL TW-2S CONTROL | WELL TW-2D CONTROL | WELL PE-1 CONTROL | LEAK DETECTION PANEL - 003

LSH LVL RUN ON RM PRESS FLOW LSH LSHH

ALM 120V

HS 102 HOA | HS 100 HOA | HS 101 HOA | HS 103 HOA

HOLD

LSH 002 | LSHH 002

FUTURE 4"-RW-140-1HB V-RW-140-01 VALVE VAULT No. 2 4" IN 8"-RW-141-1KB NOTE 1

FUTURE 4"-RW-139-1HB V-RW-139-01 4" IN 8"-RW-142-1KB NOTE 1

3"-RW-138-1HB V-RW-138-01

3" IN 6"-RW-137-1KB

4"-RW-105-1HB V-RW-105-05

4" IN 8"-FUTURE

4" IN 8"-RW-135-1KB

LSH 102A NOTE 1

LT 100 VENT

FI 102

LSH 001 LSHH 001

Well TW-2S Flowmeter

FE 100 FIT 100 PIT 100 PE 100

3"x2" V-RW-105-02 MAG 3"x2" 3"-RW-105-1HB THROTTLING V-RW-105-01

V-1390 1" V-1390

VALVE VAULT No. 1

3" IN 6"-RW-104-1KB NOTE 1 LSH 100A

Well TW-2D Flowmeter

LT 101

FE 101 FIT 101 PIT 101 PE 101

4" x 3" EJ-RW-105-01 4"-RW-105-1HB

3"x2" V-RW-102-02 MAG 3"x2" 3"-RW-102-1HB THROTTLING V-RW-102-01

3" IN 6"-RW-101-1KB NOTE 1 LSH 101A

Well PE-1 Flowmeter

4" IN 8" RW-127-1KB SPARE

4" IN 8" RW-127-1KB TP-PR-10-10-04 [C1] SPARE TO VALVE VAULT 4

NOTES 1 & 2

V-RW-105-06 THROTTLING V-RW-105-03 V-RW-105-04

4" IN 8" RW-107-1KB TP-PR-10-10-04 [C1] TO RAW WATER STORAGE

V-RW-108-02 THROTTLING 4"-RW-130-1HB V-RW-130-02 V-RW-130-01

LT 103 VENT

FE 103 FIT 103 PIT 103 PE 103

3"x2" MAG 3"x2" 3"-RW-108-1HB V-RW-108-01

V-1390

NOTE 1 LSH 103A

4" IN 8"-RW-131-1KB TO BAKER TANKS V-RW-131-01

4" IN 8"-RW-133-1KB NOTE 1

4"x3" V-RW-132-02

Well TW-3D Flowmeter

VENT LT 102 PI 102 PIT 102 PRV 102 PE 102 FIT 102 FE 102

SET AT 120 PSI

V-1390 V-1390 V-1390

3"x2" 3"-RW-134-1HB V-RW-134-01 3"x2" MAG

4"x3" V-RW-134-02

LSH 102

WELL VAULT No. 4

LE 102 P-102

EXTRACTION WELL TW-3D

135 GPM x 248 FT. H20

PI 100 V-RW-103-02

V-1390 3"-RW-103-1HB V-RW-103-01

LSH 100

WELL VAULT No. 2

LE 100 P-100

EXTRACTION WELL TW-2S

40 GPM x 180 FT. H20

PRV 101 PI 101 V-RW-100-02

SET AT 120 PSI V-1390 3"-RW-100-1HB V-RW-100-01

LSH 101

WELL VAULT No. 1

LE 101 P-101

EXTRACTION WELL TW-2D

90 GPM x 245 FT. H20

PRV 103 PI 103 V-RW-132-02

SET AT 120 PSI V-1390 3"-RW-132-1HB 3"x2" V-RW-132-01

LSH 103

WELL VAULT No. 3

LE 103 P-103

EXTRACTION WELL PE-1

40 GPM x 235 FT. H20

NOTES

1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.
2. INSTALL AIR RELEASE VALVES AT HIGH POINTS.

NO.	DATE	REVISION	BY	CHK
8	12/07/05	REMOVED PE-1 HOLDS	JBW	SDH
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
3	03/16/05	DELETED NOTES. APPROVED FOR CONSTRUCTION	EFC	AJ
4	07/20/05	RELIEF VALVE SETTINGS. WELL PE-1 LINE TAGS. HOLDS REMOVED. APPROVED FOR CONSTRUCTION	EFC	AJ
5	09/27/05	FINAL RECORD ISSUE	EFC	AJ
6	10/06/05	REVISED FINAL RECORD - ADDED TW-3D	EFC	AJ
7	10/19/05	REVISED AS NOTED	EFC	AJ

REVISION APPROVAL			
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED
CIVIL	—	ELECTRICAL	—
STRUCTURAL	—	INST & CONTROL	—
MECHANICAL	AJ	ARCHITECTURAL	—
PROCESS	—	ENVIRONMENTAL	—
PIPING	SDH	GEN. ARRANG.	—

REV 8 DATE 12/06/05

PRINT DISTRIBUTION: DATE | STATUS | CLIENT | FIELD | INTRA CO.

STATUS	REV	DATE	SDE	PEM
PRELIMINARY				
FOR REVIEW AND APPROVAL	D	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	7	12/9/05	AT for KLM	AJ

SCALE NONE

RESPONSIBLE ENGINEER: Kenneth L. Martins CH4976 Exp. 6-30-06

REGISTERED PROFESSIONAL ENGINEER KENNETH L. MARTINS No. CH4976 STATE OF CALIFORNIA

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
EXPANDED GROUNDWATER EXTRACTION
AND TREATMENT SYSTEM
PROJ NO. 315994

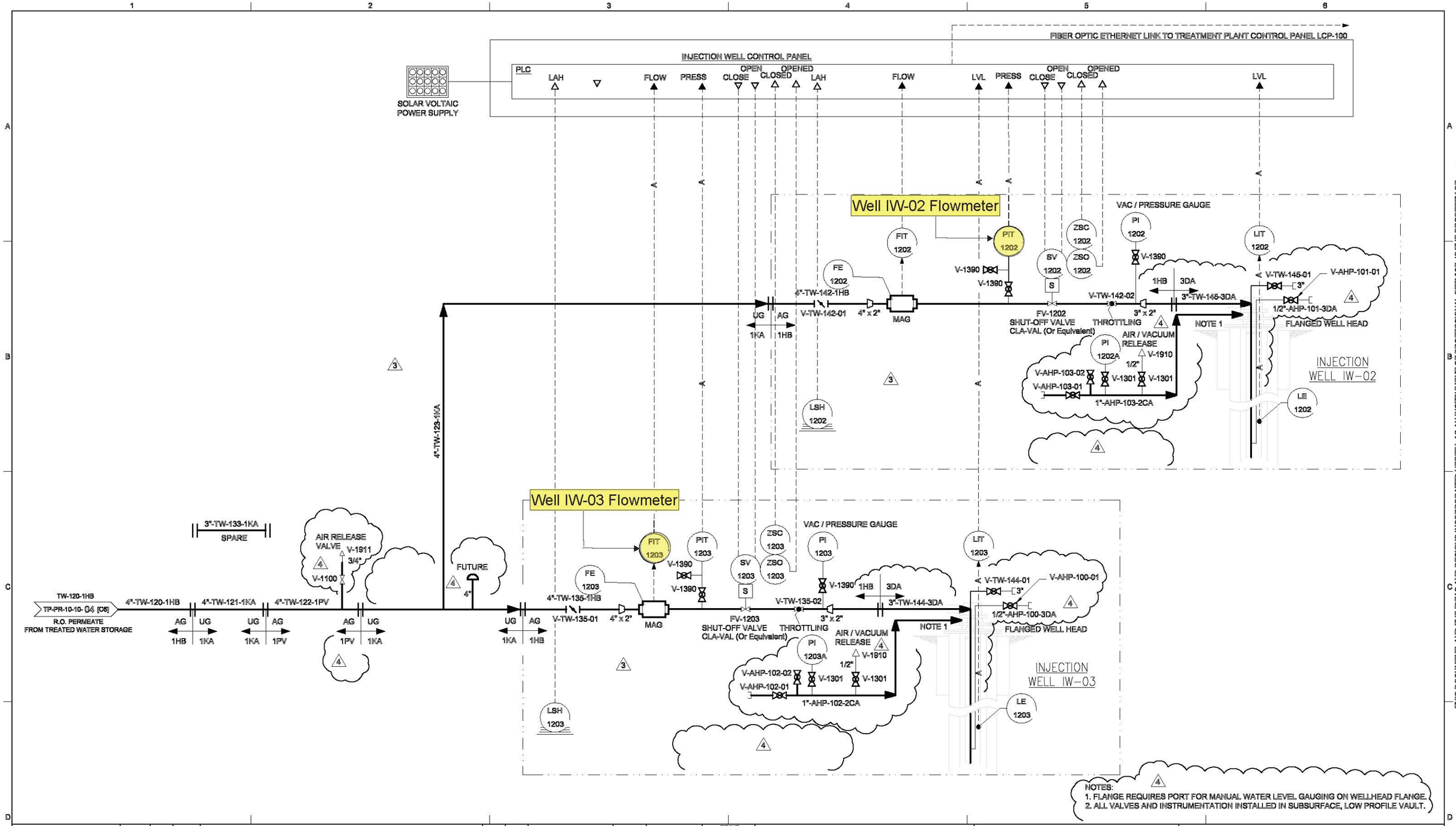
CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 03
EXTRACTION WELLS
PE-1, TW-2D, TW-2S AND TW-3D

DWG. NO. TP-PR-10-10-03 REV. 8

BAR IS ONE INCH
tppr101003.dwg 12/07/2005 01:06:58 PM

FILENAME: tppr101003.dwg PLOT DATE: 19-OCT-2005 PLOT TIME:



NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 4	DATE 03/10/05	PRINT DISTRIBUTION
A	07/28/04	FOR INTERNAL REVIEW	EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL		ELECTRICAL		STATUS
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST & CONTROL		REV.
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT
3	02/14/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD
4	03/10/05	REMOVED HOLD AND APPROVED FOR CONSTRUCTION	EFC	AJ	PIPING		GEN. ARRANG.		INTRA CO.

RESPONSIBLE ENGINEER: Kenneth L. Martins CH4878 Exp. 6-30-05 PE #

STATUS	REV	DATE	SDE	PEM
PRELIMINARY				
FOR REVIEW AND APPROVAL	A	07/28/04		
APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
REVISED & APPROVED FOR CONSTRUCTION	4	/ /		

SCALE NONE

PACIFIC GAS & ELECTRIC CO.
TOPOCK COMPRESSOR STATION
INTERIM MEASURE 3
EXPANDED GROUNDWATER EXTRACTION
AND TREATMENT SYSTEM
PROJ NO. 315994

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 11
INJECTION WELLS

DWG. NO. TP-PR-10-10-11 REV. 4

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

FILENAME: tppr101011.dwg PLOT DATE: 10-MAR-2005 PLOT TIME:

Appendix A
RO Concentrate Non-Hazardous Waste Manifests

LIQUID ENVIRONMENTAL SOLUTIONS

P 5479

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	DAVID M. DIAZ	**Generator Rep. Signature**	David M Diaz
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck # 750		**Tank#** 3346		**Inspection Paperwork Verified By:**	
Waste Removed (Gallons)	5000	**Totalizer Readings (Gallons)**	**Start** / **Finish**	**Date**	**Time**
				1-12-21	900A

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Chad Turner	**Driver Signature**	Chad Turner

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

LIQUID ENVIRONMENTAL SOLUTIONS

P 5480

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	DAVID M. DIAZ	**Generator Rep. Signature**	David M Diaz
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	782	**Tank#**	3340	**Inspection Paperwork Verified By:**	N/A

Waste Removed (Gallons)	5300	**Totalizer Readings (Gallons)**	**Start**	715	**Finish**	10004	**Date** 1/28/21 **Time** 11:00

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Manuel Arvizo	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

LIQUID ENVIRONMENTAL SOLUTIONS

P 5482

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)		**Generator Rep. Signature**	
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	782	**Tank#**	23 T-10'	**Inspection Paperwork Verified By:**	
Waste Removed (Gallons)	5500	**Totalizer Readings (Gallons)**	**Start** / **Finish**	**Date**	**Time**
				2-11-21	0900

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Manuel Arce	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

LIQUID ENVIRONMENTAL SOLUTIONS

P 5481

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	DAVID M DIAZ	**Generator Rep. Signature**	
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	782	**Tank#**	3346	**Inspection Paperwork Verified By:**	
Waste Removed (Gallons)	6000	**Totalizer Readings (Gallons)**	**Start** / **Finish**	**Date**	**Time**
				2-23-21	0845

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Manuel Arena	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

LIQUID ENVIRONMENTAL SOLUTIONS

P 5483

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	LAVID M DIAZ	**Generator Rep. Signature**	David M Diaz
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	782	**Tank#**	3346	**Inspection Paperwork Verified By:**	
Waste Removed (Gallons)	5200	**Totalizer Readings (Gallons)**	**Start** / **Finish**	**Date**	**Time**
				3/4/21	0800

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Manuel Avena	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

LIQUID ENVIRONMENTAL SOLUTIONS

P 5484

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	DAVID M DIAZ	**Generator Rep. Signature**	David M Diaz
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	782	**Tank#**	3346	**Inspection Paperwork Verified By:**	
Waste Removed (Gallons)	5000	**Totalizer Readings (Gallons)**	**Start** / **Finish**	**Date**	**Time**
				3-11-21	10:00

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Manuel Avena	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

LIQUID ENVIRONMENTAL SOLUTIONS

P 5485

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	DAVID M DIAZ	**Generator Rep. Signature**	
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	782	**Tank#**	3331	**Inspection Paperwork Verified By:**	
Waste Removed (Gallons)	5000	**Totalizer Readings (Gallons)**	**Start** / **Finish**	**Date**	**Time**
				3-22-21	0845

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Manuel Avena	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

LIQUID ENVIRONMENTAL SOLUTIONS

P 5486

NON-HAZARDOUS WASTE MANIFEST

Profile Number
15713

Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	**Generator Address**	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		

I certify that the waste material removed from the above premises does not contain any radioactive, flammable, explosive, toxic or hazardous material ("Excluded Waste"). The term "hazardous material" is defined as any one or more pollutant, toxic substance, hazardous substance, solvent or oil as defined in or pusuant to the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Compensation and Liability Act, the Federal Clean Water Act, or any other federal, state or local environmental law, regulation, ordinance, or rule, whether existing as of the date of this agreement or subsequently enacted. I also acknowledge that the Generator shall be responsible for any costs incurred by the Transporter or Disposal Facility in handling or proper disposal of any hazardous waste and that the Generator expressly agrees to defend, indemnify and hold harmless the Transporter from and against any and all damages, costs, fines and liabilities resulting from or arising out of any such hazardous waste.

Generator Rep. Name (please print)	MELISSA J. SOLANO	**Generator Rep. Signature**	
Transporter Name	MP Environmental Services	**Transporter Address**	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	782	**Tank#**	3331	**Inspection Paperwork Verified By:**	
Waste Removed (Gallons)	4000	**Totalizer Readings (Gallons)**	**Start** / **Finish**	**Date**	**Time**
				3-25-21	1005

I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.

Driver must comply with proper PPE requirements. Including; gloves, safety vest, hard hat, steel toes shoes & safety glasses

Driver Name (please print)	Manuel Avena	**Driver Signature**	

Disposal Facility	Liquid Environmental Solutions of Arizona	**Address**	5159 West Van Buren Street Phoenix, AZ 85043	
Waste Received (Gallons)		**Date**		**Time**
Facility Rep. Name (please print)		**Facility Rep. Signature**		

WHITE - Transporter YELLOW - Second Generator GOLDENROD - Disposal Facility PINK - Generator

Appendix B
First Quarter
2021 Laboratory Analytical Reports

April 01, 2021

Mark Fesler/RDD
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

Workorder No.: N043659

RE: PG&E Topock, D3184A1.EV.05-OM-TS

Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on January 05, 2021 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

This is an amended report. Please disregard all previous documentation that corresponds to the page(s) enclosed.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

ASSET Laboratories **Date:** *01-Apr-21*

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N043659

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia and SM 4500-NO3F were subcontracted to BC Labs- Bakersfield,CA.

Analytical Comments for EPA 200.7:

Dilution was necessary for sample N043659-003 since plasma was extinguished when sample was analyzed at lower dilution.

Analytical Comments for EPA 200.8:

The report was amended as several analytes were added on sample N043659-003 (SC-701-WDR-611). Please see attached correspondence.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N043659-001D-MS and N043659-001D-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N043659-001D-MS and N043659-001D-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.

Dilution was necessary on some analytes for sample N043659-003 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.

Analytical Comments for EPA 218.6:

Dilution was necessary for sample N043659-003 due to matrix interference. Sample was analyzed at lower dilution however matrix spike recovery and/or retention time criteria were not met indicating possible matrix interference. Sample was reported at dilution that meets matrix spike recovery limit and the detected peak within retention time window.

ASSET Laboratories

Date: *19-Jan-21*

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N043659
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N043659-001A	SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	1/5/2021	1/19/2021
N043659-001B	SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	1/5/2021	1/19/2021
N043659-001C	SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	1/5/2021	1/19/2021
N043659-001D	SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	1/5/2021	1/19/2021
N043659-001E	SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	1/5/2021	1/19/2021
N043659-001F	SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	1/5/2021	1/19/2021
N043659-002A	SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	1/5/2021	1/19/2021
N043659-002B	SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	1/5/2021	1/19/2021
N043659-002C	SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	1/5/2021	1/19/2021
N043659-002D	SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	1/5/2021	1/19/2021
N043659-002E	SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	1/5/2021	1/19/2021
N043659-002F	SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	1/5/2021	1/19/2021
N043659-003A	SC-701-WDR-611	Water	1/5/2021 12:30:00 PM	1/5/2021	1/19/2021
N043659-003B	SC-701-WDR-611	Water	1/5/2021 12:30:00 PM	1/5/2021	1/19/2021
N043659-003C	SC-701-WDR-611	Water	1/5/2021 12:30:00 PM	1/5/2021	1/19/2021
N043659-003D	SC-701-WDR-611	Water	1/5/2021 12:30:00 PM	1/5/2021	1/19/2021

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:18:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_210106A**	QC Batch: **R149854**			PrepDate:			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	1/6/2021 11:15 AM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_210106A**	QC Batch: **R149854**			PrepDate:			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	1/6/2021 11:15 AM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-701-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:30:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_210106A**	QC Batch: **R149854**			PrepDate:			Analyst: **LR**
Specific Conductance	36000	0.10	0.10		umhos/cm	1	1/6/2021 11:15 AM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N043659-003ADUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **149854**
Client ID: **ZZZZZZ** Batch ID: **R149854** TestNo: **EPA 120.1** Analysis Date: **1/6/2021** SeqNo: **4067262**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	36100.000	0.10						35800	0.834	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:18:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_210106J**	QC Batch: **83750**				PrepDate:	**1/6/2021**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	1/6/2021 01:10 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_210106J**	QC Batch: **83750**				PrepDate:	**1/6/2021**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	1/6/2021 01:10 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-701-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:30:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_210106J**	QC Batch: **83750**				PrepDate:	**1/6/2021**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	23000	500	500		mg/L	1	1/6/2021 01:10 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-83750**	SampType: **LCS**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **1/6/2021**	RunNo: **149887**
Client ID: **LCSW**	Batch ID: **83750**	TestNo: **SM2540C**		Analysis Date: **1/6/2021**	SeqNo: **4068786**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	960.000	10	1000	0	96.0	80	120				

Sample ID: **MB-83750**	SampType: **MBLK**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **1/6/2021**	RunNo: **149887**
Client ID: **PBW**	Batch ID: **83750**	TestNo: **SM2540C**		Analysis Date: **1/6/2021**	SeqNo: **4068787**

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: **N043659-003ADUP**	SampType: **DUP**	TestCode: **160.1_2540C**	Units: **mg/L**	Prep Date: **1/6/2021**	RunNo: **149887**
Client ID: **ZZZZZZ**	Batch ID: **83750**	TestNo: **SM2540C**		Analysis Date: **1/6/2021**	SeqNo: **4068791**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	23850.000	500						23100	3.19	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:18:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_210107E**	QC Batch: **83758**				PrepDate:	**1/7/2021**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	1/7/2021 03:52 PM
Boron	1200	74	100		µg/L	1	1/7/2021 03:52 PM
Iron	ND	18	20		µg/L	1	1/7/2021 03:52 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:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_210107E**	QC Batch: **83758**				PrepDate:	**1/7/2021**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	1/7/2021 04:18 PM
Boron	1200	74	100		µg/L	1	1/7/2021 04:18 PM
Iron	ND	18	20		µg/L	1	1/7/2021 04:18 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-701-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:30:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_210107E**	QC Batch: **83758**			PrepDate:	**1/7/2021**		Analyst: **DJ**
Aluminum	ND	200	250		µg/L	5	1/7/2021 04:37 PM
Boron	4700	370	500		µg/L	5	1/7/2021 04:37 PM
Iron	600	89	100		µg/L	5	1/7/2021 04:37 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **MB-83758** SampType: **MBLK** TestCode: **200.7_WPGE** Units: **µg/L** Prep Date: **1/7/2021** RunNo: **149903**
Client ID: **PBW** Batch ID: **83758** TestNo: **EPA 200.7** Analysis Date: **1/7/2021** SeqNo: **4068976**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Boron	ND	100									
Iron	ND	20									

