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October 15, 2020

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**Subject: Topock IM-3 Third Quarter 2020 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 Third Quarter 2020 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 1,005,476,120 gallons of water and removed approximately 8,010 pounds of total chromium from August 1, 2005 through September 30, 2020.

Pamela S. Innis
Scot Stormo
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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) 326-5582.

Sincerely,

A handwritten signature in blue ink, appearing to read "C. Russell", is positioned below the word "Sincerely,".

Curt Russell
Topock Project Manager

Enclosures:

Topock IM-3 Third Quarter 2020 Monitoring Report

cc: Aaron Yue, California Department of Toxic Substances Control

Topock Project Executive Abstract

Document Title: Topock IM-3 Third Quarter 2020 Monitoring Report Final Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Date of Document: October 15, 2020 Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other) PG&E
Priority Status: <input type="checkbox"/> HIGH <input type="checkbox"/> MED <input checked="" type="checkbox"/> LOW	Is this time critical? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type of Document: <input type="checkbox"/> Draft <input checked="" type="checkbox"/> Report <input type="checkbox"/> Letter <input type="checkbox"/> Memo <input type="checkbox"/> Other / Explain:	Action Required: <input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Review and Comment Return to: _____ By Date: _____ <input type="checkbox"/> Other / Explain:
What does this information pertain to? <input type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) <input type="checkbox"/> RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) <input type="checkbox"/> Corrective Measures Study (CMS)/Feasibility Study (FS) <input type="checkbox"/> Corrective Measures Implementation (CMI)/Remedial Action (RA) <input type="checkbox"/> California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) <input checked="" type="checkbox"/> Interim Measures <input type="checkbox"/> Other / Explain:	Is this a Regulatory Requirement? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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: <input type="checkbox"/> Permit <input type="checkbox"/> Other / Explain:
Brief Summary of attached document: This report covers the Interim Measures No. 3 (IM-3) groundwater treatment system monitoring activities during the Third Quarter 2020 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 Third Quarter 2020 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.	



PG&E Topock Compressor Station Needles, California

Third Quarter 2020 Monitoring Report Interim Measure No. 3 Groundwater Treatment System

October 15, 2020

Pacific Gas and Electric Company

Prepared for
Colorado River Basin Regional Water Quality Control Board
and
United States Department of the Interior



Third Quarter 2020 Monitoring Report
for Interim Measure No. 3 Groundwater Treatment System

PG&E Topock Compressor Station
Needles, California

Prepared for

United States Department of the Interior
and
Colorado River Basin Regional Water Quality Control Board

on behalf of

Pacific Gas and Electric Company

October 15, 2020

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	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 Third Quarter 2020. 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 Third Quarter 2020, extraction well TW-3D 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-1 were not operated during the Third Quarter 2020. The recorded operational run time for the IM-3 groundwater extraction system (combined or individual pumping), by month, was approximately:

- 95.5 percent during July 2020
- 81.1 percent during August 2020
- 92.3 percent during September 2020

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 Third Quarter 2020 are detailed in Section 4.

4. Groundwater Treatment System Flow Rates

The Third Quarter 2020 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 15,787,241 gallons of extracted groundwater during the Third Quarter 2020. Six containers of solids (sludge) were transported offsite from the IM-3 facility during Third Quarter 2020.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 10.4 percent downtime during Third Quarter 2020) 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 July 2020

During July 2020, 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 July 2020. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on December 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 95.5 percent during the July 2020 reporting period.

The IM-3 facility treated approximately 5,680,458 gallons of extracted groundwater during July 2020. The IM-3 facility also treated 18,800 gallons of Final Groundwater Remedy wastewater, 400 gallons of sampling purge water and zero gallons of groundwater from injection well backwashing/re-development during July 2020. Three containers of solids from the IM-3 facility were transported offsite during July 2020.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 4.5 percent downtime during July 2020) are summarized below.

- **July 1 - 6, 2020 (unplanned):** The extraction well system was offline from 12:02 a.m. to 12:36 a.m. on July 1, 2020; from 4:52 p.m. to 6:48 p.m. on July 1, 2020; from 12:32 p.m. to 1:50 p.m. on July 2, 2020; from 5:32 a.m. to 6:28 a.m. on July 3, 2020; from 10:06 p.m. to 11:26 p.m. on July 3, 2020; from 7:06 p.m. to 8:32 p.m. on July 4, 2020; from 2:04 p.m. to 3:22 p.m. on July 5, 2020; and from 2:22 a.m. to 3:16 p.m. on July 6, 2020 due to a high-water level 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 9 hours 42 minutes.
- **July 6, 2020 (unplanned):** The extraction well system was offline from 6:22 a.m. to 10:10 a.m. to replace the flow meters at the Clarifier Feed Pump (P-400) and the Plant Effluent Flow (FIT700). Extraction system downtime was 3 hours 48 minutes.
- **July 6, 2020 (unplanned):** The extraction well system was offline from 7:34 p.m. to 8:50 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 16 minutes.

- **July 7 - 9, 2020 (unplanned):** The extraction well system was offline from 10:24 a.m. to 11:20 a.m. on July 7, 2020 and from 7:12 p.m. to 8:18 p.m. on July 9, 2020 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 2 hours 2 minutes.
- **July 11, 2020 (unplanned):** The extraction well system was offline from 11:14 a.m. to 12:24 p.m. and from 12:26 p.m. to 1:04 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 48 minutes.
- **July 12, 2020 (unplanned):** The extraction system was offline from 9:50 a.m. to 9:52 a.m. due to a programmable logic controller (PLC) and human machine interface (HMI) connectivity issue. Extraction system downtime was 2 minutes.
- **July 18, 2020 (unplanned):** The extraction well system was offline from 2:24 a.m. to 4:50 a.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 26 minutes.
- **July 19, 2020 (unplanned):** The extraction well system was offline from 9:36 p.m. to 10:24 p.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 48 minutes.
- **July 20, 2020 (unplanned):** The extraction well system was offline from 12:12 p.m. to 2:16 p.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 4 minutes.
- **July 22, 2020 (planned):** The extraction well system was offline from 7:38 a.m. to 8:22 a.m. due to testing of the pipeline critical alarms and leak detection system. Extraction system downtime was 44 minutes.
- **July 22, 2020 (unplanned):** The extraction well system was offline from 12:28 a.m. to 1:46 p.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 18 minutes.
- **July 23, 2020 (planned):** The extraction well system was offline from 8:42 a.m. to 9:10 a.m. to process wastewater (8,000 gallons) generated from remedy well construction activities. Extraction system downtime was 28 minutes.
- **July 23 - 25, 2020 (unplanned):** The extraction well system was offline from 10:58 p.m. to 11:44 p.m. on July 23, 2020 and from 6:10 a.m. to 6:38 a.m. on July 25, 2020 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 14 minutes.
- **July 25, 2020 (unplanned):** The extraction well system was offline from 4:52 p.m. to 7:48 p.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 56 minutes.
- **July 26, 2020 (unplanned):** The extraction well system was offline from 1:58 a.m. to 4:12 a.m. because the Acid Pump (P-801B) which feeds the Treated Water Storage Tank (T-700) failed. The pump was repaired and extraction resumed. Extraction system downtime was 2 hours 14 minutes.
- **July 31, 2020 (unplanned):** The extraction well system was offline from 8:42 a.m. to 9:06 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 24 minutes.

4.2 August 2020

During August 2020, 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 August 2020; an attempt was made to extract water using well TW-2D during August 2020, but the well was found to be inoperable. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on December 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 81.1 percent during the August 2020 reporting period.

The IM-3 facility treated approximately 4,855,518 gallons of extracted groundwater during August 2020. The IM-3 facility also treated 57,147 gallons of Final Groundwater Remedy wastewater, 700 gallons of sampling purge water, and zero gallons of groundwater from injection well backwashing/re-development during August 2020. Two containers of solids from the IM-3 facility were transported offsite during August 2020.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 18.9 percent downtime during August 2020) are summarized below.