Sample ID: **LCS1-83758** SampType: **LCS** TestCode: **200.7_WPGE** Units: **µg/L** Prep Date: **1/7/2021** RunNo: **149903**
Client ID: **LCSW** Batch ID: **83758** TestNo: **EPA 200.7** Analysis Date: **1/7/2021** SeqNo: **4068977**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9756.494	50	10000	0	97.6	85	115				
Boron	4719.560	100	5000	0	94.4	85	115				
Iron	96.578	20	100.0	0	96.6	85	115				

Sample ID: **N043659-001D-MS1** SampType: **MS** TestCode: **200.7_WPGE** Units: **µg/L** Prep Date: **1/7/2021** RunNo: **149903**
Client ID: **ZZZZZZ** Batch ID: **83758** TestNo: **EPA 200.7** Analysis Date: **1/7/2021** SeqNo: **4068981**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9910.936	50	10000	0	99.1	75	125				
Boron	6635.949	100	5000	1179	109	75	125				
Iron	100.798	20	100.0	0	101	75	125				

Sample ID: **N043659-001D-MSD** SampType: **MSD** TestCode: **200.7_WPGE** Units: **µg/L** Prep Date: **1/7/2021** RunNo: **149903**
Client ID: **ZZZZZZ** Batch ID: **83758** TestNo: **EPA 200.7** Analysis Date: **1/7/2021** SeqNo: **4068982**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9956.346	50	10000	0	99.6	75	125	9911	0.457	20	
Boron	6557.151	100	5000	1179	108	75	125	6636	1.19	20	
Iron	100.292	20	100.0	0	100	75	125	100.8	0.503	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: CH2M HILL
Lab Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N043659-001

Client Sample ID: SC-100B-WDR-611
Collection Date: 1/5/2021 12:18:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_210106B**	QC Batch: **R149883**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	430	1.7	10		µg/L	50	1/6/2021 03:53 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210107C**	QC Batch: **83757**			PrepDate:	**1/7/2021**		Analyst: **CEI**
Chromium	410	0.65	5.0		µg/L	5	1/7/2021 09:24 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_210106B**	QC Batch: **R149883**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	1/6/2021 03:34 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210107C**	QC Batch: **83757**			PrepDate:	**1/7/2021**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	1/7/2021 10:46 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-701-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:30:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_210106B**	QC Batch: **R149883**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.17	1.0		µg/L	5	1/6/2021 03:15 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210107C**	QC Batch: **83757**			PrepDate:	**1/7/2021**		Analyst: **CEI**
Chromium	5.3	0.13	1.0		µg/L	1	1/7/2021 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: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: **MB-83757**	SampType: **MBLK**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **PBW**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070227**

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

Sample ID: **LCS-83757**	SampType: **LCS**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **LCSW**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070228**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.422	1.0	10.00	0	94.2	85	115				

Sample ID: **N043659-001D-MS**	SampType: **MS**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **ZZZZZZ**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070239**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	433.898	5.0	10.00	406.3	276	75	125				S

Sample ID: **N043659-001D-MSD**	SampType: **MSD**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **ZZZZZZ**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	429.570	5.0	10.00	406.3	232	75	125	433.9	1.00	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: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: **LCS-R149883** SampType: **LCS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **149883**
Client ID: **LCSW** Batch ID: **R149883** TestNo: **EPA 218.6** Analysis Date: **1/6/2021** SeqNo: **4068583**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.983	0.20	5.000	0	99.7	90	110				

Sample ID: **MB-R149883** SampType: **MBLK** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **149883**
Client ID: **PBW** Batch ID: **R149883** TestNo: **EPA 218.6** Analysis Date: **1/6/2021** SeqNo: **4068586**

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

Sample ID: **N043659-003BMS** SampType: **MS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **149883**
Client ID: **ZZZZZZ** Batch ID: **R149883** TestNo: **EPA 218.6** Analysis Date: **1/6/2021** SeqNo: **4068588**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.892	1.0	5.000	0	97.8	90	110				

Sample ID: **N043659-002CMS** SampType: **MS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **149883**
Client ID: **ZZZZZZ** Batch ID: **R149883** TestNo: **EPA 218.6** Analysis Date: **1/6/2021** SeqNo: **4068590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.068	0.20	1.000	0.07220	99.6	90	110				

Sample ID: **N043659-001CMS** SampType: **MS** TestCode: **218.6_WU_P** Units: **µg/L** Prep Date: RunNo: **149883**
Client ID: **ZZZZZZ** Batch ID: **R149883** TestNo: **EPA 218.6** Analysis Date: **1/6/2021** SeqNo: **4068592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	678.945	10	250.0	430.0	99.6	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: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: **N043659-001CMSD**	SampType: **MSD**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **149883**
Client ID: **ZZZZZZ**	Batch ID: **R149883**	TestNo: **EPA 218.6**		Analysis Date: **1/6/2021**	SeqNo: **4068593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	684.565	10	250.0	430.0	102	90	110	678.9	0.824	20	

Sample ID: **N043659-001CDUP**	SampType: **DUP**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **149883**
Client ID: **ZZZZZZ**	Batch ID: **R149883**	TestNo: **EPA 218.6**		Analysis Date: **1/6/2021**	SeqNo: **4068594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	423.875	10						430.0	1.42	20	

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: **N043659-001D-PS**	SampType: **PS**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date:	RunNo: **149927**
Client ID: **ZZZZZZ**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070234**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	426.505	5.0	10.00	406.3	202	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:18:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210107C**	QC Batch: **83757**				PrepDate:	**1/7/2021**	Analyst: **CEI**
Antimony	ND	0.16	0.50		µg/L	1	1/7/2021 09:19 PM
Arsenic	0.39	0.081	0.10		µg/L	1	1/8/2021 01:55 PM
Barium	32	0.15	1.0		µg/L	1	1/8/2021 12:57 PM
Copper	ND	0.55	1.0		µg/L	1	1/7/2021 09:19 PM
Lead	ND	0.13	1.0		µg/L	1	1/7/2021 09:19 PM
Manganese	7.0	0.26	0.50		µg/L	1	1/7/2021 09:19 PM
Molybdenum	21	0.21	0.50		µg/L	1	1/7/2021 09:19 PM
Nickel	ND	0.26	1.0		µg/L	1	1/7/2021 09:19 PM
Zinc	ND	2.3	10		µg/L	1	1/7/2021 09:19 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210107C**	QC Batch: **83757**				PrepDate:	**1/7/2021**	Analyst: **CEI**
Antimony	ND	0.16	0.50		µg/L	1	1/7/2021 10:46 PM
Arsenic	ND	0.081	0.10		µg/L	1	1/7/2021 10:46 PM
Barium	23	0.15	1.0		µg/L	1	1/8/2021 01:26 PM
Copper	ND	0.55	1.0		µg/L	1	1/7/2021 10:46 PM
Lead	ND	0.13	1.0		µg/L	1	1/7/2021 10:46 PM
Manganese	11	0.26	0.50		µg/L	1	1/7/2021 10:46 PM
Molybdenum	22	0.21	0.50		µg/L	1	1/7/2021 10:46 PM
Nickel	ND	0.26	1.0		µg/L	1	1/7/2021 10:46 PM
Zinc	ND	2.3	10		µg/L	1	1/7/2021 10:46 PM

Qualifiers:

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

ASSET Laboratories

ANALYTICAL RESULTS

Print Date: *01-Apr-21*

CLIENT: CH2M HILL
Lab Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N043659-003

Client Sample ID: SC-701-WDR-611
Collection Date: 1/5/2021 12:30:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210107C**	QC Batch: **83757**				PrepDate:	**1/7/2021**	Analyst: **CEI**
Antimony	ND	0.16	0.50		µg/L	1	1/7/2021 11:03 PM
Arsenic	2.2	0.081	0.10		µg/L	1	1/7/2021 11:03 PM
Barium	110	0.15	1.0		µg/L	1	1/8/2021 01:32 PM
Beryllium	ND	0.042	0.50		µg/L	1	1/7/2021 11:03 PM
Cadmium	ND	0.053	0.50		µg/L	1	1/7/2021 11:03 PM
Cobalt	0.55	0.042	0.50		µg/L	1	1/7/2021 11:03 PM
Copper	7.1	0.55	1.0		µg/L	1	1/7/2021 11:03 PM
Lead	ND	0.64	5.0		µg/L	5	1/7/2021 11:21 PM
Manganese	52	0.26	0.50		µg/L	1	1/7/2021 11:03 PM
Molybdenum	140	0.21	0.50		µg/L	1	1/7/2021 11:03 PM
Nickel	11	0.26	1.0		µg/L	1	1/7/2021 11:03 PM
Selenium	27	0.36	0.50		µg/L	1	1/7/2021 11:03 PM
Silver	ND	0.23	0.50		µg/L	1	1/7/2021 11:03 PM
Thallium	ND	0.96	2.5		µg/L	5	1/7/2021 11:21 PM
Vanadium	4.5	0.28	1.0		µg/L	1	1/7/2021 11:03 PM
Zinc	ND	2.3	10		µg/L	1	1/7/2021 11:03 PM

Qualifiers:

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

ASSET Laboratories

Date: *01-Apr-21*

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID **MB-83757**	SampType: **MBLK**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **PBW**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070378**

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									
Beryllium	ND	0.50									
Cadmium	ND	0.50									
Cobalt	ND	0.50									
Copper	ND	1.0									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Nickel	ND	1.0									
Selenium	ND	0.50									
Silver	ND	0.50									
Thallium	ND	0.50									
Vanadium	ND	1.0									
Zinc	ND	10									

Sample ID **LCS-83757**	SampType: **LCS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **LCSW**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.732	0.50	10.00	0	107	85	115				
Arsenic	9.567	0.10	10.00	0	95.7	85	115				
Beryllium	9.107	0.50	10.00	0	91.1	85	115				
Cadmium	10.109	0.50	10.00	0	101	85	115				
Cobalt	9.522	0.50	10.00	0	95.2	85	115				
Copper	8.705	1.0	10.00	0	87.0	85	115				
Lead	10.111	1.0	10.00	0	101	85	115				
Manganese	99.047	0.50	100.0	0	99.0	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: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID **LCS-83757**	SampType: **LCS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **LCSW**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070379**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	9.905	0.50	10.00	0	99.0	85	115				
Nickel	9.086	1.0	10.00	0	90.9	85	115				
Selenium	10.143	0.50	10.00	0	101	85	115				
Silver	10.006	0.50	10.00	0	100	85	115				
Thallium	9.859	0.50	10.00	0	98.6	85	115				
Vanadium	10.148	1.0	10.00	0	101	85	115				
Zinc	95.981	10	100.0	0	96.0	85	115				

Sample ID **N043659-001D-MS**	SampType: **MS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **1/7/2021**	RunNo: **149927**
Client ID: **ZZZZZZ**	Batch ID: **83757**	TestNo: **EPA 200.8**		Analysis Date: **1/7/2021**	SeqNo: **4070389**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.713	0.50	10.00	0	107	75	125				
Beryllium	6.699	0.50	10.00	0	67.0	75	125				S
Cadmium	9.913	0.50	10.00	0	99.1	75	125				
Cobalt	8.392	0.50	10.00	0.04328	83.5	75	125				
Copper	8.050	1.0	10.00	0	80.5	75	125				
Lead	10.501	1.0	10.00	0	105	75	125				
Manganese	97.398	0.50	100.0	7.021	90.4	75	125				
Molybdenum	32.641	0.50	10.00	21.00	116	75	125				
Nickel	ND	1.0	10.00	0	0	75	125				S
Selenium	14.340	0.50	10.00	4.246	101	75	125				
Silver	8.756	0.50	10.00	0	87.6	75	125				
Thallium	8.419	0.50	10.00	0.2677	81.5	75	125				
Vanadium	17.746	1.0	10.00	7.690	101	75	125				
Zinc	79.851	10	100.0	0	79.9	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: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID	N043659-001D-MSD	SampType:	MSD	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:	1/7/2021	RunNo:	149927
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/7/2021	SeqNo:	4070392

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.577	0.50	10.00	0	106	75	125	10.71	1.27	20	
Beryllium	6.848	0.50	10.00	0	68.5	75	125	6.699	2.20	20	S
Cadmium	9.827	0.50	10.00	0	98.3	75	125	9.913	0.871	20	
Cobalt	8.373	0.50	10.00	0.04328	83.3	75	125	8.392	0.222	20	
Copper	8.081	1.0	10.00	0	80.8	75	125	8.050	0.386	20	
Lead	10.466	1.0	10.00	0	105	75	125	10.50	0.334	20	
Manganese	97.061	0.50	100.0	7.021	90.0	75	125	97.40	0.346	20	
Molybdenum	32.515	0.50	10.00	21.00	115	75	125	32.64	0.387	20	
Nickel	ND	1.0	10.00	0	0	75	125	0	0	20	S
Selenium	13.978	0.50	10.00	4.246	97.3	75	125	14.34	2.56	20	
Silver	8.797	0.50	10.00	0	88.0	75	125	8.756	0.467	20	
Thallium	8.405	0.50	10.00	0.2677	81.4	75	125	8.419	0.159	20	
Vanadium	17.662	1.0	10.00	7.690	99.7	75	125	17.75	0.471	20	
Zinc	80.335	10	100.0	0	80.3	75	125	79.85	0.605	20	

Sample ID	N043659-001D-MS	SampType:	MS	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:	1/7/2021	RunNo:	149927
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/7/2021	SeqNo:	4074326

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.348	0.10	10.00	0.3886	99.6	75	125				

Sample ID	N043659-001D-MSD	SampType:	MSD	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:	1/7/2021	RunNo:	149927
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/7/2021	SeqNo:	4074327

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.344	0.10	10.00	0.3886	99.5	75	125	10.35	0.0425	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: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID	MB-83757	SampType:	MBLK	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:	1/7/2021	RunNo:	150013
Client ID:	PBW	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/8/2021	SeqNo:	4074852

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

Sample ID	LCS-83757	SampType:	LCS	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:	1/7/2021	RunNo:	150013
Client ID:	LCSW	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/8/2021	SeqNo:	4074853

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	9.610	1.0	10.00	0	96.1	85	115				

Sample ID	N043659-001D-MS	SampType:	MS	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:	1/7/2021	RunNo:	150013
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/8/2021	SeqNo:	4074858

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	42.742	1.0	10.00	31.73	110	75	125				

Sample ID	N043659-001D-MSD	SampType:	MSD	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:	1/7/2021	RunNo:	150013
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/8/2021	SeqNo:	4074859

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	43.466	1.0	10.00	31.73	117	75	125	42.74	1.68	20	

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

ASSET Laboratories

Date: *01-Apr-21*

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID	N043659-001D-PS	SampType:	PS	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:		RunNo:	149927
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/7/2021	SeqNo:	4070384

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.695	0.50	10.00	0	107	80	120				
Beryllium	6.504	0.50	10.00	0	65.0	80	120				S
Cadmium	9.733	0.50	10.00	0	97.3	80	120				
Cobalt	8.267	0.50	10.00	0.04328	82.2	80	120				
Copper	7.880	1.0	10.00	0	78.8	80	120				S
Lead	10.233	1.0	10.00	0	102	80	120				
Manganese	96.457	0.50	100.0	7.021	89.4	80	120				
Molybdenum	32.282	0.50	10.00	21.00	113	80	120				
Nickel	ND	1.0	10.00	0	0	80	120				S
Selenium	14.056	0.50	10.00	4.246	98.1	80	120				
Silver	8.957	0.50	10.00	0	89.6	80	120				
Thallium	8.102	0.50	10.00	0.2677	78.3	80	120				S
Vanadium	17.560	1.0	10.00	7.690	98.7	80	120				
Zinc	80.086	10	100.0	0	80.1	80	120				

Sample ID	N043659-001D-PS	SampType:	PS	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:		RunNo:	149927
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/7/2021	SeqNo:	4074325

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.246	0.10	10.00	0.3886	98.6	80	120				

Sample ID	N043659-001D-PS	SampType:	PS	TestCode:	200.8_W_TP	Units:	µg/L	Prep Date:		RunNo:	150013
Client ID:	ZZZZZZ	Batch ID:	83757	TestNo:	EPA 200.8			Analysis Date:	1/8/2021	SeqNo:	4074857

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	41.906	1.0	10.00	31.73	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:18:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_210106C**	QC Batch: **R149857**			PrepDate:			Analyst: **LR**
Turbidity	0.27	0.10	0.10		NTU	1	1/6/2021 02:35 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_210106C**	QC Batch: **R149857**			PrepDate:			Analyst: **LR**
Turbidity	0.11	0.10	0.10		NTU	1	1/6/2021 02:35 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID: **MB-R149857**	SampType: **MBLK**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **149857**
Client ID: **PBW**	Batch ID: **R149857**	TestNo: **SM 2130B**		Analysis Date: **1/6/2021**	SeqNo: **4067282**

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

Sample ID: **N043659-002BDUP**	SampType: **DUP**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **149857**
Client ID: **ZZZZZZ**	Batch ID: **R149857**	TestNo: **SM 2130B**		Analysis Date: **1/6/2021**	SeqNo: **4067285**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	0.100	0.10						0.1100	9.52	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:18:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210106A**	QC Batch: **R149868**			PrepDate:			Analyst: **RAB**
Fluoride	2.6	0.048	0.50		mg/L	5	1/6/2021 04:42 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210106A**	QC Batch: **R149868**			PrepDate:			Analyst: **RAB**
Sulfate	490	2.0	25		mg/L	50	1/6/2021 06:49 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210106A**	QC Batch: **R149868**			PrepDate:			Analyst: **RAB**
Fluoride	2.2	0.048	0.50		mg/L	5	1/6/2021 06:01 PM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210106A**	QC Batch: **R149868**			PrepDate:			Analyst: **RAB**
Sulfate	490	2.0	25		mg/L	50	1/6/2021 07:36 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-701-WDR-611
Lab Order:	N043659	**Collection Date:**	1/5/2021 12:30:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N043659-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210106A**	QC Batch: **R149868**			PrepDate:			Analyst: **RAB**
Fluoride	16	0.19	2.0		mg/L	20	1/6/2021 06:33 PM

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

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R149868_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **PBW**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068172**

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

Sample ID: **LCS-R149868_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **LCSW**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.375	0.10	1.250	0	110	90	110				

Sample ID: **N043659-001BMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **ZZZZZZ**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068179**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.874	0.50	6.250	2.580	101	80	120				

Sample ID: **N043659-001BMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **ZZZZZZ**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.813	0.50	6.250	2.580	99.7	80	120	8.874	0.695	20	

Sample ID: **N043659-002BDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **ZZZZZZ**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.321	0.50						2.200	5.38	20	

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: CH2M HILL
Work Order: N043659
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: **MB-R149868_SO4**	SampType: **MBLK**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **PBW**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068231**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.217	0.50									

Sample ID: **LCS-R149868_SO4**	SampType: **LCS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **LCSW**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068232**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.028	0.50	4.000	0	101	90	110				

Sample ID: **N043663-005BDUP**	SampType: **DUP**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **ZZZZZZ**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068238**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	66.490	2.5						65.49	1.51	20	

Sample ID: **N043659-001BMS**	SampType: **MS**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **ZZZZZZ**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068242**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	688.955	25	200.0	491.2	98.9	80	120				

Sample ID: **N043659-001BMSD**	SampType: **MSD**	TestCode: **300_W_SO4P**	Units: **mg/L**	Prep Date:	RunNo: **149868**
Client ID: **ZZZZZZ**	Batch ID: **R149868**	TestNo: **EPA 300.0**		Analysis Date: **1/6/2021**	SeqNo: **4068243**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	689.265	25	200.0	491.2	99.0	80	120	689.0	0.0450	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

SAMPLE RECEIVING ITEMS

JACOBS

CHAIN OF CUSTODY RECORD

PROJECT INFORMATION

COC Number 611-IM3

Project Manager Scott O'Donnell

Sample Manager Shawn Duffy

Name PG&E Topock

Project IM3PLANT-ARAR-WDR-611

Location PG&E Topock

Project Number D3184A1.EV.05-OM-TS

Task Order

Turnaround Time 10 Days

Shipping Date: 1/5/2021

	DATE	TIME	Matrix	AMMONIA (SM4500NH3D)	Anions (E300.0) F & SO4	Anions (E300.0) Fluoride	CONDUCTIVITY (E120.1)	E218.6 Lab Filtered	Nitrate/Nitrite (SM4500NO3-E)	TDS (SM2540C)	Total Metals(E200.7 and E200.8)	Turbidity (SM2130)		Number of Containers	COMMENTS
Container:				1 Liter Poly	1 Liter Poly	1 Liter Poly	1 Liter Poly	250 ml Poly	1 Liter Poly	1 Liter Poly	500 ml Poly	1 Liter Poly			
Preservatives:				4°C Lab H2SO4	4°C	4°C	4°C	4°C	4°C Lab H2SO4	4°C	4°C	4°C			
Filtered:				NA	NA	NA	NA	NA	NA	NA	NA	NA			
Holding Time:				28	7	7	7	1	28	7	180	7			
SC-100B-WDR-611			Water	X	X		X	X	X	X	X	X	N043659-01	4	
SC-700B-WDR-611			Water	X	X		X	X	X	X	X	X	-02	4	
SC-701-WDR-611			Water			X	X	X		X	X		-03	3	
													TOTAL NUMBER OF CONTAINERS	11	

Signatures	Date/Time
Approved by	1-5-2021
Sampled by Cameron Stone	1-5-21 1217
Relinquished by Cameron Stone	1-5-21 1540
Received by	1/5/21 @1540
Relinquished by	1/5/21 @1745
Received by	1/5/21 1745

Shipping Details

Method of Shipment: FedEx

On Ice: (yes) / no 1.3°C

Airbill No: ICE IR#42

Lab Name: ASSET Laboratories

Lab Phone: (702) 307-2659

ATTN:

Sample Custody

and

Marion Cartin

Special Instructions:

The SC-100B & SC-700B Total metals List:
Cr,Al,Sb,As,Ba,B,Cu,Pb,Mn,Mo,Ni,Fe,Zn

Report Copy to

Mark Fesler

530-229-3273

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:	1/5/2021	Workorder:	N043659
Rep sample Temp (Deg C):	1.3	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☑	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☐	No ☐	NA ☑
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

Collection date/time taken from labels.
Samples for Cr 6+ were lab filtered and then preserved with Ammonium buffer.
Samples for Total Metals were lab preserved with HNO3 and for Ammonia/NO3-with H2SO4.