- **August 1, 2020 (unplanned):** The extraction well system was offline from 5:34 p.m. to 8:26 p.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 52 minutes.
- **August 6, 2020 (unplanned):** The extraction well system was offline from 6:26 a.m. to 6:42 a.m. to process wastewater (400 gallons) generated from remedy well construction activities. A leak was found in the brine return line at the MW-20 Bench; the leak was contained in secondary containment (a flange fitting was loose), and the process was stopped. Extraction system downtime was 16 minutes.
- **August 6, 2020 (unplanned):** The extraction system was offline from 7:28 a.m. to 7:30 a.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 2 minutes.
- **August 6, 2020 (planned):** The extraction well system was offline from 7:44 a.m. to 7:58 a.m. to confirm that the brine return line was repaired and to process wastewater (3,050 gallons) generated from remedy well construction activities. Extraction system downtime was 14 minutes.
- **August 6, 2020 (unplanned):** The extraction well system was offline from 3:44 p.m. to 4:34 p.m. due to a high-water level 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 50 minutes.
- **August 8, 2020 (planned):** The extraction well system was offline from 8:22 a.m. to 9:24 a.m.; and from 12:06 p.m. to 1:02 p.m. to process wastewater (6,000 gallons) generated from remedy well construction activities. Extraction system downtime was 1 hour 58 minutes.
- **August 8, 2020 (unplanned):** The extraction well system was offline from 7:32 p.m. to 8:28 p.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 56 minutes.
- **August 9-12, 2020 (planned):** The extraction well system was offline from 4:18 a.m. August 9, 2020 to 8:44 a.m. August 12, 2020 for the semiannual scheduled maintenance outage. Extraction system downtime was 3 days 4 hours 26 minutes.
- **August 12, 2020 (unplanned):** The extraction well system was offline from 9:20 a.m. to 2:12 p.m. because as the plant came back online from the semiannual maintenance outage there were low pH values throughout the plant and higher conductivity values. The plant was kept in recirculation until the pH and conductivity values returned to normal. Extraction system downtime was 4 hours 52 minutes.
- **August 14-16, 2020 (unplanned):** The extraction well system was offline from 2:16 a.m. to 3:14 a.m. and from 10:18 p.m. to 11:00 p.m. on August 14, 2020; from 6:36 a.m. to 11:38 a.m. on August 15, 2020; and from 2:26 p.m. to 3:22 p.m. on August 16, 2020 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 7 hours 38 minutes.
- **August 17, 2020 (planned):** The extraction well system was offline from 6:20 a.m. to 6:32 a.m. to process wastewater generated from remedy well construction activities. Extraction system downtime was 12 minutes.