For:

Checklist Completed By: YR BHdez 1/6/2021

Reviewed By: MBC 01/06/2021

Subject: RE: [EXTERNAL] N043659 and N043660 COC and Work Order Summary for Samples Received 1/5/2021 **From:** "Marlon Cartin" <marlon@assetlaboratories.com>
Date: 4/1/2021, 2:10 PM
To: "'Fesler, Mark/RDD'" <Mark.Fesler@jacobs.com>, "'Nancy Sibucao'" <nancy@assetlaboratories.com>
CC: "'Sample Control'" <samplecontrol.lv@assetlaboratories.com>, "'Redmond, Andrew/BAO'" <Andrew.Redmond@jacobs.com>

Hi Mark,

We will check on this and get back to you.

Thanks,

Marlon Cartin
Sr. Project Manager
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421
www.assetlaboratories.com

From: Fesler, Mark/RDD <Mark.Fesler@jacobs.com>
Sent: Thursday, April 1, 2021 1:24 PM
To: Marlon B. Cartin <marlon@assetlaboratories.com>; Nancy Sibucao <nancy@assetlaboratories.com>
Cc: 'Sample Control' <samplecontrol.lv@assetlaboratories.com>; Redmond, Andrew/BAO <Andrew.Redmond@jacobs.com>
Subject: FW: [EXTERNAL] N043659 and N043660 COC and Work Order Summary for Samples Received 1/5/2021

Marlon:

It appears that the incorrect list of metals was reported for N043659-03 (SC-701-WDR-611). We need the following list of metals added to the 200.8 analysis for this sample (in addition to the metals already reported): Be, Cd, Co, Se, Ag, Th, and V.

Is it possible to re-report the data?

Mark Fesler | Jacobs | Environmental Scientist/Talent Supervisor
O: 1 530 229 3273 | M: 530 524 8041 | mark.fesler@jacobs.com
2525 Airpark Dr | Redding CA 96001 | USA

From: AssetLabs Sample Control <samplecontrol@assetlaboratories.com>
Sent: Wednesday, January 6, 2021 10:54 AM
To: mark.fesler@ch2m.com
Cc: SWR/RDD Electronic Data <edata@jacobs.com>
Subject: [EXTERNAL] N043659 and N043660 COC and Work Order Summary for Samples Received 1/5/2021

Hi Mark Fesler:

Enclosed are COC and WO Summary for samples received 1/5/2021. If you have any questions, please contact your Project Manager listed below.

Marlon Cartin
3151 W. Post Road
Las Vegas, Nevada
89118
Tel. No.: (702)-307-2659 Ext. 410
Cel. No.: (702)-439-0421
Email: marlon@assetlaboratories.com

Thank you for using ASSET Laboratories.

Sincerely,
Mary Ann Balilu
Sample Control Officer

ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 | **F:** 702.307.2691
www.assetlaboratories.com

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ASSET Laboratories

WORK ORDER Summary

06-Jan-21

WorkOrder: N043659

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 1/5/2021

Comments: The SC-100B and SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N043659-001A	SC-100B-WDR-611	1/5/2021 12:18:00 PM	1/15/2021	Water	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
			1/19/2021		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N043659-001B			1/15/2021		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			1/15/2021		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			1/15/2021			Total Dissolved Solids Prep	☐	☐	☐	LSR
			1/15/2021		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			1/15/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			1/15/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
N043659-001C			1/15/2021		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N043659-001D			1/15/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/15/2021		EPA 200.7	TOTAL METALS BY ICP	☐	☐	☐	WW
			1/15/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/15/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			1/15/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N043659-001E							☐	☐	☐	WW
N043659-001F							☐	☐	☐	WW
N043659-002A	SC-700B-WDR-611	1/5/2021 12:25:00 PM	1/15/2021		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
			1/19/2021		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☑	SUB
N043659-002B			1/15/2021		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			1/15/2021		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			1/15/2021			Total Dissolved Solids Prep	☐	☐	☐	LSR

WORK ORDER Summary

06-Jan-21

WorkOrder: N043659

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 1/5/2021

Comments: The SC-100B and SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N043659-002B	SC-700B-WDR-611	1/5/2021 12:25:00 PM	1/15/2021	Water	SM 2130B	TURBIDITY	☐	☐	☐	LSR
			1/15/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			1/15/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
N043659-002C			1/15/2021		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N043659-002D			1/15/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/15/2021		EPA 200.7	TOTAL METALS BY ICP	☐	☐	☐	WW
			1/15/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/15/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			1/15/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N043659-002E							☐	☐	☐	WW
N043659-002F							☐	☐	☐	WW
N043659-003A	SC-701-WDR-611	1/5/2021 12:30:00 PM	1/15/2021		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			1/15/2021		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			1/15/2021			Total Dissolved Solids Prep	☐	☐	☐	LSR
			1/15/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
N043659-003B			1/15/2021		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N043659-003C			1/15/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/15/2021		EPA 200.7	TOTAL METALS BY ICP	☐	☐	☐	WW
			1/15/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			1/15/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			1/15/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N043659-003D							☐	☐	☐	WW

WORK ORDER Summary

06-Jan-21

WorkOrder: N043659

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 1/5/2021

Comments: The SC-100B and SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N043659-004A	FOLDER	1/19/2021	1/15/2021		Folder	Level IV Report	☐	☐	☐	LAB
			1/15/2021		Folder	Folder	☐	☐	☐	LAB
			1/19/2021		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: SIGNED

06-Jan-21

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**	**SM4500-NO3F**	
N043659-001A / SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	32OZP	1	1	
N043659-002A / SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	32OZP	1	1	

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N43659A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia and Nitarte/Nitrate by SM4500. EDD requirement Labspec7 edata.

GSO #: 551803648

		Date/Time			Date/Time
Relinquished by:	YRJ	1/6/2021 1630	**Received by:**		
Relinquished by:			**Received by:**		

List of Analysts

ASSET Laboratories Work Order: N043659

NAME	TEST METHOD
Claire Ignacio	EPA 200.8
Lilia Ramit	EPA 120.1, SM 2540C, SM 2130B
Ria Abes	EPA 218.6, EPA 300.0
Diane Jetajobe	EPA 200.7

April 06, 2021

Mark Fesler/RDD
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

TEL: (530) 229-3273
FAX: (510) 622-9129

Workorder No.: N044835

RE: PG&E Topock, D3184A1.EV.05-OM-TS

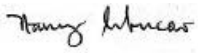
Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on April 05, 2021 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,



Nancy Sibucao
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N044835

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

This is an addendum for N043659. Sample was analyzed past holding time.

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N044835
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N044835-001A	SC-701-WDR-611	Water	1/5/2021 12:30:00 PM	4/5/2021	4/6/2021

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-701-WDR-611
Lab Order:	N044835	**Collection Date:**	1/5/2021 12:30:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044835-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL MERCURY BY COLD VAPOR TECHNIQUE							
EPA 245.1							
RunID: **NV00922-AA2_210405B** QC Batch: **86943**				PrepDate:		**4/5/2021**	Analyst: **DJ**
Mercury	ND	0.13	0.20	H	µg/L	1	4/5/2021 02:48 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044835
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 245.1_W

Sample ID: **MB-86943**	SampType: **MBLK**	TestCode: **245.1_W**	Units: **µg/L**	Prep Date: **4/5/2021**	RunNo: **151851**
Client ID: **PBW**	Batch ID: **86943**	TestNo: **EPA 245.1**		Analysis Date: **4/5/2021**	SeqNo: **4164429**

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

Sample ID: **LCS-86943**	SampType: **LCS**	TestCode: **245.1_W**	Units: **µg/L**	Prep Date: **4/5/2021**	RunNo: **151851**
Client ID: **LCSW**	Batch ID: **86943**	TestNo: **EPA 245.1**		Analysis Date: **4/5/2021**	SeqNo: **4164432**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.240	0.20	5.000	0	105	85	115				

Sample ID: **N044835-001A-MS**	SampType: **MS**	TestCode: **245.1_W**	Units: **µg/L**	Prep Date: **4/5/2021**	RunNo: **151851**
Client ID: **ZZZZZZ**	Batch ID: **86943**	TestNo: **EPA 245.1**		Analysis Date: **4/5/2021**	SeqNo: **4164436**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	5.050	0.20	5.000	0	101	75	125				H

Sample ID: **N044835-001A-MSD**	SampType: **MSD**	TestCode: **245.1_W**	Units: **µg/L**	Prep Date: **4/5/2021**	RunNo: **151851**
Client ID: **ZZZZZZ**	Batch ID: **86943**	TestNo: **EPA 245.1**		Analysis Date: **4/5/2021**	SeqNo: **4164437**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	4.870	0.20	5.000	0	97.4	75	125	5.050	3.63	20	H

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

SAMPLE RECEIVING ITEMS

rustico.aquino@assetlaboratoriesph.com

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Monday, April 05, 2021 11:14 AM
To: Fesler, Mark/RDD
Cc: 'Sample Control'; marlon@assetlaboratories.com; nancy@assetlaboratories.com; Redmond, Andrew/BAO; Hockett, Tracy W.; rustico.aquino@assetlaboratoriesph.com
Subject: Re: [EXTERNAL] N043659 and N043660 COC and Work Order Summary for Samples Received 1/5/2021

We'll do it Mark.

Thanks!

On 4/5/2021 11:09 AM, Fesler, Mark/RDD wrote:

> Yoandra:
>
> Can we get the Mercury data on a 48-hr TAT?
>
> **Mark Fesler** | Jacobs | Environmental Scientist/Talent Supervisor
> O: 1 530 229 3273 | M: 530 524 8041 | mark.fesler@jacobs.com
> 2525 Airpark Dr | Redding CA 96001 | USA

> **From:** Yoandra Rodriguez <yoandra@assetlaboratories.com>
> **Sent:** Monday, April 5, 2021 11:08 AM
> **To:** Fesler, Mark/RDD <Mark.Fesler@jacobs.com>
> **Cc:** 'Sample Control' <samplecontrol.lv@assetlaboratories.com>; marlon@assetlaboratories.com; nancy@assetlaboratories.com; Redmond, Andrew/BAO <Andrew.Redmond@jacobs.com>; Hockett, Tracy W. <Tracy.Hockett@jacobs.com>
> **Subject:** Re: [EXTERNAL] N043659 and N043660 COC and Work Order Summary for Samples Received 1/5/2021
>
> Hello Mark,
>
> Noted.
>
> Please, what TAT do you need?
>
> Thanks,
>
> On 4/5/2021 10:53 AM, Fesler, Mark/RDD wrote:
>
> > Yoandra:
> >
> > Yes, that is correct.
> >
> > **Mark Fesler** | Jacobs | Environmental Scientist/Talent Supervisor

O: 1 530 229 3273 | M: 530 524 8041 | mark.fesler@jacobs.com
2525 Airpark Dr | Redding CA 96001 | USA

From: Yoandra Rodriguez <yoandra@assetlaboratories.com>
Sent: Monday, April 5, 2021 10:43 AM
To: Fesler, Mark/RDD <Mark.Fesler@jacobs.com>
Cc: 'Sample Control' <samplecontrol.lv@assetlaboratories.com>; marlon@assetlaboratories.com; nancy@assetlaboratories.com
Subject: Re: [EXTERNAL] N043659 and N043660 COC and Work Order Summary for Samples Received 1/5/2021

Hello Mark,

We have the samples N043659.

Please, kindly confirm if you only need Hg on sample N043659-03.

Thanks,

On 4/5/2021 8:51 AM, Nancy Sibucao wrote:

> Hi Mark,
> We will check it and will get back to you.
>
> Thanks,
> Nancy
>
> ---
>
> **From:** Fesler, Mark/RDD [mailto:Mark.Fesler@jacobs.com]
> **Sent:** Friday, April 2, 2021, 3:54 PM
> **To:** Marlon B. Cartin; Nancy Sibucao
> **Cc:** 'Sample Control'; Redmond, Andrew/BAO; Hockett, Tracy W.
> **Subject:** [EXTERNAL] N043659 and N043660 COC and Work Order Summary for Samples Received 1/5/2021
>
> Marlon:
>
> OK, for this same SDG, looks like we forgot to ask for Mercury (EPA245.1) as well for N043659-03 (SC-701-WDR-611). I know it is WELL past holding time, but can you analyze the sample for Mercury (hoping that you still have sample available.)
>
> Please let us know if you can analyze. Thanks.

ASSET Laboratories

Please review the checklist below. Any NO and/or NA 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.

Change Order Checklist

Client Name: **CH2HI01**

Date / Time Created: **4/5/2021 11:32:07 AM**

Work Order Number: **N044835**

Created by: **YR**

Checklist completed by: YRJ (Signature) 4/5/2021 (Date)

Reviewed by: MBC (Initials) 4/6/2021 (Date)

1. All samples within holding time?	Yes ☐	No ☑
2. Refrigerator temperature in compliance?	Yes ☑	No ☐
3. Change Order documents present?	Yes ☑	No ☐

Comments:

ASSET Laboratories

WORK ORDER Summary

06-Apr-21

WorkOrder: N044835

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 4/5/2021

Comments: Addendum WO for N043659

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N044835-001A	SC-701-WDR-611	1/5/2021 12:30:00 PM	4/7/2021	Water	EPA 245.1	TOTAL MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WW
			4/7/2021			MERCURY PREP	☐	☐	☐	WW
N044835-002A	FOLDER	4/7/2021	4/7/2021		Folder	Folder	☐	☐	☐	LAB
			4/7/2021		Folder	Level IV Report	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: N044835

NAME	TEST METHOD
Diane Jetajobe	EPA 245.1

Date of Report: 01/21/2021

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N043659
BCL Project:	Level IV + labSpec7
BCL Work Order:	2100876
Invoice ID:	B404421

Enclosed are the results of analyses for samples received by the laboratory on 1/8/2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Stuart Buttram
Technical Director

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

21-00876

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: SIGNED

06-Jan-21

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests SM4500-NH3D	SM4500-NO3F	
N043659-001A / SC-100B-WDR-611	Water	1/5/2021 12:18:00 PM	32OZP	1	1	
N043659-002A / SC-700B-WDR-611	Water	1/5/2021 12:25:00 PM	32OZP	1	1	

DISTRIBUTION
SUB OUT

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N43659A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

Please analyze for Ammonia and Nitarte/Nitrate by SM4500. EDD requirement Labspec7 edata.

GSO #: 551803648

		Date/Time			Date/Time
Relinquished by:	YRJ	1/6/2021 1630	Received by:		1-6-21 1015
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 2100876 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 20-00876

SHIPPING INFORMATION
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐
BC Lab Field Service ☐ Other ☒ (Specify) GLS

SHIPPING CONTAINER
Ice Chest ☒ None ☐ Box ☐
Other ☐ (Specify)

FREE LIQUID
YES ☐ NO ☐
W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☑ No ☐ All samples containers intact? Yes ☑ No ☐ Description(s) match COC? Yes ☑ No ☐

COC Received ☒ YES ☐ NO

Emissivity: .97 Container: PE Thermometer ID: 274 Date/Time 1-8-21 1015

Temperature: (A) 1.3 °C / (C) 1.1 °C Analyst Init TKJ

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr+6										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS Qtpc	A	A								
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
VOIL SLEEVE										
VCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:
Sample Numbering Completed By: CMZ Date/Time: 1/8/21 1422
A = Actual / C = Corrected

Rev 21 05/23/2016
[S:\WPDocs\Word Perfect\LAB_DOCS\FORMS\SAMREC rev 20]

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 01/21/2021 11:53
Project: Level IV + labSpec7
Project Number: N043659
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2100876-01	**COC Number:**	---	**Receive Date:**	01/08/2021 10:15
	Project Number:	---	**Sampling Date:**	01/05/2021 12:18
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N043659-001A / SC-100B-WDR-611	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Water
2100876-02	**COC Number:**	---	**Receive Date:**	01/08/2021 10:15
	Project Number:	---	**Sampling Date:**	01/05/2021 12:25
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N043659-002A / SC-700B-WDR-611	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Water

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 01/21/2021 11:53
Project: Level IV + labSpec7
Project Number: N043659
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2100876-01 | **Client Sample Name:** N043659-001A / SC-100B-WDR-611, 1/5/2021 12:18:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	Run #
Nitrate/Nitrite as N	**2.9**	**mg/L**	**0.20**	**EPA-353.2**	ND	**A07**	1
Ammonia as N (Distilled)	ND	mg/L	0.20	SM-4500-NH3G	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	01/13/21 08:04	01/13/21 13:11	JMH2	SC-1	2	B097186	No Prep
2	SM-4500-NH3G	01/15/21 09:30	01/19/21 15:36	JMH2	SC-2	1.029	B097417	SM 4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 01/21/2021 11:53
Project: Level IV + labSpec7
Project Number: N043659
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2100876-02 | **Client Sample Name:** N043659-002A / SC-700B-WDR-611, 1/5/2021 12:25:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	Run #
Nitrate/Nitrite as N	**2.9**	**mg/L**	**0.10**	**EPA-353.2**	ND		1
Ammonia as N (Distilled)	ND	mg/L	0.20	SM-4500-NH3G	ND		2

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-353.2	01/13/21 08:04	01/13/21 12:25	JMH2	SC-1	1	B097186	No Prep
2	SM-4500-NH3G	01/15/21 09:30	01/19/21 15:37	JMH2	SC-2	1.027	B097417	SM 4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 01/21/2021 11:53
Project: Level IV + labSpec7
Project Number: N043659
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals
QC Batch ID: B097186					
Nitrate/Nitrite as N	B097186-BLK1	ND	mg/L	0.10	
QC Batch ID: B097417					
Ammonia as N (Distilled)	B097417-BLK1	ND	mg/L	0.20	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 01/21/2021 11:53
Project: Level IV + labSpec7
Project Number: N043659
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B097186										
Nitrate/Nitrite as N	B097186-BS1	LCS	2.0658	2.0000	mg/L	103		90 - 110		
QC Batch ID: B097417										
Ammonia as N (Distilled)	B097417-BS1	LCS	1.9641	2.0000	mg/L	98.2		85 - 115		

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 01/21/2021 11:53
Project: Level IV + labSpec7
Project Number: N043659
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B097186	Used client sample: Y - Description: N043659-001A / SC-100B-WDR-611, 01/05/2021 12:18										
Nitrate/Nitrite as N	DUP	2100876-01	2.8752	2.8876		mg/L	0.4		10		
	MS	2100876-01	2.8752	7.2966	4.2105	mg/L		105		90 - 110	
	MSD	2100876-01	2.8752	7.0455	4.2105	mg/L	3.5	99.0	10	90 - 110	
QC Batch ID: B097417	Used client sample: N										
Ammonia as N (Distilled)	DUP	2101284-03	0.14943	ND		mg/L			20		
	MS	2101284-03	0.14943	2.4136	2.2901	mg/L		98.9		80 - 120	
	MSD	2101284-03	0.14943	2.3160	2.2901	mg/L	4.1	94.6	20	80 - 120	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 01/21/2021 11:53
Project: Level IV + labSpec7
Project Number: N043659
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
A07	Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.