- **August 17, 2020 (unplanned):** The extraction well system was offline from 2:10 p.m. to 3:24 p.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 14 minutes.
- **August 18, 2020 (planned):** The extraction well system was offline from 6:06 a.m. to 6:12 a.m. to process wastewater generated from remedy well construction activities. Extraction system downtime was 6 minutes.
- **August 18, 2020 (unplanned):** The extraction well system was offline from 6:30 p.m. to 7:46 p.m. due to a City of Needles power outage. The outage tripped out the microfilter and the air compressors. Extraction system downtime was 1 hour 16 minutes.
- **August 19, 2020 (unplanned):** The extraction system was offline from 3:56 a.m. to 3:58 a.m. and from 7:04 a.m. to 7:06 a.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 4 minutes.
- **August 19, 2020 (unplanned):** The extraction well system was offline from 12:10 p.m. to 1:42 p.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 32 minutes.
- **August 20-21, 2020 (unplanned):** The extraction well system was offline from 11:52 p.m. on August 20, 2020 to 12:46 p.m. on August 21, 2020; and from 12:48 a.m. to 12:58 a.m., from 1:02 a.m. to 1:30 a.m., and from 1:32 a.m. to 3:54 a.m. on August 21, 2020 due to a City of Needles power outage caused by high temperatures. The power outage tripped out the microfilter and the blowers resulting in a high-water level in T-100. Extraction system downtime was 3 hours 54 minutes.
- **August 22, 2020 (unplanned):** The extraction well system was offline from 2:56 a.m. to 3:54 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 58 minutes.
- **August 22, 2020 (unplanned):** The extraction well system was offline from 5:04 a.m. to 5:50 a.m. due to a tripped breaker for TW-3D. The operator reset the breaker and restarted the pump. Extraction system downtime was 46 minutes.
- **August 23, 2020 (unplanned):** The extraction well system was offline from 3:18 a.m. to 4:04 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 46 minutes.
- **August 23, 2020 (unplanned):** The extraction well system was offline from 4:32 a.m. to 4:44 a.m. due to a tripped breaker for TW-3D. The operator reset the breaker and restarted the pump. Extraction system downtime was 12 minutes.
- **August 24, 2020 (unplanned):** The extraction well system was offline from 7:46 a.m. to 9:08 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 22 minutes.
- **August 24, 2020 (unplanned):** The extraction well system was offline from 9:28 a.m. to 9:34 a.m. due to a tripped breaker for TW-3D. The operator reset the breaker and restarted the pump. Extraction system downtime was 6 minutes.
- **August 24, 2020 (unplanned):** The extraction well system was offline from 9:40 a.m. to 9:44 a.m.; from 9:48 a.m. to 9:50 a.m.; from 9:54 a.m. to 9:56 a.m.; from 10:00 a.m. to 10:04 a.m.; from 10:08 a.m. to 10:10 a.m., and from 10:14 a.m. to 10:20 a.m. due to a tripped breaker for TW-3D. The TW-3D pump and motor wouldn't stay running. The heaters in the TW-3D panel/bucket kept tripping which stops the well from running. Technicians and electricians were scheduled to troubleshoot and inspect on August 25, 2020. Extraction system downtime was 20 minutes.
- **August 25, 2020 (unplanned):** The extraction well system was offline from 10:36 a.m. to 11:28 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 52 minutes.

- **August 25-26, 2020 (unplanned):** The extraction well system was offline from 11:40 a.m. to 11:44 a.m., from 11:48 a.m. to 11:52 a.m., from 11:56 a.m. to 12:02 p.m., from 12:06 p.m. to 12:10 p.m., from 12:22 p.m. to 12:32 p.m., from 12:46 p.m. to 1:38 p.m., and from 1:50 p.m. to 5:14 p.m. on August 25, 2020; from 5:20 p.m. on August 25, 2020 to 10:06 a.m. on August 26, 2020; and from 10:08 a.m. to 10:14 a.m. on August 26, 2020 due to a tripped breaker for TW-3D. The TW-3D pump and motor wouldn't stay running. Operator and IT technician tried troubleshooting, but no obvious issue was found. Extraction system downtime was 21 hours 36 minutes.
- **August 27-28, 2020 (unplanned):** The extraction well system was offline from 6:34 a.m. to 7:08 a.m. on August 27, 2020 and from 9:18 a.m. to 9:42 a.m. on August 28, 2020 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 58 minutes.
- **August 28, 2020 (unplanned):** The extraction well system was offline from 9:54 a.m. to 10:24 a.m.; from 10:28 a.m. to 10:34 a.m.; from 10:38 a.m. to 11:00 a.m.; and from 11:02 a.m. to 11:28 a.m. due to a tripped breaker for TW-3D. The TW-3D pump and motor wouldn't stay running. Cascade team and Groundwater Partners team replaced the TW-3D pump and motor to eliminate that as a potential cause. Extraction system downtime was 1 hour 24 minutes.
- **August 29, 2020 (unplanned):** The extraction well system was offline from 12:44 a.m. to 1:40 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 56 minutes.
- **August 29, 2020 (unplanned):** The extraction well system was offline from 9:46 a.m. to 9:50 a.m., from 9:52 a.m. to 9:56 a.m., from 9:58 a.m. to 10:10 a.m., from 10:12 a.m. to 10:38 a.m., 10:40 a.m. to 10:44 a.m., from 10:46 a.m. to 10:50 a.m., from 10:52 to 12:00 p.m. (noon), from 12:02 p.m. 12:22 p.m., from 12:24 p.m. to 1:32 p.m., from 1:38 p.m. to 1:42 p.m., 1:52 p.m. to 2:02 p.m., and from 2:04 p.m. to 2:16 p.m. due to a tripped breaker for TW-3D. The TW-3D pump and motor wouldn't stay running. During this time, an attempt was made to extract groundwater from TW-2D, but it would not stay on. Parts have been since been ordered to replace the Motor Control Center (MCC) and disconnect for TW-2D. Extraction system downtime was 3 hours 56 minutes.
- **August 29, 2020 (unplanned):** The extraction well system was offline from 3:34 p.m. to 4:44 p.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 10 minutes.
- **August 29, 2020 (unplanned):** The extraction system was offline from 5:16 p.m. to 5:20 p.m. and from 7:10 p.m. to 7:12 p.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 6 minutes.
- **August 30, 2020 (unplanned):** The extraction well system was offline from 9:50 a.m. to 10:32 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 42 minutes.
- **August 30, 2020 (unplanned):** The extraction system was offline from 11:00 a.m. to 11:04 a.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 4 minutes.