January 19, 2021

Mark Fesler/RDD
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

TEL: (530) 229-3273
FAX: (510) 622-9129

Workorder No.: N043660

RE: PG&E Topock, D31084A1.EV.05-OM-TS

Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on January 05, 2021 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock, D31084A1.EV.05-OM-TS
Lab Order: N043660

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N043660-001B-MS and N043660-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Silver in QC samples N043660-001B-MS and N043660-001B-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

CLIENT: CH2M HILL
Project: PG&E Topock, D31084A1.EV.05-OM-TS
Lab Order: N043660
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N043660-001A	Phase Separator-611-Sludge	Soil	1/4/2021 1:03:00 PM	1/5/2021	1/19/2021
N043660-001B	Phase Separator-611-Sludge	Soil	1/4/2021 1:03:00 PM	1/5/2021	1/19/2021

CLIENT:	CH2M HILL	**Client Sample ID:**	Phase Separator-611-Sludge
Lab Order:	N043660	**Collection Date:**	1/4/2021 1:03:00 PM
Project:	PG&E Topock, D31084A1.EV.05-OM-TS	**Matrix:**	SOIL
Lab ID:	N043660-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210111A**	QC Batch: **R150007**			PrepDate:			Analyst: **RAB**
Fluoride	19	0.21	2.1		mg/Kg-dry	1	1/11/2021 11:34 AM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID: **MB-R150007_F**	SampType: **MBLK**	TestCode: **300_S**	Units: **mg/Kg**	Prep Date:	RunNo: **150007**
Client ID: **PBS**	Batch ID: **R150007**	TestNo: **EPA 300.0**		Analysis Date: **1/11/2021**	SeqNo: **4074358**

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

Sample ID: **LCS-R150007_F**	SampType: **LCS**	TestCode: **300_S**	Units: **mg/Kg**	Prep Date:	RunNo: **150007**
Client ID: **LCSS**	Batch ID: **R150007**	TestNo: **EPA 300.0**		Analysis Date: **1/11/2021**	SeqNo: **4074359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	12.409	1.0	12.50	0	99.3	90	110				

Sample ID: **N043660-001ADUP**	SampType: **DUP**	TestCode: **300_S**	Units: **mg/Kg-dry**	Prep Date:	RunNo: **150007**
Client ID: **ZZZZZZ**	Batch ID: **R150007**	TestNo: **EPA 300.0**		Analysis Date: **1/11/2021**	SeqNo: **4074361**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	18.640	2.1						18.83	1.03	20	

Sample ID: **N043660-001AMS**	SampType: **MS**	TestCode: **300_S**	Units: **mg/Kg-dry**	Prep Date:	RunNo: **150007**
Client ID: **ZZZZZZ**	Batch ID: **R150007**	TestNo: **EPA 300.0**		Analysis Date: **1/11/2021**	SeqNo: **4074362**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	41.157	2.1	26.69	18.83	83.6	80	120				

Sample ID: **N043660-001AMSD**	SampType: **MSD**	TestCode: **300_S**	Units: **mg/Kg-dry**	Prep Date:	RunNo: **150007**
Client ID: **ZZZZZZ**	Batch ID: **R150007**	TestNo: **EPA 300.0**		Analysis Date: **1/11/2021**	SeqNo: **4074363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	41.577	2.1	26.69	18.83	85.2	80	120	41.16	1.02	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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID: **N043660-001APS**	SampType: **MS**	TestCode: **300_S**	Units: **mg/Kg-dry**	Prep Date:	RunNo: **150007**
Client ID: **ZZZZZZ**	Batch ID: **R150007**	TestNo: **EPA 300.0**		Analysis Date: **1/11/2021**	SeqNo: **4074364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	46.303	2.1	26.69	18.83	103	80	120				

Qualifiers:

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

CLIENT: CH2M HILL
Lab Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS
Lab ID: N043660-001

Client Sample ID: Phase Separator-611-Sludge
Collection Date: 1/4/2021 1:03:00 PM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
	EPA 3050B			**EPA 6010B**			
RunID: **NV00922-ICP2_210106E**	QC Batch: **83736**			PrepDate:	**1/6/2021**		Analyst: **DJ**
Manganese	290	1.1	21		mg/Kg-dry	1	1/6/2021 09:54 PM
TOTAL METALS BY ICP							
	EPA 3050B			**EPA 6010B**			
RunID: **NV00922-ICP2_210108A**	QC Batch: **83736**			PrepDate:	**1/6/2021**		Analyst: **DJ**
Antimony	14	0.70	4.3		mg/Kg-dry	1	1/8/2021 10:24 AM
Barium	65	0.67	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Beryllium	ND	0.46	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Cadmium	ND	0.57	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Chromium	2200	0.69	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Cobalt	4.2	0.61	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Copper	ND	1.9	4.3		mg/Kg-dry	1	1/6/2021 09:54 PM
Lead	ND	0.63	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Molybdenum	4.0	0.64	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Nickel	4.3	0.73	2.1		mg/Kg-dry	1	1/8/2021 10:24 AM
Selenium	ND	1.3	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Silver	ND	1.3	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Thallium	ND	0.76	4.3		mg/Kg-dry	1	1/6/2021 09:54 PM
Vanadium	62	0.48	2.1		mg/Kg-dry	1	1/6/2021 09:54 PM
Zinc	22	0.64	2.1		mg/Kg-dry	1	1/6/2021 09:54 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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S1PGE

Sample ID: **MB-83736**	SampType: **MBLK**	TestCode: **6010_S1PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **PBS**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068524**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	10									

Sample ID: **LCS-83736**	SampType: **LCS**	TestCode: **6010_S1PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **LCSS**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068525**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	50.503	10	50.00	0	101	80	120				

Sample ID: **N043660-001B-MS**	SampType: **MS**	TestCode: **6010_S1PGE**	Units: **mg/Kg-dry**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068529**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	411.537	21	106.6	293.1	111	75	125				

Sample ID: **N043660-001B-MSD**	SampType: **MSD**	TestCode: **6010_S1PGE**	Units: **mg/Kg-dry**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068530**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	408.096	21	106.6	293.1	108	75	125	411.5	0.839	30	

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: **MB-83736**	SampType: **MBLK**	TestCode: **6010_SPGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **PBS**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068399**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	1.0									
Beryllium	ND	1.0									
Cadmium	ND	1.0									
Chromium	ND	1.0									
Cobalt	ND	1.0									
Copper	ND	2.0									
Lead	ND	1.0									
Molybdenum	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Thallium	ND	2.0									
Vanadium	ND	1.0									
Zinc	ND	1.0									

Sample ID: **LCS-83736**	SampType: **LCS**	TestCode: **6010_SPGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **LCSS**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	25.329	1.0	25.00	0	101	85	115				
Beryllium	25.182	1.0	25.00	0	101	85	115				
Cadmium	24.629	1.0	25.00	0	98.5	85	115				
Chromium	24.969	1.0	25.00	0	99.9	85	115				
Cobalt	26.525	1.0	25.00	0	106	85	115				
Copper	24.952	2.0	25.00	0	99.8	85	115				
Lead	25.514	1.0	25.00	0	102	85	115				
Molybdenum	24.933	1.0	25.00	0	99.7	85	115				
Selenium	25.254	1.0	25.00	0	101	85	115				
Silver	28.151	1.0	25.00	0	113	85	115				
Thallium	25.534	2.0	25.00	0	102	85	115				
Vanadium	24.615	1.0	25.00	0	98.5	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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: **LCS-83736**	SampType: **LCS**	TestCode: **6010_SPGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **LCSS**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068400**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	26.176	1.0	25.00	0	105	85	115				

Sample ID: **N043660-001B-MS**	SampType: **MS**	TestCode: **6010_SPGE**	Units: **mg/Kg-dry**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068404**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	117.864	2.1	53.28	64.73	99.7	75	125				
Beryllium	55.608	2.1	53.28	0	104	75	125				
Cadmium	50.194	2.1	53.28	1.050	92.2	75	125				
Chromium	2344.253	2.1	53.28	2191	289	75	125				S
Cobalt	55.145	2.1	53.28	4.189	95.6	75	125				
Copper	61.531	4.3	53.28	4.045	108	75	125				
Lead	47.050	2.1	53.28	0	88.3	75	125				
Molybdenum	54.523	2.1	53.28	4.047	94.7	75	125				
Selenium	53.837	2.1	53.28	0	101	75	125				
Silver	73.701	2.1	53.28	0	138	75	125				S
Thallium	48.852	4.3	53.28	3.405	85.3	75	125				
Vanadium	121.493	2.1	53.28	61.94	112	75	125				
Zinc	67.527	2.1	53.28	22.17	85.1	75	125				

Sample ID: **N043660-001B-MSD**	SampType: **MSD**	TestCode: **6010_SPGE**	Units: **mg/Kg-dry**	Prep Date: **1/6/2021**	RunNo: **149877**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	117.455	2.1	53.31	64.73	98.9	75	125	117.9	0.348	20	
Beryllium	54.758	2.1	53.31	0	103	75	125	55.61	1.54	20	
Cadmium	49.821	2.1	53.31	1.050	91.5	75	125	50.19	0.746	20	
Chromium	2490.389	2.1	53.31	2191	563	75	125	2344	6.05	20	S
Cobalt	54.363	2.1	53.31	4.189	94.1	75	125	55.15	1.43	20	
Copper	62.249	4.3	53.31	4.045	109	75	125	61.53	1.16	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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: **N043660-001B-MSD** SampType: **MSD** TestCode: **6010_SPGE** Units: **mg/Kg-dry** Prep Date: **1/6/2021** RunNo: **149877**
Client ID: **ZZZZZZ** Batch ID: **83736** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **1/6/2021** SeqNo: **4068405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	46.585	2.1	53.31	0	87.4	75	125	47.05	0.992	20	
Molybdenum	55.308	2.1	53.31	4.047	96.2	75	125	54.52	1.43	20	
Selenium	53.027	2.1	53.31	0	99.5	75	125	53.84	1.52	20	
Silver	72.862	2.1	53.31	0	137	75	125	73.70	1.15	20	S
Thallium	48.460	4.3	53.31	3.405	84.5	75	125	48.85	0.804	20	
Vanadium	123.375	2.1	53.31	61.94	115	75	125	121.5	1.54	20	
Zinc	68.873	2.1	53.31	22.17	87.6	75	125	67.53	1.97	20	

Sample ID: **MB-83736** SampType: **MBLK** TestCode: **6010_SPGE** Units: **mg/Kg** Prep Date: **1/6/2021** RunNo: **149943**
Client ID: **PBS** Batch ID: **83736** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **1/8/2021** SeqNo: **4071589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
Nickel	ND	1.0									

Sample ID: **LCS-83736** SampType: **LCS** TestCode: **6010_SPGE** Units: **mg/Kg** Prep Date: **1/6/2021** RunNo: **149943**
Client ID: **LCSS** Batch ID: **83736** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **1/8/2021** SeqNo: **4071590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	25.737	2.0	25.00	0	103	85	115				
Nickel	24.769	1.0	25.00	0	99.1	85	115				

Sample ID: **N043660-001B-MS** SampType: **MS** TestCode: **6010_SPGE** Units: **mg/Kg-dry** Prep Date: **1/6/2021** RunNo: **149943**
Client ID: **ZZZZZZ** Batch ID: **83736** TestNo: **EPA 6010B** **EPA 3050B** Analysis Date: **1/8/2021** SeqNo: **4071594**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	75.552	4.3	53.28	14.22	115	75	125				
Nickel	55.634	2.1	53.28	4.306	96.3	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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: **N043660-001B-MSD**	SampType: **MSD**	TestCode: **6010_SPGE**	Units: **mg/Kg-dry**	Prep Date: **1/6/2021**	RunNo: **149943**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/8/2021**	SeqNo: **4071595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	74.256	4.3	53.31	14.22	113	75	125	75.55	1.73	20	
Nickel	54.886	2.1	53.31	4.306	94.9	75	125	55.63	1.35	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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_S1PGE

Sample ID: **N043660-001B-PS**	SampType: **PS**	TestCode: **6010_S1PGE**	Units: **mg/Kg-dry**	Prep Date:	RunNo: **149877**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068528**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	409.774	21	106.7	293.1	109	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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: **N043660-001B-PS**	SampType: **PS**	TestCode: **6010_SPGE**	Units: **mg/Kg-dry**	Prep Date:	RunNo: **149877**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/6/2021**	SeqNo: **4068403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	118.607	2.1	53.36	64.73	101	80	120				
Beryllium	58.950	2.1	53.36	0	110	80	120				
Cadmium	53.403	2.1	53.36	1.050	98.1	80	120				
Chromium	2251.154	2.1	53.36	2191	114	80	120				
Cobalt	58.506	2.1	53.36	4.189	102	80	120				
Copper	64.907	4.3	53.36	4.045	114	80	120				
Lead	50.814	2.1	53.36	0	95.2	80	120				
Molybdenum	57.809	2.1	53.36	4.047	101	80	120				
Selenium	55.838	2.1	53.36	0	105	80	120				
Silver	77.778	2.1	53.36	0	146	80	120				S
Thallium	52.300	4.3	53.36	3.405	91.6	80	120				
Vanadium	122.751	2.1	53.36	61.94	114	80	120				
Zinc	69.334	2.1	53.36	22.17	88.4	80	120				

Sample ID: **N043660-001B-PS**	SampType: **PS**	TestCode: **6010_SPGE**	Units: **mg/Kg-dry**	Prep Date:	RunNo: **149943**
Client ID: **ZZZZZZ**	Batch ID: **83736**	TestNo: **EPA 6010B**	**EPA 3050B**	Analysis Date: **1/8/2021**	SeqNo: **4071593**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	76.061	4.3	53.36	14.22	116	80	120				
Nickel	57.506	2.1	53.36	4.306	99.7	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:	CH2M HILL	**Client Sample ID:**	Phase Separator-611-Sludge
Lab Order:	N043660	**Collection Date:**	1/4/2021 1:03:00 PM
Project:	PG&E Topock, D31084A1.EV.05-OM-TS	**Matrix:**	SOIL
Lab ID:	N043660-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
EPA 3050B			**EPA 6020**				
RunID: **NV00922-ICP8_210107D**	QC Batch: **83738**			PrepDate:	**1/6/2021**		Analyst: **CEI**
Arsenic	14	0.17	0.53		mg/Kg-dry	1	1/8/2021 01:11 AM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6020_S_PGE_TPK

Sample ID: **MB-83738**	SampType: **MBLK**	TestCode: **6020_S_PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149928**
Client ID: **PBS**	Batch ID: **83738**	TestNo: **EPA 6020**	**EPA 3050B**	Analysis Date: **1/8/2021**	SeqNo: **4071173**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.25									

Sample ID: **LCS-83738**	SampType: **LCS**	TestCode: **6020_S_PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149928**
Client ID: **LCSS**	Batch ID: **83738**	TestNo: **EPA 6020**	**EPA 3050B**	Analysis Date: **1/8/2021**	SeqNo: **4071174**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	4.917	0.25	5.000	0	98.3	85	115				

Sample ID: **N043660-001B-MS**	SampType: **MS**	TestCode: **6020_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/6/2021**	RunNo: **149928**
Client ID: **ZZZZZZ**	Batch ID: **83738**	TestNo: **EPA 6020**	**EPA 3050B**	Analysis Date: **1/8/2021**	SeqNo: **4071182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.792	0.53	10.63	14.48	106	75	125				

Sample ID: **N043660-001B-MSD**	SampType: **MSD**	TestCode: **6020_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/6/2021**	RunNo: **149928**
Client ID: **ZZZZZZ**	Batch ID: **83738**	TestNo: **EPA 6020**	**EPA 3050B**	Analysis Date: **1/8/2021**	SeqNo: **4071184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	25.383	0.53	10.69	14.48	102	75	125	25.79	1.60	20	

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	CH2M HILL	**Client Sample ID:**	Phase Separator-611-Sludge
Lab Order:	N043660	**Collection Date:**	1/4/2021 1:03:00 PM
Project:	PG&E Topock, D31084A1.EV.05-OM-TS	**Matrix:**	SOIL
Lab ID:	N043660-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 3060A			**EPA 7199**				
RunID: **NV00922-IC6_210119A**	QC Batch: **83900**			PrepDate:	**1/18/2021**		Analyst: **RAB**
Hexavalent Chromium	52	0.62	2.1		mg/Kg-dry	5	1/19/2021 01:28 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_S_PGE

Sample ID: **MB-83900**	SampType: **MBLK**	TestCode: **7199_S_PGE**	Units: **mg/Kg**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **PBS**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081466**

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-83900**	SampType: **LCS**	TestCode: **7199_S_PGE**	Units: **mg/Kg**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **LCSS**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.909	0.20	4.000	0	97.7	80	120				

Sample ID: **N043726-001A-REP**	SampType: **DUP**	TestCode: **7199_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **ZZZZZZ**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081469**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.073	0.21						0.06390	0	20	

Sample ID: **N043726-001A-DUP**	SampType: **DUP**	TestCode: **7199_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **ZZZZZZ**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081470**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	0.075	0.21						0.06390	0	20	

Sample ID: **N043726-001A-MS**	SampType: **MS**	TestCode: **7199_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **ZZZZZZ**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.046	0.21	4.103	0.06390	97.1	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: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_S_PGE

Sample ID: **N043726-001A-MSD**	SampType: **MSD**	TestCode: **7199_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **ZZZZZZ**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.067	0.20	4.095	0.06390	97.8	75	125	4.046	0.502	20	

Sample ID: **N043726-001A-MS I**	SampType: **MS**	TestCode: **7199_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **ZZZZZZ**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081473**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	649.189	10	679.6	0.06390	95.5	75	125				

Sample ID: **N043660-001B-REP**	SampType: **DUP**	TestCode: **7199_S_PGE**	Units: **mg/Kg-dry**	Prep Date: **1/18/2021**	RunNo: **150169**
Client ID: **ZZZZZZ**	Batch ID: **83900**	TestNo: **EPA 7199**	**EPA 3060A**	Analysis Date: **1/19/2021**	SeqNo: **4081475**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	52.937	2.1						52.24	1.33	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: CH2M HILL
Lab Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS
Lab ID: N043660-001

Client Sample ID: Phase Separator-611-Sludge
Collection Date: 1/4/2021 1:03:00 PM
Matrix: SOIL

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL MERCURY BY COLD VAPOR TECHNIQUE							
EPA 7471A							
RunID: **NV00922-AA2_210106A** QC Batch: **83737**					PrepDate: **1/6/2021**		Analyst: **DJ**
Mercury	ND	0.057	0.21		mg/Kg-dry	1	1/6/2021 11:59 AM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 7471_S_PGE

Sample ID: **MB-83737**	SampType: **MBLK**	TestCode: **7471_S_PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149859**
Client ID: **PBS**	Batch ID: **83737**	TestNo: **EPA 7471A**		Analysis Date: **1/6/2021**	SeqNo: **4067351**

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

Sample ID: **LCS-83737**	SampType: **LCS**	TestCode: **7471_S_PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149859**
Client ID: **LCSS**	Batch ID: **83737**	TestNo: **EPA 7471A**		Analysis Date: **1/6/2021**	SeqNo: **4067352**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.452	0.10	0.4167	0	108	75	125				

Sample ID: **N043638-002A-MS**	SampType: **MS**	TestCode: **7471_S_PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149859**
Client ID: **ZZZZZZ**	Batch ID: **83737**	TestNo: **EPA 7471A**		Analysis Date: **1/6/2021**	SeqNo: **4067357**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.553	0.099	0.4112	0.05209	122	75	125				

Sample ID: **N043638-002A-MSD**	SampType: **MSD**	TestCode: **7471_S_PGE**	Units: **mg/Kg**	Prep Date: **1/6/2021**	RunNo: **149859**
Client ID: **ZZZZZZ**	Batch ID: **83737**	TestNo: **EPA 7471A**		Analysis Date: **1/6/2021**	SeqNo: **4067358**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.484	0.099	0.4139	0.05209	104	75	125	0.5535	13.3	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:	CH2M HILL	**Client Sample ID:**	Phase Separator-611-Sludge
Lab Order:	N043660	**Collection Date:**	1/4/2021 1:03:00 PM
Project:	PG&E Topock, D31084A1.EV.05-OM-TS	**Matrix:**	SOIL
Lab ID:	N043660-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
PERCENT MOISTURE							
			D2216				
RunID: **NV00922-WC_210106B**	QC Batch: **R149856**			PrepDate:			Analyst: **LR**
Percent Moisture	53.17	0.1000	0.1000		wt%	1	1/6/2021 10:30 AM

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

CLIENT: CH2M HILL
Work Order: N043660
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: PMOIST

Sample ID: **MB-R149856**	SampType: **MBLK**	TestCode: **PMOIST**	Units: **wt%**	Prep Date:	RunNo: **149856**
Client ID: **PBS**	Batch ID: **R149856**	TestNo: **D2216**		Analysis Date: **1/6/2021**	SeqNo: **4067273**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.1000									

Sample ID: **N043660-001BDUP**	SampType: **DUP**	TestCode: **PMOIST**	Units: **wt%**	Prep Date:	RunNo: **149856**
Client ID: **ZZZZZZ**	Batch ID: **R149856**	TestNo: **D2216**		Analysis Date: **1/6/2021**	SeqNo: **4067281**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	53.039	0.1000						53.17	0.250	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		

SAMPLE RECEIVING ITEMS

JACOBS

CHAIN OF CUSTODY RECORD

PROJECT INFORMATION

COC Number 611-IM3-SLUDGE
Project Manager Scott O'Donnell
Sample Manager Shawn Duffy

Name PG&E Topock
Project IM3PLANT-ARAR-WDR-611-SLUDGE
Location PG&E Topock
Project Number D31084A1.EV.05-OM-TS
Task Order
Turnaround Time 10 Days
Shipping Date: 1/5/2021

	Container:	Glass Jar(8 oz)	Glass Jar(8 oz)	4 oz jar				
	Preservatives:	none	none	4°C				
	Filtered:	NA	NA	NA				
	Holding Time:	NA	NA	180				
		Anions (E300_Soil) F only	Metals (6010B_Soil) Title 22, Mercury, Mn	Metals (7199) Hex Cr			Number of Containers	COMMENTS
Phase Separator-611-Sludge	DATE 1-4-21 TIME 1303 Matrix Soil	X	X	X	N043660-01		2	
						TOTAL NUMBER OF CONTAINERS	2	

Signatures		Date/Time
Approved by		1-4-2021 1410
Sampled by	Cameron Stone	1-4-21 1303
Relinquished by	Cameron Stone	1-5-21 1940
Received by		1/5/21 @ 1840
Relinquished by		1/5/21 @ 1745
Received by	Jeaphine Edgin	1/5/21 1745

Shipping Details
Method of Shipment: FedEx
On Ice: (yes) / no 1.3°C
Airbill No: ICE IRH 2
Lab Name: ASSET Laboratories
Lab Phone: (702) 307-2659

ATTN:
Sample Custody
and
Marlon Cartin

Special Instructions:

Report Copy to
Mark Fesler
(530) 229-3273

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:	1/5/2021	Workorder:	N043660
Rep sample Temp (Deg C):	1.3	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☐	NA ☑
15. Did the bottle labels indicate correct preservatives used?	Yes ☐	No ☐	NA ☑
16. Were there Non-Conformance issues at login?	Yes ☐	No ☐	NA ☑
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments:

For:

Checklist Completed By: YR BHdez 1/6/2021

Reviewed By: MBC 01/06/2021

ASSET Laboratories

WORK ORDER Summary

06-Jan-21

WorkOrder: N043660

Client ID: CH2HI01

Project: PG&E Topock, D31084A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 1/5/2021

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N043660-001A	Phase Separator-611-Sludge	1/4/2021 1:03:00 PM	1/19/2021	Soil	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WS
N043660-001B			1/19/2021		EPA 3050B	SOPREP TOTAL METALS	☐	☐	☐	WS
			1/19/2021		EPA 3050B	SOPREP TOTAL METALS	☐	☐	☐	WS
			1/19/2021		EPA 3050B	SOPREP TOTAL METALS	☐	☐	☐	WS
			1/19/2021		EPA 3060A	Prep for Hexavalend Chromium	☐	☐	☐	WS
			1/19/2021		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WS
			1/19/2021		EPA 6010B	TOTAL METALS BY ICP	☐	☐	☐	WS
			1/19/2021		EPA 6020	TOTAL METALS BY ICPMS	☐	☐	☐	WS
			1/19/2021		EPA 7199	Hexavalent Chromium by IC	☐	☐	☐	WS
			1/19/2021			MERCURY PREP	☐	☐	☐	WS
			1/19/2021		EPA 7471A	TOTAL MERCURY BY COLD VAPOR TECHNIQUE	☐	☐	☐	WS
			1/19/2021		D2216	PERCENT MOISTURE	☐	☐	☐	WS
N043660-002A	FOLDER	1/19/2021	1/19/2021		Folder	Folder	☐	☐	☐	LAB
			1/19/2021		Folder	Level IV Report	☐	☐	☐	LAB
			1/19/2021		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: N043660

NAME	TEST METHOD
Claire Ignacio	EPA 6020
Lilia Ramit	ASTM D2216
Ria Abes	EPA 300.0, EPA 7199
Diane Jetajobe	EPA 6010B, EPA 7471A

March 19, 2021

Mark Fesler/RDD
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

TEL: (530) 229-3273
FAX: (510) 622-9129

Workorder No.: N044544

RE: PG&E Topock, D31084A1.EV.05-OM-TS

Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on March 12, 2021 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock, D31084A1.EV.05-OM-TS
Lab Order: N044544

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

This is an addendum for workorder N043660.

ASSET Laboratories

Date: *19-Mar-21*

CLIENT: CH2M HILL
Project: PG&E Topock, D31084A1.EV.05-OM-TS
Lab Order: N044544
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N044544-001A	Phase Separator-611-Sludge	Soil	1/4/2021 1:03:00 PM	3/12/2021	3/19/2021

CLIENT:	CH2M HILL	**Client Sample ID:**	Phase Separator-611-Sludge
Lab Order:	N044544	**Collection Date:**	1/4/2021 1:03:00 PM
Project:	PG&E Topock, D31084A1.EV.05-OM-TS	**Matrix:**	SOIL
Lab ID:	N044544-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ICP METALS BY TCLP EXTRACTION							
EPA 3010A			**EPA 1311/ 6010B**				
RunID: **NV00922-ICP2_210316D**	QC Batch: **85678**			PrepDate:	**3/16/2021**		Analyst: **DJ**
Chromium	ND	0.00054	0.050		mg/L	1	3/16/2021 01:45 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044544
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_TC

Sample ID	MB-85678	SampType:	MBLK	TestCode:	6010_TC	Units:	mg/L	Prep Date:	3/16/2021	RunNo:	151432
Client ID:	PBS	Batch ID:	85678	TestNo:	EPA 1311/ 60	EPA 3010A		Analysis Date:	3/16/2021	SeqNo:	4146910

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									

Sample ID	MB1-85661 TCLP	SampType:	MBLK	TestCode:	6010_TC	Units:	mg/L	Prep Date:	3/16/2021	RunNo:	151432
Client ID:	PBS	Batch ID:	85678	TestNo:	EPA 1311/ 60	EPA 3010A		Analysis Date:	3/16/2021	SeqNo:	4146911

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									

Sample ID	MB2-85661 TCLP	SampType:	MBLK	TestCode:	6010_TC	Units:	mg/L	Prep Date:	3/16/2021	RunNo:	151432
Client ID:	PBS	Batch ID:	85678	TestNo:	EPA 1311/ 60	EPA 3010A		Analysis Date:	3/16/2021	SeqNo:	4146912

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.050									

Sample ID	LCS-85678	SampType:	LCS	TestCode:	6010_TC	Units:	mg/L	Prep Date:	3/16/2021	RunNo:	151432
Client ID:	LCSS	Batch ID:	85678	TestNo:	EPA 1311/ 60	EPA 3010A		Analysis Date:	3/16/2021	SeqNo:	4146913

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.510	0.050	0.5000	0	102	85	115				

Sample ID	N044565-001A-MS	SampType:	MS	TestCode:	6010_TC	Units:	mg/L	Prep Date:	3/16/2021	RunNo:	151432
Client ID:	ZZZZZZ	Batch ID:	85678	TestNo:	EPA 1311/ 60	EPA 3010A		Analysis Date:	3/16/2021	SeqNo:	4146919

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.476	0.050	0.5000	0.004937	94.2	75	125				

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: CH2M HILL
Work Order: N044544
Project: PG&E Topock, D31084A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_TC

Sample ID	N044565-001A-MSD	SampType:	MSD	TestCode:	6010_TC	Units:	mg/L	Prep Date:	3/16/2021	RunNo:	151432
Client ID:	ZZZZZZ	Batch ID:	85678	TestNo:	EPA 1311/ 60	EPA 3010A		Analysis Date:	3/16/2021	SeqNo:	4146922

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.454	0.050	0.5000	0.004937	89.8	75	125	0.4759	4.77	20	

Sample ID	N044565-009A-MS	SampType:	MS	TestCode:	6010_TC	Units:	mg/L	Prep Date:	3/16/2021	RunNo:	151432
Client ID:	ZZZZZZ	Batch ID:	85678	TestNo:	EPA 1311/ 60	EPA 3010A		Analysis Date:	3/16/2021	SeqNo:	4146939

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.450	0.050	0.5000	0.004478	89.2	75	125				

Qualifiers:

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

SAMPLE RECEIVING ITEMS

Sample Control

From: Marlon Cartin <marlon@assetlaboratories.com>
Sent: Friday, March 12, 2021 3:45 PM
To: 'Sample Control'; 'Yoandra Rodriguez'
Subject: FW: [EXTERNAL] PG&E Topock, D31084A1.EV.05-OM-TS (ASSET Labs No.N043660)

Please process request.

Thanks,

Marlon Cartin
Sr. Project Manager
California: 11110 Artesia Blvd., Ste. B, Cerritos, CA 90703 | **P:** 562.219.7435 | **F:** 562.219.7436
Nevada: 3151 W. Post Road, Las Vegas, NV 89118 | **P:** 702.307.2659 Ext. 410 | **F:** 702.307.2691 | **M:** 702.439.0421
www.assetlaboratories.com

From: Fesler, Mark/RDD <Mark.Fesler@jacobs.com>
Sent: Friday, March 12, 2021 1:51 PM
To: nancy@assetlaboratories.com
Cc: Marlon B. Cartin <marlon@assetlaboratories.com>; Lindquist, Jenny <Jenny.Lindquist@jacobs.com>; Redmond, Andrew/BAO <Andrew.Redmond@jacobs.com>; Mullin, Kevin/HEI <Kevin.Mullin@jacobs.com>
Subject: RE: [EXTERNAL] PG&E Topock, D31084A1.EV.05-OM-TS (ASSET Labs No.N043660)

Nancy:

Does the lab still have sample available for N043660-01, and if so, is it possible to request TCLP Chromium to be performed on the sludge sample?

Please let us know. Thanks

Mark Fesler | Jacobs | Environmental Scientist/Talent Supervisor
O: 1 530 229 3273 | M: 530 524 8041 | mark.fesler@jacobs.com
2525 Airpark Dr | Redding CA 96001 | USA

From: Reports LV <reports.lv@assetlaboratories.com>
Sent: Tuesday, January 19, 2021 5:18 PM
To: Fesler, Mark/RDD <Mark.Fesler@jacobs.com>
Cc: SWR/RDD Electronic Data <edata@jacobs.com>; Marlon B. Cartin <marlon@assetlaboratories.com>
Subject: [EXTERNAL] PG&E Topock, D31084A1.EV.05-OM-TS (ASSET Labs No.N043660)

Enclosed are the level 2report and EDD for the above project.

ASSET Laboratories

Please review the checklist below. Any NO and/or NA 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.

Change Order Checklist

Client Name: **CH2HI01**

Date / Time Created: **3/12/2021 5:07:30 PM**

Work Order Number: **N044544**

Created by: **YR**

Checklist completed by: YRJ (Signature) 3/12/2021 (Date)

Reviewed by: MBC (Initials) 3/15/2021 (Date)

1. All samples within holding time?	Yes ☑	No ☐
2. Refrigerator temperature in compliance?	Yes ☑	No ☐
3. Change Order documents present?	Yes ☑	No ☐

Comments:

ASSET Laboratories

WORK ORDER Summary

12-Mar-21

WorkOrder: N044544

Client ID: CH2HI01

Project: PG&E Topock, D31084A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 3/12/2021

Comments: Addendum WO for N043660

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N044544-001A	Phase Separator-611-Sludge	1/4/2021 1:03:00 PM	3/19/2021	Soil	EPA 1311	TCLP Sample Prep (Metals)	☐	☐	☐	WS
			3/19/2021		EPA 3010A	AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WS
			3/19/2021		EPA 1311/ 6010B	ICP METALS by TCLP Extraction	☐	☐	☐	WS
N044544-002A	FOLDER	3/19/2021	3/19/2021		Folder	Folder	☐	☐	☐	LAB

List of Analysts

ASSET Laboratories Work Order: N044544

NAME	TEST METHOD
Diane Jetajobe	EPA 6010B_TCLP

February 15, 2021

Mark Fesler/RDD
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

TEL: (530) 229-3273
FAX: (510) 622-9129

Workorder No.: N044026

RE: PG&E Topock, D3184A1.EV.05-OM-TS

Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on February 02, 2021 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N044026

CASE NARRATIVE

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs- Bakersfield,CA.

Analytical Comments for EPA 200.7:

Matrix Spike Duplicate (MSD) is outside recovery and RPD criteria for Iron in QC sample N044026-001C-MSD1 possibly due to matrix interference. Post Spike (PS) passed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 200.8:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N044024-001EMS and N044024-001EMSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

ASSET Laboratories

Date: *15-Feb-21*

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N044026
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N044026-001A	SC-100B-WDR-612	Water	2/2/2021 1:05:00 PM	2/2/2021	2/15/2021
N044026-001B	SC-100B-WDR-612	Water	2/2/2021 1:05:00 PM	2/2/2021	2/15/2021
N044026-001C	SC-100B-WDR-612	Water	2/2/2021 1:05:00 PM	2/2/2021	2/15/2021
N044026-001D	SC-100B-WDR-612	Water	2/2/2021 1:05:00 PM	2/2/2021	2/15/2021
N044026-002A	SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	2/2/2021	2/15/2021
N044026-002B	SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	2/2/2021	2/15/2021
N044026-002C	SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	2/2/2021	2/15/2021
N044026-002D	SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	2/2/2021	2/15/2021
N044026-002E	SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	2/2/2021	2/15/2021
N044026-002F	SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	2/2/2021	2/15/2021

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:05:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_210203B**	QC Batch: **R150499**			PrepDate:			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	2/3/2021 12:05 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:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_210203B**	QC Batch: **R150499**			PrepDate:			Analyst: **LR**
Specific Conductance	7400	0.10	0.10		umhos/cm	1	2/3/2021 12:05 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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N044026-001ADUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **150499**
Client ID: **ZZZZZZ** Batch ID: **R150499** TestNo: **EPA 120.1** Analysis Date: **2/3/2021** SeqNo: **4097088**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7390.000	0.10						7360	0.407	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:05:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_210203J**	QC Batch: **85107**				PrepDate:	**2/3/2021**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	2/3/2021 01:53 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_210203J**	QC Batch: **85107**				PrepDate:	**2/3/2021**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4400	50	50		mg/L	1	2/3/2021 01:53 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-85107**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **2/3/2021**	RunNo: **150564**
Client ID: **LCSW**	Batch ID: **85107**	TestNo: **SM2540C**		Analysis Date: **2/3/2021**	SeqNo: **4100111**

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

Sample ID: **MB-85107**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **2/3/2021**	RunNo: **150564**
Client ID: **PBW**	Batch ID: **85107**	TestNo: **SM2540C**		Analysis Date: **2/3/2021**	SeqNo: **4100112**

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

Sample ID: **N044031-004BDUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **2/3/2021**	RunNo: **150564**
Client ID: **ZZZZZZ**	Batch ID: **85107**	TestNo: **SM2540C**		Analysis Date: **2/3/2021**	SeqNo: **4100120**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filterabl	51700.000	500						52000	0.579	5	

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:05:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_210210B**	QC Batch: **85169**				PrepDate:	**2/9/2021**	Analyst: **DJ**
Iron	57	18	20		µg/L	1	2/10/2021 02:15 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_210210B**	QC Batch: **85169**			PrepDate:		**2/9/2021**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	2/10/2021 02:41 PM
Boron	1100	74	100		µg/L	1	2/15/2021 09:58 AM
Iron	62	18	20		µg/L	1	2/10/2021 02:41 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **N044026-001C-MS1**	SampType: **MS**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150644**
Client ID: **ZZZZZZ**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/10/2021**	SeqNo: **4104560**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9283.018	50	10000	0	92.8	75	125				
Iron	173.618	20	100.0	57.32	116	75	125				

Sample ID: **N044026-001C-MSD1**	SampType: **MSD**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150644**
Client ID: **ZZZZZZ**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/10/2021**	SeqNo: **4104561**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9285.768	50	10000	0	92.9	75	125	9283	0.0296	20	
Iron	126.966	20	100.0	57.32	69.6	75	125	173.6	31.0	20	SR

Sample ID: **MB-85169**	SampType: **MBLK**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150644**
Client ID: **PBW**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/10/2021**	SeqNo: **4104566**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									
Iron	ND	20									

Sample ID: **LCS1-85169**	SampType: **LCS**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150644**
Client ID: **LCSW**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/10/2021**	SeqNo: **4104567**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9338.994	50	10000	0	93.4	85	115				
Iron	106.618	20	100.0	0	107	85	115				

Sample ID: **MB-85169**	SampType: **MBLK**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150723**
Client ID: **PBW**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/15/2021**	SeqNo: **4107937**

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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **MB-85169**	SampType: **MBLK**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150723**
Client ID: **PBW**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/15/2021**	SeqNo: **4107937**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	100									

Sample ID: **LCS1-85169**	SampType: **LCS**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150723**
Client ID: **LCSW**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/15/2021**	SeqNo: **4107939**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4684.461	100	5000	0	93.7	85	115				

Sample ID: **N044026-001C-MS1**	SampType: **MS**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150723**
Client ID: **ZZZZZZ**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/15/2021**	SeqNo: **4107943**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6331.766	100	5000	905.1	109	75	125				

Sample ID: **N044026-001C-MSD1**	SampType: **MSD**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date: **2/9/2021**	RunNo: **150723**
Client ID: **ZZZZZZ**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/15/2021**	SeqNo: **4107944**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6308.416	100	5000	905.1	108	75	125	6332	0.369	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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **N044026-001C-PS**	SampType: **PS**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date:	RunNo: **150644**
Client ID: **ZZZZZZ**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/10/2021**	SeqNo: **4104559**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9280.837	50	10000	0	92.8	80	120				
Iron	152.885	20	100.0	57.32	95.6	80	120				

Sample ID: **N044026-001C-PS**	SampType: **PS**	TestCode: **200.7_WPGEP**	Units: **µg/L**	Prep Date:	RunNo: **150723**
Client ID: **ZZZZZZ**	Batch ID: **85169**	TestNo: **EPA 200.7**		Analysis Date: **2/15/2021**	SeqNo: **4107942**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6427.931	100	5000	905.1	110	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: CH2M HILL
Lab Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N044026-001

Client Sample ID: SC-100B-WDR-612
Collection Date: 2/2/2021 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_210203A**	QC Batch: **R150530**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	430	1.7	10		µg/L	50	2/3/2021 12:15 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210205D**	QC Batch: **85115**			PrepDate:	**2/4/2021**		Analyst: **CEI**
Chromium	430	0.65	5.0		µg/L	5	2/6/2021 01:43 AM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_210203A**	QC Batch: **R150530**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	0.32	0.033	0.20		µg/L	1	2/3/2021 12:34 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210205D**	QC Batch: **85115**			PrepDate:	**2/4/2021**		Analyst: **CEI**
Chromium	1.1	0.13	1.0		µg/L	1	2/6/2021 01:49 AM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: **MB-85115**	SampType: **MBLK**	TestCode: **200.8_W_CRP**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150607**
Client ID: **PBW**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/6/2021**	SeqNo: **4102305**

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

Sample ID: **LCS-85115**	SampType: **LCS**	TestCode: **200.8_W_CRP**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150607**
Client ID: **LCSW**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/6/2021**	SeqNo: **4102306**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	10.234	1.0	10.00	0	102	85	115				

Sample ID: **N044024-001EMS**	SampType: **MS**	TestCode: **200.8_W_CRP**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150607**
Client ID: **ZZZZZZ**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/6/2021**	SeqNo: **4102312**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	104.311	1.0	10.00	97.44	68.7	75	125				S

Sample ID: **N044024-001EMSD**	SampType: **MSD**	TestCode: **200.8_W_CRP**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150607**
Client ID: **ZZZZZZ**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/6/2021**	SeqNo: **4102316**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	104.888	1.0	10.00	97.44	74.5	75	125	104.3	0.552	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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: **MB-R150530**	SampType: **MBLK**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:	RunNo: **150530**
Client ID: **PBW**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**	SeqNo: **4098716**

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-R150530**	SampType: **LCS**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:	RunNo: **150530**
Client ID: **LCSW**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**	SeqNo: **4098717**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.914	0.20	5.000	0	98.3	90	110				

Sample ID: **N044026-001BMS**	SampType: **MS**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:	RunNo: **150530**
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**	SeqNo: **4098729**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	673.620	10	250.0	434.3	95.7	90	110				

Sample ID: **N044026-002CMS**	SampType: **MS**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:	RunNo: **150530**
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**	SeqNo: **4098731**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.341	0.20	1.000	0.3240	102	90	110				

Sample ID: **N044023-001AMS**	SampType: **MS**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:	RunNo: **150530**
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**	SeqNo: **4098732**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.991	0.20	1.000	2.043	94.8	90	110				

Qualifiers:

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

Calculations are based on raw values

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: **N044023-001ADUP**	SampType: **DUP**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:				RunNo: **150530**			
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**				SeqNo: **4098733**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.033	0.20						2.043	0.501	20	

Sample ID: **N044024-001AMS**	SampType: **MS**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:				RunNo: **150530**			
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**				SeqNo: **4098734**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	135.025	2.0	50.00	84.66	101	90	110				

Sample ID: **N044024-001AMSD**	SampType: **MSD**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:				RunNo: **150530**			
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**				SeqNo: **4098735**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	134.982	2.0	50.00	84.66	101	90	110	135.0	0.0319	20	

Sample ID: **N044025-003AMS**	SampType: **MS**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:				RunNo: **150530**			
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**				SeqNo: **4098736**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.336	0.20	1.000	2.328	101	90	110				

Sample ID: **N044025-003AMSD**	SampType: **MSD**	TestCode: **218.6_WU_PG**	Units: **µg/L**	Prep Date:				RunNo: **150530**			
Client ID: **ZZZZZZ**	Batch ID: **R150530**	TestNo: **EPA 218.6**		Analysis Date: **2/3/2021**				SeqNo: **4098737**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.325	0.20	1.000	2.328	99.7	90	110	3.336	0.354	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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: **N044024-001E-PS** SampType: **PS** TestCode: **200.8_W_CRP** Units: **µg/L** Prep Date: RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102310**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	101.424	1.0	10.00	97.44	39.9	80	120				S

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:05:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: **NV00922-ICP8_210205D** QC Batch: **85115**				PrepDate:		**2/4/2021**	Analyst: **CEI**
Manganese	6.4	0.26	0.50		µg/L	1	2/6/2021 01:37 AM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210205D**	QC Batch: **85115**				PrepDate:	**2/4/2021**	Analyst: **CEI**
Antimony	ND	0.16	0.50		µg/L	1	2/6/2021 01:49 AM
Arsenic	ND	0.081	0.10		µg/L	1	2/6/2021 01:49 AM
Barium	20	0.15	1.0		µg/L	1	2/10/2021 09:58 AM
Copper	ND	0.55	1.0		µg/L	1	2/10/2021 09:58 AM
Lead	ND	0.13	1.0		µg/L	1	2/6/2021 01:49 AM
Manganese	14	0.26	0.50		µg/L	1	2/6/2021 01:49 AM
Molybdenum	20	0.21	0.50		µg/L	1	2/6/2021 01:49 AM
Nickel	ND	0.26	1.0		µg/L	1	2/6/2021 01:49 AM
Zinc	ND	2.3	10		µg/L	1	2/6/2021 01:49 AM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **MB-85115** SampType: **MBLK** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: **2/4/2021** RunNo: **150607**
Client ID: **PBW** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102455**

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									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Nickel	ND	1.0									
Zinc	ND	10									

Sample ID: **LCS-85115** SampType: **LCS** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: **2/4/2021** RunNo: **150607**
Client ID: **LCSW** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102456**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.760	0.50	10.00	0	108	85	115				
Arsenic	10.664	0.10	10.00	0	107	85	115				
Lead	9.682	1.0	10.00	0	96.8	85	115				
Manganese	101.294	0.50	100.0	0	101	85	115				
Molybdenum	10.221	0.50	10.00	0	102	85	115				
Nickel	9.903	1.0	10.00	0	99.0	85	115				
Zinc	98.455	10	100.0	0	98.5	85	115				

Sample ID: **N044024-001EMS** SampType: **MS** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: **2/4/2021** RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.235	0.50	10.00	0	102	75	125				
Arsenic	12.161	0.10	10.00	1.883	103	75	125				
Lead	9.678	1.0	10.00	0	96.8	75	125				
Molybdenum	13.748	0.50	10.00	3.075	107	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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **N044024-001EMS** SampType: **MS** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: **2/4/2021** RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102462**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	8.925	1.0	10.00	0	89.3	75	125				
Zinc	108.307	10	100.0	22.52	85.8	75	125				

Sample ID: **N044024-001EMS** SampType: **MS** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: **2/4/2021** RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102463**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	503.756	2.5	100.0	424.7	79.1	75	125				

Sample ID: **N044024-001EMSD** SampType: **MSD** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: **2/4/2021** RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102466**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.386	0.50	10.00	0	104	75	125	10.24	1.46	20	
Arsenic	12.283	0.10	10.00	1.883	104	75	125	12.16	0.994	20	
Lead	9.596	1.0	10.00	0	96.0	75	125	9.678	0.855	20	
Molybdenum	13.734	0.50	10.00	3.075	107	75	125	13.75	0.108	20	
Nickel	9.037	1.0	10.00	0	90.4	75	125	8.925	1.25	20	
Zinc	109.379	10	100.0	22.52	86.9	75	125	108.3	0.985	20	

Sample ID: **N044024-001EMSD** SampType: **MSD** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: **2/4/2021** RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102467**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	512.395	2.5	100.0	424.7	87.7	75	125	503.8	1.70	20	

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **MB-85115**	SampType: **MBLK**	TestCode: **200.8_W_TPK**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150652**
Client ID: **PBW**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/10/2021**	SeqNo: **4104672**

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

Sample ID: **LCS-85115**	SampType: **LCS**	TestCode: **200.8_W_TPK**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150652**
Client ID: **LCSW**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/10/2021**	SeqNo: **4104673**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	10.474	1.0	10.00	0	105	85	115				
Copper	10.215	1.0	10.00	0	102	85	115				

Sample ID: **N044024-001EMS**	SampType: **MS**	TestCode: **200.8_W_TPK**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150652**
Client ID: **ZZZZZZ**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/10/2021**	SeqNo: **4104677**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	109.409	1.0	10.00	103.2	62.3	75	125				S
Copper	10.574	1.0	10.00	1.731	88.4	75	125				

Sample ID: **N044024-001EMSD**	SampType: **MSD**	TestCode: **200.8_W_TPK**	Units: **µg/L**	Prep Date: **2/4/2021**	RunNo: **150652**
Client ID: **ZZZZZZ**	Batch ID: **85115**	TestNo: **EPA 200.8**		Analysis Date: **2/10/2021**	SeqNo: **4104678**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	111.464	1.0	10.00	103.2	82.8	75	125	109.4	1.86	20	
Copper	10.600	1.0	10.00	1.731	88.7	75	125	10.57	0.244	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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **N044024-001E-PS** SampType: **PS** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102460**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.269	0.50	10.00	0	103	80	120				
Arsenic	11.912	0.10	10.00	1.883	100	80	120				
Lead	9.820	1.0	10.00	0	98.2	80	120				
Molybdenum	13.634	0.50	10.00	3.075	106	80	120				
Nickel	9.012	1.0	10.00	0	90.1	80	120				
Zinc	109.407	10	100.0	22.52	86.9	80	120				

Sample ID: **N044024-001E-PS** SampType: **PS** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: RunNo: **150607**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/6/2021** SeqNo: **4102461**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	493.523	2.5	100.0	424.7	68.8	80	120				S

Sample ID: **N044024-001E-PS** SampType: **PS** TestCode: **200.8_W_TPK** Units: **µg/L** Prep Date: RunNo: **150652**
Client ID: **ZZZZZZ** Batch ID: **85115** TestNo: **EPA 200.8** Analysis Date: **2/10/2021** SeqNo: **4104676**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	106.773	1.0	10.00	103.2	35.9	80	120				S
Copper	10.797	1.0	10.00	1.731	90.7	80	120				

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:05:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_210203E**	QC Batch: **R150503**			PrepDate:			Analyst: **LR**
Turbidity	0.21	0.10	0.10		NTU	1	2/3/2021 03:30 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_210203E**	QC Batch: **R150503**			PrepDate:			Analyst: **LR**
Turbidity	0.23	0.10	0.10		NTU	1	2/3/2021 03:30 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID: **MB-R150503**	SampType: **MBLK**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **150503**
Client ID: **PBW**	Batch ID: **R150503**	TestNo: **SM 2130B**		Analysis Date: **2/3/2021**	SeqNo: **4097113**

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

Sample ID: **N044016-001KDUP**	SampType: **DUP**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **150503**
Client ID: **ZZZZZZ**	Batch ID: **R150503**	TestNo: **SM 2130B**		Analysis Date: **2/3/2021**	SeqNo: **4097115**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	0.450	0.10						0.4900	8.51	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:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210205B** QC Batch: **R150570**				PrepDate:			Analyst: **RAB**
Fluoride	2.1	0.048	0.50		mg/L	5	2/6/2021 01:32 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210204A** QC Batch: **R150547**				PrepDate:			Analyst: **RAB**
Sulfate	490	2.0	25		mg/L	50	2/4/2021 04:30 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R150570_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **150570**		
Client ID: **PBW**	Batch ID: **R150570**	TestNo: **EPA 300.0**		Analysis Date: **2/5/2021**				SeqNo: **4100610**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **LCS-R150570_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **150570**		
Client ID: **LCSW**	Batch ID: **R150570**	TestNo: **EPA 300.0**		Analysis Date: **2/5/2021**				SeqNo: **4100611**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.312	0.10	1.250	0	105	90	110				

Sample ID: **N044026-002BDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **150570**		
Client ID: **ZZZZZZ**	Batch ID: **R150570**	TestNo: **EPA 300.0**		Analysis Date: **2/6/2021**				SeqNo: **4100621**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.394	0.50						2.113	12.4	20	

Sample ID: **N044026-002BMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **150570**		
Client ID: **ZZZZZZ**	Batch ID: **R150570**	TestNo: **EPA 300.0**		Analysis Date: **2/6/2021**				SeqNo: **4100622**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.809	0.50	6.250	2.113	107	80	120	8.928	1.34	20	

Sample ID: **N044026-002BMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:				RunNo: **150570**		
Client ID: **ZZZZZZ**	Batch ID: **R150570**	TestNo: **EPA 300.0**		Analysis Date: **2/6/2021**				SeqNo: **4100623**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.928	0.50	6.250	2.113	109	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: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: MB-R150547_SO4	SampType: MBLK	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 150547
Client ID: PBW	Batch ID: R150547	TestNo: EPA 300.0		Analysis Date: 2/4/2021	SeqNo: 4099200

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

Sample ID: LCS-R150547_SO4	SampType: LCS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 150547
Client ID: LCSW	Batch ID: R150547	TestNo: EPA 300.0		Analysis Date: 2/4/2021	SeqNo: 4099201

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	3.984	0.50	4.000	0	99.6	90	110				

Sample ID: N044026-002BMS	SampType: MS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 150547
Client ID: ZZZZZZ	Batch ID: R150547	TestNo: EPA 300.0		Analysis Date: 2/4/2021	SeqNo: 4099205

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	701.010	25	200.0	491.5	105	80	120				

Sample ID: N044026-002BMSD	SampType: MSD	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 150547
Client ID: ZZZZZZ	Batch ID: R150547	TestNo: EPA 300.0		Analysis Date: 2/4/2021	SeqNo: 4099206

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	700.895	25	200.0	491.5	105	80	120	701.0	0.0164	20	

Sample ID: N044031-002BDUP	SampType: DUP	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 150547
Client ID: ZZZZZZ	Batch ID: R150547	TestNo: EPA 300.0		Analysis Date: 2/4/2021	SeqNo: 4099210

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	14482.000	1000						14600	0.829	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:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-612
Lab Order:	N044026	**Collection Date:**	2/2/2021 1:15:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044026-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-FA1_210208A**	QC Batch: **R150610**			PrepDate:			Analyst: **JBB**
Nitrate/Nitrite as N	2.9	0.16	0.25		mg/L	5	2/8/2021 02:32 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044026
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R150610**	SampType: **MBLK**	TestCode: **4500N03F_W_**	Units: **mg/L**	Prep Date:				RunNo: **150610**		
Client ID: **PBW**	Batch ID: **R150610**	TestNo: **SM4500-NO3F**		Analysis Date: **2/8/2021**				SeqNo: **4103363**		
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-R150610**	SampType: **LCS**	TestCode: **4500N03F_W_**	Units: **mg/L**	Prep Date:				RunNo: **150610**		
Client ID: **LCSW**	Batch ID: **R150610**	TestNo: **SM4500-NO3F**		Analysis Date: **2/8/2021**				SeqNo: **4103364**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.504	0.050	0.5000	0	101	85	115				

Sample ID: **N043939-010EDUP**	SampType: **DUP**	TestCode: **4500N03F_W_**	Units: **mg/L**	Prep Date:				RunNo: **150610**		
Client ID: **ZZZZZZ**	Batch ID: **R150610**	TestNo: **SM4500-NO3F**		Analysis Date: **2/8/2021**				SeqNo: **4103366**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.386	0.050						0.3964	2.66	20	

Sample ID: **N043939-010EMS**	SampType: **MS**	TestCode: **4500N03F_W_**	Units: **mg/L**	Prep Date:				RunNo: **150610**		
Client ID: **ZZZZZZ**	Batch ID: **R150610**	TestNo: **SM4500-NO3F**		Analysis Date: **2/8/2021**				SeqNo: **4103367**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.931	0.050	0.5000	0.3964	107	75	125				

Sample ID: **N043939-010EMSD**	SampType: **MSD**	TestCode: **4500N03F_W_**	Units: **mg/L**	Prep Date:				RunNo: **150610**		
Client ID: **ZZZZZZ**	Batch ID: **R150610**	TestNo: **SM4500-NO3F**		Analysis Date: **2/8/2021**				SeqNo: **4103368**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.907	0.050	0.5000	0.3964	102	75	125	0.9312	2.67	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

SAMPLE RECEIVING ITEMS

JACOBS

CHAIN OF CUSTODY RECORD

PROJECT INFORMATION

COC Number 612-IM3

Project Manager Scott O'Donnell

Sample Manager Shawn Duffy

Name PG&E Topock

Project IM3PLANT-ARAR-WDR-612

Location PG&E Topock

Project Number D3184A1.EV.05-OM-TS

Task Order

Turnaround Time 10 Days

Shipping Date: 2/2/2021

	DATE	TIME	Matrix	AMMONIA (SM4500NH3D)	Anions (E300.0) Fl, SO4	CONDUCTIVITY (E120.1)	E218.6 Lab Filtered	Nitrate/Nitrite (SM4500NO3-E)	TDS (SM2540C)	Total Metals(E200.7 and E200.8)	Total Metals(E200.8) Cr, Mn, Fe	Turbidity (SM2130)		Number of Containers	COMMENTS
Container:				1 Liter Poly	1 Liter Poly	1 Liter Poly	250 ml Poly	1 Liter Poly	1 Liter Poly	500 ml Poly	500 ml Poly	1 Liter Poly			
Preservatives:				4°C Lab H2SO4	4°C	4°C	4°C	4°C Lab H2SO4	4°C	4°C	4°C	4°C			
Filtered:				NA	NA	NA	NA	NA	NA	NA	NA	NA			
Holding Time:				28	7	7	1	28	7	180	180	7			
SC-100B-WDR-612	2-2-21	1305	Water			X	X		X		X	X	N044026-01	3	
SC-700B-WDR-612	2-2-21	1315	Water	X	X	X	X	X	X	X		X	-02	4	
													TOTAL NUMBER OF CONTAINERS	7	

Signatures		Date/Time
Approved by		2-2-21 1350
Sampled by	Cameron Stamo	2-2-21 1305
Relinquished by	JHerrmann	2-2-21 1543
Received by		2/2/21 @1543
Relinquished by		2/2/21 @1740
Received by		

Shipping Details

Method of Shipment: FedEx

On Ice: (yes) no IR#2 3.5°C

Airbill No:

Lab Name: ASSET Laboratories

Lab Phone: (702) 307-2659

ATTN:

Sample Custody and Marlon Cartin

Special Instructions:

The SC-100B & SC-700B Total metals List: Cr,Al,Sb,As,Ba,B,Cu,Pb,Mn,Mo,Ni,Fe,Zn

Report Copy to

Mark Fesler
(530) 229-3273

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:	2/2/2021	Workorder:	N044026
Rep sample Temp (Deg C):	3.5	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☑	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☐	No ☐	NA ☑
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Samples for Cr 6+ were lab filtered and then preserved with Ammonium buffer.
Samples for Total metals were lab preserved with HNO3 and for Ammonia/NO3-with H2SO4.

For:

Checklist Completed By: MBC BHdez 2/3/2021

Reviewed By: MBC 02/04/2021

WORK ORDER Summary

03-Feb-21

WorkOrder: N044026

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 2/2/2021

Comments: The SC-100B and SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N044026-001A	SC-100B-WDR-612	2/2/2021 1:05:00 PM	2/16/2021	Water	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			2/16/2021		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			2/16/2021			Total Dissolved Solids Prep	☐	☐	☐	LSR
			2/16/2021		SM 2130B	TURBIDITY	☐	☐	☐	LSR
N044026-001B			2/16/2021		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N044026-001C			2/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/16/2021		EPA 200.7	TOTAL METALS BY ICP	☐	☐	☐	WW
			2/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			2/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N044026-001D							☐	☐	☐	WW
N044026-002A	SC-700B-WDR-612	2/2/2021 1:15:00 PM	2/16/2021		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N044026-002B			2/16/2021		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	LSR
			2/16/2021		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	LSR
			2/16/2021			Total Dissolved Solids Prep	☐	☐	☐	LSR
			2/16/2021		SM 2130B	TURBIDITY	☐	☐	☐	LSR
			2/16/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
			2/16/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	LSR
N044026-002C			2/16/2021		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N044026-002D			2/16/2021		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N044026-002E			2/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

WORK ORDER Summary

03-Feb-21

WorkOrder: N044026

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 2/2/2021

Comments: The SC-100B and SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N044026-002E	SC-700B-WDR-612	2/2/2021 1:15:00 PM	2/16/2021	Water	EPA 200.7	TOTAL METALS BY ICP	☐	☐	☐	WW
			2/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			2/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			2/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N044026-002F							☐	☐	☐	WW
N044026-003A	FOLDER	2/16/2021	2/16/2021		Folder	Folder	☐	☐	☐	LAB
			2/16/2021		Folder	Level IV Report	☐	☐	☐	LAB
			2/16/2021		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX:
Acct #:

Field Sampler: Signed

03-Feb-21

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N044026-002A / SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	32OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N44026A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

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

GSO # 552137274

Relinquished by: YRJ 2/3/2021 1630 **Received by:**

Relinquished by: **Received by:**

List of Analysts

ASSET Laboratories Work Order: N044026

NAME	TEST METHOD
Claire Ignacio	EPA 200.8
Lilia Ramit	EPA 120.1, SM 2540C, SM 2130B
Ria Abes	EPA 218.6, EPA 300.0
Diane Jetajobe	EPA 200.7
Julia Bundalian	SM 4500-NO3F

Date of Report: 02/05/2021

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N044026
BCL Project:	Level IV + labSpec7
BCL Work Order:	2103717
Invoice ID:	B406129

Enclosed are the results of analyses for samples received by the laboratory on 2/4/2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Sandoval
Client Service Rep

Stuart Buttram
Technical Director

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 FAX: 7023072691

RUSH

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

21-03717

QC Level: Level IV

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Signed

03-Feb-21

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3D		
-1 N044026-002A / SC-700B-WDR-612	Water	2/2/2021 1:15:00 PM	32OZP	1		

CHK BY: ev2
DISTRIBUTION: MA ALC JMH
SUB OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N44026A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

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

552137274

		Date/Time			Date/Time
Relinquished by:	YLJ	2/3/2021 1630	Received by:		2-4-21 940
Relinquished by:			Received by:		

Chain of Custody and Cooler Receipt Form for 2103717 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 21-03717

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☐ Other ☒ (Specify) GLS	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)	YES ☐ NO ☐ W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ (Intact? Yes ☐ No ☐) Containers ☐ (Intact? Yes ☐ No ☐) None ☒ Comments:

All samples received? Yes ☒ No ☐ All samples containers intact? Yes ☒ No ☐ Description(s) match COC? Yes ☒ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 97 Container: PE Thermometer ID: 274 Date/Time 2-4-21 940

Temperature: (A) 2.0 °C / (C) 1.8 °C Analyst Init TKJ

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
~~PT~~ NITROGEN FORMS	A									
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PIA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments:

Sample Numbering Completed By: CAS Date/Time: 2/4/21 1125

A = Actual / C = Corrected

Rev 21 05/23/2016

(S:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREDoc 20)

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 02/05/2021 15:38
Project: Level IV + labSpec7
Project Number: N044026
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2103717-01	**COC Number:**	---	**Receive Date:**	02/04/2021 09:40
	Project Number:	---	**Sampling Date:**	02/02/2021 13:15
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N044026-002A / SC-700B-WDR-612	**Lab Matrix:**	Water
	Sampled By:	---	**Sample Type:**	Water

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 02/05/2021 15:38
Project: Level IV + labSpec7
Project Number: N044026
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2103717-01 | **Client Sample Name:** N044026-002A / SC-700B-WDR-612, 2/2/2021 1:15:00PM

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	Run #
Ammonia as N (Distilled)	ND	mg/L	0.20	SM-4500-NH3G	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	SM-4500-NH3G	02/05/21 09:15	02/05/21 12:21	JMH2	SC-1	1.031	B099307	SM 4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 02/05/2021 15:38
Project: Level IV + labSpec7
Project Number: N044026
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals
QC Batch ID: B099307					
Ammonia as N (Distilled)	B099307-BLK1	ND	mg/L	0.20	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 02/05/2021 15:38
Project: Level IV + labSpec7
Project Number: N044026
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B099307										
Ammonia as N (Distilled)	B099307-BS1	LCS	1.9676	2.0000	mg/L	98.4		85 - 115		

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 02/05/2021 15:38
Project: Level IV + labSpec7
Project Number: N044026
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B099307	Used client sample: N										
Ammonia as N (Distilled)	DUP	**2103360-01**	**0.21167**	**0.51312**		**mg/L**	**83.2**		**20**		**Q01**
	MS	**2103360-01**	**0.21167**	**2.4213**	**2.3166**	**mg/L**		**95.4**		**80 - 120**	
	MSD	**2103360-01**	**0.21167**	**2.4493**	**2.3166**	**mg/L**	**1.2**	**96.6**	**20**	**80 - 120**	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 02/05/2021 15:38
Project: Level IV + labSpec7
Project Number: N044026
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected
Q01	Sample precision is not within the control limits.

March 16, 2021

Mark Fesler/RDD
CH2M HILL
155 Grand Avenue, Suite 1000
Oakland, CA 94612

TEL: (530) 229-3273
FAX: (510) 622-9129

Workorder No.: N044410

RE: PG&E Topock, D3184A1.EV.05-OM-TS

Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on March 02, 2021 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

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

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

Sincerely,

Nancy Sibucao
Laboratory Director

SAMPLE RECEIVING/GENERAL COMMENTS:

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

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

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

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs- Bakersfield,CA.

Analytical Comments for EPA 200.7:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N044410-001C-MS1 and N044410-001C-MSD1 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 Aluminum in QC samples N044410-001C-MS1 and N044410-001C-MSD1 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 200.8:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N044432-001B-MS and N044432-001B-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) have no recovery for Nickel at 1x and 5x dilutions possibly due to matrix interference. The whole batch was re-digested and reanalyzed for

Nickel and PS/MS/MSD still have no recovery at 1x dilution. PS/MS/MSD at 5x dilution was recovered at above 50%. Thus sample reference N044410-002 and MS/MSD were reported at 5x dilution. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Method Blank has hit greater than 1/2 the reporting limit for Copper however, sample was none detect (ND) for this analyte therefore reanalysis of the sample was not necessary.

ASSET Laboratories

Date: *16-Mar-21*

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N044410
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N044410-001A	SC-100B-WDR-613	Water	3/2/2021 2:40:00 PM	3/2/2021	3/16/2021
N044410-001B	SC-100B-WDR-613	Water	3/2/2021 2:40:00 PM	3/2/2021	3/16/2021
N044410-001C	SC-100B-WDR-613	Water	3/2/2021 2:40:00 PM	3/2/2021	3/16/2021
N044410-001D	SC-100B-WDR-613	Water	3/2/2021 2:40:00 PM	3/2/2021	3/16/2021
N044410-002A	SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	3/2/2021	3/16/2021
N044410-002B	SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	3/2/2021	3/16/2021
N044410-002C	SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	3/2/2021	3/16/2021
N044410-002D	SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	3/2/2021	3/16/2021
N044410-002E	SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	3/2/2021	3/16/2021
N044410-002F	SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	3/2/2021	3/16/2021

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_210303B**	QC Batch: **R151131**			PrepDate:			Analyst: **LR**
Specific Conductance	7500	0.10	0.10		umhos/cm	1	3/3/2021 01:35 PM

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:46:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
SPECIFIC CONDUCTANCE							
			EPA 120.1				
RunID: **NV00922-WC_210303B**	QC Batch: **R151131**			PrepDate:			Analyst: **LR**
Specific Conductance	7300	0.10	0.10		umhos/cm	1	3/3/2021 01:35 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 120.1_WPGE

Sample ID: **N044410-001ADUP** SampType: **DUP** TestCode: **120.1_WPGE** Units: **umhos/cm** Prep Date: RunNo: **151131**
Client ID: **ZZZZZZ** Batch ID: **R151131** TestNo: **EPA 120.1** Analysis Date: **3/3/2021** SeqNo: **4127762**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7510.000	0.10						7500	0.133	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_210303I**	QC Batch: **85528**				PrepDate:	**3/3/2021**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4300	50	50		mg/L	1	3/3/2021 02:07 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:46:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL FILTERABLE RESIDUE							
			SM2540C				
RunID: **NV00922-WC_210303I**	QC Batch: **85528**				PrepDate:	**3/3/2021**	Analyst: **LR**
Total Dissolved Solids (Residue, Filterable)	4500	50	50		mg/L	1	3/3/2021 02:07 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: **LCS-85528**	SampType: **LCS**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **3/3/2021**	RunNo: **151185**
Client ID: **LCSW**	Batch ID: **85528**	TestNo: **SM2540C**		Analysis Date: **3/3/2021**	SeqNo: **4131834**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	960.000	10	1000	0	96.0	80	120				

Sample ID: **MB-85528**	SampType: **MBLK**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **3/3/2021**	RunNo: **151185**
Client ID: **PBW**	Batch ID: **85528**	TestNo: **SM2540C**		Analysis Date: **3/3/2021**	SeqNo: **4131835**

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: **N044410-001ADUP**	SampType: **DUP**	TestCode: **160.1_2540C_**	Units: **mg/L**	Prep Date: **3/3/2021**	RunNo: **151185**
Client ID: **ZZZZZZ**	Batch ID: **85528**	TestNo: **SM2540C**		Analysis Date: **3/3/2021**	SeqNo: **4131839**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4320.000	50						4340	0.462	5	

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_210311A**	QC Batch: **85553**			PrepDate:		**3/5/2021**	Analyst: **DJ**
Iron	220	18	20		µg/L	1	3/11/2021 02:00 PM

Qualifiers:

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

CLIENT: CH2M HILL
Lab Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N044410-002

Client Sample ID: SC-700B-WDR-613
Collection Date: 3/2/2021 2:46:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICP							
			EPA 200.7				
RunID: **NV00922-ICP2_210311D**	QC Batch: **85553**			PrepDate:		**3/5/2021**	Analyst: **DJ**
Aluminum	ND	40	50		µg/L	1	3/11/2021 06:40 PM
Boron	1300	74	100		µg/L	1	3/11/2021 02:27 PM
Iron	52	18	20		µg/L	1	3/11/2021 02:27 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **LCS1-85553**	SampType: **LCS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151318**
Client ID: **LCSW**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4141743**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4705.779	100	5000	0	94.1	85	115				
Iron	92.178	20	100.0	0	92.2	85	115				

Sample ID: **N044410-001C-MS1**	SampType: **MS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151318**
Client ID: **ZZZZZZ**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4141747**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6834.902	100	5000	1203	113	75	125				
Iron	137.914	20	100.0	222.3	-84.3	75	125				S

Sample ID: **N044410-001C-MSD**	SampType: **MSD**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151318**
Client ID: **ZZZZZZ**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4141748**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6693.842	100	5000	1203	110	75	125	6835	2.09	20	
Iron	154.046	20	100.0	222.3	-68.2	75	125	137.9	11.1	20	S

Sample ID: **MB-85553**	SampType: **MBLK**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151318**
Client ID: **PBW**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4141752**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	100									
Iron	ND	20									

Sample ID: **MB-85553**	SampType: **MBLK**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151329**
Client ID: **PBW**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4142076**

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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **MB-85553**	SampType: **MBLK**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151329**
Client ID: **PBW**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4142076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	50									

Sample ID: **LCS1-85553**	SampType: **LCS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151329**
Client ID: **LCSW**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4142079**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8871.911	50	10000	0	88.7	85	115				

Sample ID: **N044410-001C-MS1**	SampType: **MS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151329**
Client ID: **ZZZZZZ**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4142083**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10296.945	50	10000	6110	41.9	75	125				S

Sample ID: **N044410-001C-MSD**	SampType: **MSD**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date: **3/5/2021**	RunNo: **151329**
Client ID: **ZZZZZZ**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4142084**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10092.012	50	10000	6110	39.8	75	125	10300	2.01	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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPPB

Sample ID: **N044410-001C-PS**	SampType: **PS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **151318**
Client ID: **ZZZZZZ**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4141746**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	6673.179	100	5000	1203	109	80	120				
Iron	147.051	20	100.0	222.3	-75.2	80	120				S

Sample ID: **N044410-001C-PS**	SampType: **PS**	TestCode: **200.7_WPGE**	Units: **µg/L**	Prep Date:	RunNo: **151329**
Client ID: **ZZZZZZ**	Batch ID: **85553**	TestNo: **EPA 200.7**		Analysis Date: **3/11/2021**	SeqNo: **4142082**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10471.376	50	10000	6110	43.6	80	120				S

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_210303A**	QC Batch: **R151163**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	410	1.7	10		µg/L	50	3/3/2021 12:16 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210305C**	QC Batch: **85536**			PrepDate:	**3/4/2021**		Analyst: **CEI**
Chromium	420	0.65	5.0		µg/L	5	3/5/2021 05:16 PM

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:46:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
			EPA 218.6				
RunID: **NV00922-IC7_210303A**	QC Batch: **R151163**			PrepDate:			Analyst: **RAB**
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	3/3/2021 12:35 PM
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210305C**	QC Batch: **85536**			PrepDate:	**3/4/2021**		Analyst: **CEI**
Chromium	ND	0.13	1.0		µg/L	1	3/5/2021 05:22 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: **MB-85536**	SampType: **MBLK**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151219**
Client ID: **PBW**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/5/2021**	SeqNo: **4134151**

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

Sample ID: **LCS-85536**	SampType: **LCS**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151219**
Client ID: **LCSW**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/5/2021**	SeqNo: **4134152**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	9.999	1.0	10.00	0	100	85	115				

Sample ID: **N044432-001B-MS**	SampType: **MS**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151219**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/5/2021**	SeqNo: **4134159**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	419.146	5.0	10.00	421.8	-26.2	75	125				S

Sample ID: **N044432-001B-MSD**	SampType: **MSD**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151219**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/5/2021**	SeqNo: **4134163**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	413.089	5.0	10.00	421.8	-86.8	75	125	419.1	1.46	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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: **MB-R151163**	SampType: **MBLK**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **151163**
Client ID: **PBW**	Batch ID: **R151163**	TestNo: **EPA 218.6**		Analysis Date: **3/3/2021**	SeqNo: **4129695**

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-R151163**	SampType: **LCS**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **151163**
Client ID: **LCSW**	Batch ID: **R151163**	TestNo: **EPA 218.6**		Analysis Date: **3/3/2021**	SeqNo: **4129696**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.798	0.20	5.000	0	96.0	90	110				

Sample ID: **N044410-001BMS**	SampType: **MS**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **151163**
Client ID: **ZZZZZZ**	Batch ID: **R151163**	TestNo: **EPA 218.6**		Analysis Date: **3/3/2021**	SeqNo: **4129700**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	657.485	10	250.0	410.6	98.8	90	110				

Sample ID: **N044410-002CMS**	SampType: **MS**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **151163**
Client ID: **ZZZZZZ**	Batch ID: **R151163**	TestNo: **EPA 218.6**		Analysis Date: **3/3/2021**	SeqNo: **4129702**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.105	0.20	1.000	0.06610	104	90	110				

Sample ID: **N044414-001ADUP**	SampType: **DUP**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **151163**
Client ID: **ZZZZZZ**	Batch ID: **R151163**	TestNo: **EPA 218.6**		Analysis Date: **3/3/2021**	SeqNo: **4129715**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	2.075	0.20						2.036	1.91	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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: **N044414-004AMS**	SampType: **MS**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **151163**
Client ID: **ZZZZZZ**	Batch ID: **R151163**	TestNo: **EPA 218.6**		Analysis Date: **3/3/2021**	SeqNo: **4129718**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.558	1.0	25.00	20.20	97.4	90	110				

Sample ID: **N044414-004AMSD**	SampType: **MSD**	TestCode: **218.6_WU_P**	Units: **µg/L**	Prep Date:	RunNo: **151163**
Client ID: **ZZZZZZ**	Batch ID: **R151163**	TestNo: **EPA 218.6**		Analysis Date: **3/3/2021**	SeqNo: **4129719**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	44.721	1.0	25.00	20.20	98.1	90	110	44.56	0.364	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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: **N044432-001B-PS**	SampType: **PS**	TestCode: **200.8_W_CR**	Units: **µg/L**	Prep Date:	RunNo: **151219**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/5/2021**	SeqNo: **4134157**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	425.957	5.0	10.00	421.8	41.9	80	120				S

Qualifiers:

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: **NV00922-ICP8_210305C**	QC Batch: **85536**				PrepDate:	**3/4/2021**	Analyst: **CEI**
Manganese	7.1	0.26	0.50		µg/L	1	3/5/2021 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: CH2M HILL
Lab Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N044410-002

Client Sample ID: SC-700B-WDR-613
Collection Date: 3/2/2021 2:46:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TOTAL METALS BY ICPMS							
			EPA 200.8				
RunID: **NV00922-ICP8_210305C**	QC Batch: **85536**				PrepDate:	**3/4/2021**	Analyst: **CEI**
Antimony	ND	0.16	0.50		µg/L	1	3/5/2021 05:22 PM
Arsenic	ND	0.081	0.10		µg/L	1	3/5/2021 05:22 PM
Barium	20	0.15	1.0		µg/L	1	3/10/2021 09:35 PM
Copper	ND	0.55	1.0		µg/L	1	3/9/2021 11:06 AM
Lead	ND	0.13	1.0		µg/L	1	3/5/2021 05:22 PM
Manganese	7.1	0.26	0.50		µg/L	1	3/5/2021 05:22 PM
Molybdenum	21	0.21	0.50		µg/L	1	3/5/2021 05:22 PM
Nickel	ND	1.3	5.0		µg/L	5	3/10/2021 09:40 PM
Zinc	ND	2.3	10		µg/L	1	3/5/2021 05:22 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **MB-85536** SampType: **MBLK** TestCode: **200.8_W_TP** Units: **µg/L** Prep Date: **3/4/2021** RunNo: **151219**
Client ID: **PBW** Batch ID: **85536** TestNo: **EPA 200.8** Analysis Date: **3/5/2021** SeqNo: **4134289**

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									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Zinc	ND	10									

Sample ID: **LCS-85536** SampType: **LCS** TestCode: **200.8_W_TP** Units: **µg/L** Prep Date: **3/4/2021** RunNo: **151219**
Client ID: **LCSW** Batch ID: **85536** TestNo: **EPA 200.8** Analysis Date: **3/5/2021** SeqNo: **4134290**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.490	0.50	10.00	0	105	85	115				
Arsenic	10.553	0.10	10.00	0	106	85	115				
Lead	10.002	1.0	10.00	0	100	85	115				
Manganese	102.494	0.50	100.0	0	102	85	115				
Molybdenum	9.881	0.50	10.00	0	98.8	85	115				
Zinc	101.729	10	100.0	0	102	85	115				

Sample ID: **N044432-001B-MS** SampType: **MS** TestCode: **200.8_W_TP** Units: **µg/L** Prep Date: **3/4/2021** RunNo: **151219**
Client ID: **ZZZZZZ** Batch ID: **85536** TestNo: **EPA 200.8** Analysis Date: **3/5/2021** SeqNo: **4134296**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.434	0.50	10.00	0	104	75	125				
Arsenic	10.632	0.10	10.00	0	106	75	125				
Lead	10.022	1.0	10.00	0	100	75	125				
Manganese	110.272	0.50	100.0	18.75	91.5	75	125				
Molybdenum	31.705	0.50	10.00	21.11	106	75	125				
Zinc	106.160	10	100.0	0	106	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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **N044432-001B-MSD**	SampType: **MSD**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151219**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/5/2021**	SeqNo: **4134300**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.514	0.50	10.00	0	105	75	125	10.43	0.763	20	
Arsenic	11.040	0.10	10.00	0	110	75	125	10.63	3.77	20	
Lead	10.072	1.0	10.00	0	101	75	125	10.02	0.500	20	
Manganese	110.151	0.50	100.0	18.75	91.4	75	125	110.3	0.110	20	
Molybdenum	32.250	0.50	10.00	21.11	111	75	125	31.71	1.70	20	
Zinc	105.647	10	100.0	0	106	75	125	106.2	0.485	20	

Sample ID: **MB-85536**	SampType: **MBLK**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151251**
Client ID: **PBW**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/9/2021**	SeqNo: **4136307**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.556	1.0									

Sample ID: **LCS-85536**	SampType: **LCS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151251**
Client ID: **LCSW**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/9/2021**	SeqNo: **4136308**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	9.805	1.0	10.00	0	98.0	85	115				

Sample ID: **N044432-001B-MS**	SampType: **MS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151251**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/9/2021**	SeqNo: **4136314**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.381	1.0	10.00	0	83.8	75	125				

Sample ID: **N044432-001B-MSD**	SampType: **MSD**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151251**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/9/2021**	SeqNo: **4136315**

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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **N044432-001B-MSD**	SampType: **MSD**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/4/2021**	RunNo: **151251**						
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/9/2021**	SeqNo: **4136315**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.096	1.0	10.00	0	81.0	75	125	8.381	3.46	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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **MB-85616**	SampType: **MBLK**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/10/2021**	RunNo: **151348**
Client ID: **PBW**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143358**

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

Sample ID: **LCS-85616**	SampType: **LCS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/10/2021**	RunNo: **151348**
Client ID: **LCSW**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143359**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	10.138	1.0	10.00	0	101	85	115				
Nickel	9.861	1.0	10.00	0	98.6	85	115				

Sample ID: **N044410-002E-MS**	SampType: **MS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/10/2021**	RunNo: **151348**
Client ID: **ZZZZZZ**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143365**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	28.625	1.0	10.00	19.51	91.1	75	125				

Sample ID: **N044410-002E-MS**	SampType: **MS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/10/2021**	RunNo: **151348**
Client ID: **ZZZZZZ**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143366**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	28.496	5.0	50.00	0	57.0	75	125				S

Sample ID: **N044410-002E-MSD**	SampType: **MSD**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/10/2021**	RunNo: **151348**
Client ID: **ZZZZZZ**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143369**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	28.961	1.0	10.00	19.51	94.5	75	125	28.63	1.17	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: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **N044410-002E-MSD**	SampType: **MSD**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date: **3/10/2021**	RunNo: **151348**
Client ID: **ZZZZZZ**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143370**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	28.075	5.0	50.00	0	56.1	75	125	28.50	1.49	20	S

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **N044432-001B-PS**	SampType: **PS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date:	RunNo: **151219**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/5/2021**	SeqNo: **4134294**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.653	0.50	10.00	0	107	80	120				
Arsenic	10.795	0.10	10.00	0	108	80	120				
Lead	10.047	1.0	10.00	0	100	80	120				
Manganese	110.770	0.50	100.0	18.75	92.0	80	120				
Molybdenum	32.216	0.50	10.00	21.11	111	80	120				
Zinc	105.021	10	100.0	0	105	80	120				

Sample ID: **N044432-001B-PS**	SampType: **PS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date:	RunNo: **151251**
Client ID: **ZZZZZZ**	Batch ID: **85536**	TestNo: **EPA 200.8**		Analysis Date: **3/9/2021**	SeqNo: **4136311**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	8.352	1.0	10.00	0	83.5	80	120				

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: **N044410-002E-PS**	SampType: **PS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date:	RunNo: **151348**
Client ID: **ZZZZZZ**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143363**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	28.704	1.0	10.00	19.51	91.9	80	120				

Sample ID: **N044410-002E-PS**	SampType: **PS**	TestCode: **200.8_W_TP**	Units: **µg/L**	Prep Date:	RunNo: **151348**
Client ID: **ZZZZZZ**	Batch ID: **85616**	TestNo: **EPA 200.8**		Analysis Date: **3/10/2021**	SeqNo: **4143364**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	28.824	5.0	50.00	0	57.6	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:	CH2M HILL	**Client Sample ID:**	SC-100B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_210303C**	QC Batch: **R151136**			PrepDate:			Analyst: **LR**
Turbidity	ND	0.10	0.10		NTU	1	3/3/2021 04:20 PM

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

CLIENT:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:46:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
TURBIDITY							
			SM 2130B				
RunID: **NV00922-WC_210303C**	QC Batch: **R151136**			PrepDate:			Analyst: **LR**
Turbidity	0.15	0.10	0.10		NTU	1	3/3/2021 04:20 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID: **MB-R151136**	SampType: **MBLK**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **151136**
Client ID: **PBW**	Batch ID: **R151136**	TestNo: **SM 2130B**		Analysis Date: **3/3/2021**	SeqNo: **4127841**

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

Sample ID: **N044410-001ADUP**	SampType: **DUP**	TestCode: **2130_W**	Units: **NTU**	Prep Date:	RunNo: **151136**
Client ID: **ZZZZZZ**	Batch ID: **R151136**	TestNo: **SM 2130B**		Analysis Date: **3/3/2021**	SeqNo: **4127843**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10						0	0	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:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:46:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210304A** QC Batch: **R151177**				PrepDate:			Analyst: **RAB**
Fluoride	2.8	0.048	0.50		mg/L	5	3/4/2021 10:11 AM
ANIONS BY ION CHROMATOGRAPHY							
			EPA 300.0				
RunID: **NV00922-IC8_210303A** QC Batch: **R151147**				PrepDate:			Analyst: **admin**
Sulfate	470	2.0	25		mg/L	50	3/3/2021 07:25 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: **MB-R151177_F**	SampType: **MBLK**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:			RunNo: **151177**			
Client ID: **PBW**	Batch ID: **R151177**	TestNo: **EPA 300.0**		Analysis Date: **3/4/2021**			SeqNo: **4130996**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: **LCS-R151177_F**	SampType: **LCS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:			RunNo: **151177**			
Client ID: **LCSW**	Batch ID: **R151177**	TestNo: **EPA 300.0**		Analysis Date: **3/4/2021**			SeqNo: **4130997**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.310	0.10	1.250	0	105	90	110				

Sample ID: **N044410-002BDUP**	SampType: **DUP**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:			RunNo: **151177**			
Client ID: **ZZZZZZ**	Batch ID: **R151177**	TestNo: **EPA 300.0**		Analysis Date: **3/4/2021**			SeqNo: **4130999**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.910	0.50						2.766	5.06	20	

Sample ID: **N044410-002BMS**	SampType: **MS**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:			RunNo: **151177**			
Client ID: **ZZZZZZ**	Batch ID: **R151177**	TestNo: **EPA 300.0**		Analysis Date: **3/4/2021**			SeqNo: **4131000**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.488	0.50	6.250	2.766	108	80	120				

Sample ID: **N044410-002BMSD**	SampType: **MSD**	TestCode: **300_W_FPGE**	Units: **mg/L**	Prep Date:			RunNo: **151177**			
Client ID: **ZZZZZZ**	Batch ID: **R151177**	TestNo: **EPA 300.0**		Analysis Date: **3/4/2021**			SeqNo: **4131001**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.341	0.50	6.250	2.766	105	80	120	9.488	1.56	20	

Qualifiers:

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

Calculations are based on raw values

- H Holding times for preparation or analysis exceeded
- S Spike/Surrogate outside of limits due to matrix interference

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: MB-R151147_SO4	SampType: MBLK	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 151147
Client ID: PBW	Batch ID: R151147	TestNo: EPA 300.0		Analysis Date: 3/3/2021	SeqNo: 4128839

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	0.249	0.50									

Sample ID: LCS-R151147_SO4	SampType: LCS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 151147
Client ID: LCSW	Batch ID: R151147	TestNo: EPA 300.0		Analysis Date: 3/3/2021	SeqNo: 4128840

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	4.038	0.50	4.000	0	101	90	110				

Sample ID: N044410-002BDUP	SampType: DUP	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 151147
Client ID: ZZZZZZ	Batch ID: R151147	TestNo: EPA 300.0		Analysis Date: 3/3/2021	SeqNo: 4128848

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	470.480	25						474.2	0.787	20	

Sample ID: N044410-002BMS	SampType: MS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 151147
Client ID: ZZZZZZ	Batch ID: R151147	TestNo: EPA 300.0		Analysis Date: 3/3/2021	SeqNo: 4128849

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	674.445	25	200.0	474.2	100	80	120				

Sample ID: N044410-002BMSD	SampType: MSD	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 151147
Client ID: ZZZZZZ	Batch ID: R151147	TestNo: EPA 300.0		Analysis Date: 3/3/2021	SeqNo: 4128850

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	676.265	25	200.0	474.2	101	80	120	674.4	0.269	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:	CH2M HILL	**Client Sample ID:**	SC-700B-WDR-613
Lab Order:	N044410	**Collection Date:**	3/2/2021 2:46:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	**Matrix:**	WATER
Lab ID:	N044410-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
NITRATE/NITRITE-N BY CADMIUM REDUCTION							
			SM4500-NO3F				
RunID: **NV00922-FA1_210310B**	QC Batch: **R151307**			PrepDate:			Analyst: **JBB**
Nitrate/Nitrite as N	2.6	0.16	0.25		mg/L	5	3/10/2021 10:29 PM

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N044410
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: **MB-R151307**	SampType: **MBLK**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:			RunNo: **151307**			
Client ID: **PBW**	Batch ID: **R151307**	TestNo: **SM4500-NO3**		Analysis Date: **3/10/2021**			SeqNo: **4141456**			
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-R151307**	SampType: **LCS**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:			RunNo: **151307**			
Client ID: **LCSW**	Batch ID: **R151307**	TestNo: **SM4500-NO3**		Analysis Date: **3/10/2021**			SeqNo: **4141457**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.479	0.050	0.5000	0	95.7	85	115				

Sample ID: **N044352-003BDUP**	SampType: **DUP**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:			RunNo: **151307**			
Client ID: **ZZZZZZ**	Batch ID: **R151307**	TestNo: **SM4500-NO3**		Analysis Date: **3/10/2021**			SeqNo: **4141459**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.794	0.050						0.7984	0.603	20	

Sample ID: **N044352-003BMS**	SampType: **MS**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:			RunNo: **151307**			
Client ID: **ZZZZZZ**	Batch ID: **R151307**	TestNo: **SM4500-NO3**		Analysis Date: **3/10/2021**			SeqNo: **4141460**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.292	0.050	0.5000	0.7984	98.7	75	125				

Sample ID: **N044352-003BMSD**	SampType: **MSD**	TestCode: **4500N03F_W**	Units: **mg/L**	Prep Date:			RunNo: **151307**			
Client ID: **ZZZZZZ**	Batch ID: **R151307**	TestNo: **SM4500-NO3**		Analysis Date: **3/10/2021**			SeqNo: **4141461**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	1.295	0.050	0.5000	0.7984	99.4	75	125	1.292	0.263	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

SAMPLE RECEIVING ITEMS

JACOBS

CHAIN OF CUSTODY RECORD

PROJECT INFORMATION

COC Number 613-IM3
Project Manager Scott O'Donnell
Sample Manager Shawn Duffy

Name PG&E Topock
Project IM3PLANT-AR-WDR-613
Location PG&E Topock
Project Number D3184A1.EV.05-OM-TS
Task Order
Turnaround Time 10 Days
Shipping Date: 3/2/2021

	Container:	1 Liter Poly	1 Liter Poly	1 Liter Poly	250 ml Poly	1 Liter Poly	1 Liter Poly	500 ml Poly	500 ml Poly	1 Liter Poly			
	Preservatives:	4°C Lab H2SO4	4°C	4°C	4°C	4°C Lab H2SO4	4°C	4°C	4°C	4°C			
	Filtered:	NA	NA	NA	NA	NA	NA	NA	NA	NA			
	Holding Time:	28	7	7	1	28	7	180	180	7			
		AMMONIA (SM4500NH3D)	Anions (E300.0) Fl, SO4	CONDUCTIVITY (E120.1)	E218.6 Lab Filtered	Nitrate/Nitrite (SM4500NO3-E)	TDS (SM2540C)	Total Metals(E200.7 and E200.8)	Total Metals(E200.8) Cr, Mn, Fe	Turbidity (SM2130)		Number of Containers	COMMENTS
SC-100B-WDR-613	3-2-21 1440 Water			X	X		X		X	X	N044410-01	3	
SC-700B-WDR-613	3-2-21 1440 Water	X	X	X	X	X	X	X		X	-02	4	
											TOTAL NUMBER OF CONTAINERS	7	

	Signatures	Date/Time
Approved by		3-2-21 / 1503
Sampled by		3-2-21 / 1440
Relinquished by		3-2-21 / 1503
Received by		3-2-21 1503
Relinquished by		3-2-21 1709
Received by	Beikys Hernandez	3-2-21 1709

Shipping Details

Method of Shipment: FedEx ASSET
On Ice: (yes) / no 4.7°C IR #2
Airbill No:
Lab Name: ASSET Laboratories
Lab Phone: (702) 307-2659

ATTN:
Sample Custody and Marlon Cartin

Special Instructions:
The SC-100B & SC-700B Total metals List: Cr,Al,Sb,As,Ba,B,Cu,Pb,Mn,Mo,Ni,Fe,Zn

Report Copy to
Mark Fesler
(530) 229-3273

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:	3/2/2021	Workorder:	N044410
Rep sample Temp (Deg C):	4.7	IR Gun ID:	2
Temp Blank:	☑ Yes ☐ No		
Carrier name:	ASSET		
Last 4 digits of Tracking No.:	NA	Packing Material Used:	None
Cooling process:	☑ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None		

Sample Receipt Checklist

1. Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
2. Custody seals intact, signed, dated on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
3. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
4. Chain of custody present?	Yes ☑	No ☐	
5. Sampler's name present in COC?	Yes ☑	No ☐	
6. Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
7. Chain of custody agrees with sample labels?	Yes ☑	No ☐	
8. Samples in proper container/bottle?	Yes ☑	No ☐	
9. Sample containers intact?	Yes ☑	No ☐	
10. Sufficient sample volume for indicated test?	Yes ☑	No ☐	
11. All samples received within holding time?	Yes ☑	No ☐	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes ☑	No ☐	NA ☐
13. Water - VOA vials have zero headspace?	Yes ☐	No ☐	NA ☑
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes ☐	No ☑	NA ☐
15. Did the bottle labels indicate correct preservatives used?	Yes ☐	No ☐	NA ☑
16. Were there Non-Conformance issues at login?	Yes ☑	No ☐	NA ☐
Was Client notified?	Yes ☐	No ☐	NA ☑

Comments: Samples for Cr 6+ were lab filtered and then preserved with Ammonium Buffer.
Samples for Total Metals were lab preserved with HNO3 and for Ammonia/N03-with H2SO4.

Checklist Completed By: BHN BHdez 3/3/2021

Reviewed By: MBC 3/5/2021

ASSET Laboratories

WORK ORDER Summary

05-Mar-21

WorkOrder: N044410

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 3/2/2021

Comments: The SC-100B and SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N044410-001A	SC-100B-WDR-613	3/2/2021 2:40:00 PM	3/16/2021	Water	EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/16/2021		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			3/16/2021			Total Dissolved Solids Prep	☐	☐	☐	WW
			3/16/2021		SM 2130B	TURBIDITY	☐	☐	☐	WW
N044410-001B			3/16/2021		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N044410-001C			3/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/16/2021		EPA 200.7	TOTAL METALS BY ICP	☐	☐	☐	WW
			3/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			3/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N044410-001D							☐	☐	☐	WW
N044410-002A	SC-700B-WDR-613	3/2/2021 2:46:00 PM	3/16/2021		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	☐	☐	☑	SUB
N044410-002B			3/16/2021		EPA 120.1	SPECIFIC CONDUCTANCE	☐	☐	☐	WW
			3/16/2021		SM2540C	TOTAL FILTERABLE RESIDUE	☐	☐	☐	WW
			3/16/2021			Total Dissolved Solids Prep	☐	☐	☐	WW
			3/16/2021		SM 2130B	TURBIDITY	☐	☐	☐	WW
			3/16/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
			3/16/2021		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	☐	☐	☐	WW
N044410-002C			3/16/2021		EPA 218.6	Hexavalent Chromium by IC	☐	☐	☐	WW
N044410-002D			3/16/2021		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	☐	☐	☐	WW
N044410-002E			3/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW

WORK ORDER Summary

05-Mar-21

WorkOrder: N044410

Client ID: CH2HI01

Project: PG&E Topock, D3184A1.EV.05-OM-TS **QC Level:** Level IV **Date Received:** 3/2/2021

Comments: The SC-100B and SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N044410-002E	SC-700B-WDR-613	3/2/2021 2:46:00 PM	3/16/2021	Water	EPA 200.7	TOTAL METALS BY ICP	☐	☐	☐	WW
			3/16/2021			AQPREP TOTAL METALS: ICP, FLAA	☐	☐	☐	WW
			3/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
			3/16/2021		EPA 200.8	TOTAL METALS BY ICPMS	☐	☐	☐	WW
N044410-002F							☐	☐	☐	WW
N044410-003A	FOLDER	3/16/2021	3/16/2021		Folder	Folder	☐	☐	☐	LAB
			3/16/2021		Folder	Level IV Report	☐	☐	☐	LAB
			3/16/2021		Folder	Folder	☐	☐	☐	LAB

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.atl-labs.com
TEL: 7023072659 *FAX: 7023072691*

CHAIN-OF-CUSTODY RECORD

QC Level: Level IV

Subcontractor:

BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: Shawn Duffy

04-Mar-21

				Requested Tests		
Sample ID	**Matrix**	**Date Collected**	**Bottle Type**	**SM4500-NH3D**		
N044410-002A / SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	32OZP	1		

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com

Please use PO#:N44410A Please email Invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.

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

GSO #: 552482571

		Date/Time		Date/Time
Relinquished by:	YRJ	3/4/2021 1630	**Received by:**	
Relinquished by:			**Received by:**	

List of Analysts

ASSET Laboratories Work Order: N044410

NAME	TEST METHOD
Claire Ignacio	EPA 200.8
Lilia Ramit	EPA 120.1, SM 2540C, SM 2130B
Ria Abes	EPA 218.6, EPA 300.0
Diane Jetajobe	EPA 200.7
Julia Bundalian	SM 4500-NO3F

Date of Report: 03/17/2021

Marlon B. Cartin

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Client Project:	N044410
BCL Project:	Level IV + labSpec7
BCL Work Order:	2107227
Invoice ID:	B410149

Enclosed are the results of analyses for samples received by the laboratory on 3/5/2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Eli Velazquez
Client Service Rep

Stuart Buttram
Technical Director

Chain of Custody and Cooler Receipt Form for 2107227 Page 1 of 2

21-07227

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

ASSET Laboratories
3151-3153 W Post Rd., Las Vegas, NV 89118
www.all-labs.com
TEL: 7023072659 FAX: 7023072691

QC Level: Level IV

Field Sampler: Shawn Duffy

04-Mar-21

Subcontractor:
BC Labs
4100 Atlas Court
Bakersfield, CA 93308

TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests: SM4500-NH3D		
N044410-002A / SC-700B-WDR-613	Water	3/2/2021 2:46:00 PM	32OZP	1		

CHK BY

DISTRIBUTION

SUB OUT ☐

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N44410A Please email invoices and Account Receivable Statements to elvira@assetlaboratories.com. For questions, call Marlon at (702)-307-2659. Please e-mail results to reports.lv@assetlaboratories.com by: Standard TAT.
Please analyze for Ammonia by SM4500NH3D. EDD requirement Labspec7 edata.

GSO #: 552482571

	Date/Time		Date/Time
Relinquished by:	3/4/2021 1630	Received by:	3-5-21 1110
Relinquished by:		Received by:	

Chain of Custody and Cooler Receipt Form for 2107227 Page 2 of 2

BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 Of 1

Submission #: 11-07227

SHIPPING INFORMATION	SHIPPING CONTAINER	FREE LIQUID
Fed Ex ☐ UPS ☐ Ontrac ☐ Hand Delivery ☐ BC Lab Field Service ☐ Other ☒ (Specify) GLS	Ice Chest ☒ None ☐ Box ☐ Other ☐ (Specify)	YES ☐ NO ☐ W / S

Refrigerant: Ice ☒ Blue Ice ☐ None ☐ Other ☐ Comments:

Custody Seals: Ice Chest ☐ Intact? Yes ☐ No ☐ Containers ☐ Intact? Yes ☐ No ☐ None ☒ Comments:

All samples received? Yes ☐ No ☐ All samples containers intact? Yes ☐ No ☐ Description(s) match COC? Yes ☐ No ☐

COC Received ☒ YES ☐ NO

Emissivity: 97 Container: PE Thermometer ID: 274 Date/Time 3-5-21 1110

Temperature: (A) 1.7 °C / (C) 1.5 °C Analyst Init TKJ

SAMPLE CONTAINERS	SAMPLE NUMBERS 1	2	3	4	5	6	7	8	9	10
QT PE UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr^{+6}										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS QT	A									
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PtA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/8080										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR										
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: Time said "1446" All bottle

Sample Numbering Completed By: CM Date/Time: 3/5/21 1759

A = Actual / C = Corrected

Rev 21 05/23/2016

I:\WPDocs\WordPerfect\LAB_DOCS\FORMS\SAMREC rev 20

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 03/17/2021 14:14
Project: Level IV + labSpec7
Project Number: N044410
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2107227-01	**COC Number:**	---	**Receive Date:**	03/05/2021 11:10
	Project Number:	---	**Sampling Date:**	03/02/2021 14:46
	Sampling Location:	---	**Sample Depth:**	---
	Sampling Point:	N044410-002A / SC-700B-WDR-613	**Lab Matrix:**	Water
	Sampled By:	Shawn Duffy	**Sample Type:**	Water

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 03/17/2021 14:14
Project: Level IV + labSpec7
Project Number: N044410
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID: 2107227-01 | **Client Sample Name:** N044410-002A / SC-700B-WDR-613, 3/2/2021 2:46:00PM, Shawn Duffy

Constituent	Result	Units	RL	Method	MB Bias	Lab Quals	Run #
Ammonia as N (Distilled)	ND	mg/L	0.20	SM-4500-NH3G	ND		1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	SM-4500-NH3G	03/12/21 13:30	03/16/21 13:11	JMH2	SC-1	1.083	B102619	SM 4500-NH3G

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 03/17/2021 14:14
Project: Level IV + labSpec7
Project Number: N044410
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	RL	Lab Quals
QC Batch ID: B102619					
Ammonia as N (Distilled)	B102619-BLK1	ND	mg/L	0.20	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 03/17/2021 14:14
Project: Level IV + labSpec7
Project Number: N044410
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
QC Batch ID: B102619										
Ammonia as N (Distilled)	B102619-BS1	LCS	1.9768	2.0000	mg/L	98.8		85 - 115		

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 03/17/2021 14:14
Project: Level IV + labSpec7
Project Number: N044410
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
QC Batch ID: B102619	Used client sample: Y - Description: N044410-002A / SC-700B-WDR-613, 03/02/2021 14:46										
Ammonia as N (Distilled)	DUP	2107227-01	0.096065	ND		mg/L			20		
	MS	2107227-01	0.096065	2.5160	2.4096	mg/L		100		80 - 120	
	MSD	2107227-01	0.096065	2.4676	2.4096	mg/L	1.9	98.4	20	80 - 120	

ASSET Laboratories- Las Vegas
3151-3153 W. Post Rd
Las Vegas, NV 89118

Reported: 03/17/2021 14:14
Project: Level IV + labSpec7
Project Number: N044410
Project Manager: Marlon B. Cartin

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

	Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
1	SC-100B-610	12-1-20	1245	12-1-20	1254	HQ 440D	12-1-20	0000	10	Cameron Stone	6.99
	Notes:										
2	SC-100C-610	12-1-20	1245	12-1-20	1256	HQ 440D	12-1-20	0000	10	Cameron Stone	7.12
	Notes:										
3	SC-100B-WDR-611	1-4-21	1400	1-4-21	1401	HQ440D	1-4-21	0000	-57.28	Cameron Stone	7.02
	Notes:										
4	SC-700B-WDR-611	1-4-21	1400	1-4-21	1404	HQ440D	1-4-21	0000	-57.28	Cameron Stone	7.05
	Notes:										
5	SC-701-WDR-611	1-4-21	1400	1-4-21	1406	HQ440D	1-4-21	0000	-57.28	Cameron Stone	7.47
	Notes:										
6	SC-100B-WDR-612	2-2-21	1305	2-2-21	1319	HQ440D	2-2-21	0014	-58.12	Cameron Stone	6.91
	Notes:										
7	SC-100B-WDR-612	2-2-21	1315	2-2-21	1321	HQ440D	2-2-21	0014	-58.12	Cameron Stone	6.93
	Notes:										

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

	Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
1	SC-100B-WDR-613	3-2-21	1440	3-2-21	1441	HQ440D	3-2-21	0036	58.29	JAREN HERNANDEZ	7.04
	Notes:										
2	SC-700B-WDR-613	3-2-21	1446	3-2-21	1449	HQ440D	3-2-21	0036	-58.29	JAREN HERNANDEZ	6.98
	Notes:										
3											
	Notes:										
4											
	Notes:										
5											
	Notes:										
6											
	Notes:										
7											
	Notes:										

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4