4.3 September 2020

During September 2020, 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 September 2020. A portion of the piping/conduit for PE-01 at the MW-20 Bench was disconnected from the IM-3 system on December 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 92.3 percent during the September 2020 reporting period.

The IM-3 facility treated approximately 5,251,265 gallons of extracted groundwater during September 2020. The IM-3 facility also treated 16,000 gallons of Final Groundwater Remedy wastewater, zero

gallons of sampling purge water, and 28,600 gallons of groundwater from injection well backwashing/re-development during September 2020. One container of solids from the IM-3 facility was transported offsite during September 2020.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 7.7 percent downtime during September 2020) are summarized below.

- **September 2, 2020 (unplanned):** The extraction well system was offline from 6:42 p.m. to 8:12 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 30 minutes.
- **September 3, 2020 (unplanned):** The extraction well system was offline from 11:18 a.m. to 12:26 p.m. due to the air compressor failing. The air compressor belt broke; it was changed, and the compressor was restarted. Extraction system downtime was 1 hour 8 minutes.
- **September 4, 2020 (unplanned):** The extraction well system was offline from 6:44 p.m. to 7:36 p.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 52 minutes.
- **September 4, 2020 (unplanned):** The extraction well system was offline from 9:08 p.m. to 11:26 p.m. due to replacing microfilter modules. Extraction system downtime was 2 hours 18 minutes.
- **September 5-7, 2020 (unplanned):** The extraction well system was offline from 10:26 a.m. to 10:54 a.m. on September 5, 2020; from 7:04 p.m. to 7:52 p.m. on September 6, 2020; from 6:20 p.m. to 7:06 p.m. on September 7, 2020; and from 7:10 p.m. to 7:18 p.m. on September 7, 2020 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 2 hour 10 minutes.
- **September 7-8, 2020 (unplanned):** The extraction system was offline from 7:28 p.m. to 7:34 p.m., from 7:40 p.m. to 7:46 p.m., and from 7:50 p.m. to 8:02 p.m. on September 7, 2020; from 8:28 p.m. on September 7, 2020 to 2:06 p.m. on September 8, 2020; and from 2:14 p.m. to 3:50 p.m. and from 3:54 p.m. to 4:28 p.m. on September 8, 2020 due to TW-3D shutting off for an unknown cause. The cause was investigated, repairs were attempted, and the system was restarted; however, the issue was not resolved (see below). Extraction system downtime was 20 hours 12 minutes.
- **September 8-11, 2020 (unplanned):** The extraction well system was offline from 11:34 p.m. on September 8, 2020 to 12:26 a.m. on September 9, 2020; from 3:16 a.m. to 4:02 a.m. on September 10, 2020; and from 2:40 a.m. to 3:36 a.m. on September 11, 2020 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 2 hours 34 minutes.
- **September 11, 2020 (unplanned):** The extraction well system was offline from 6:14 a.m. to 6:16 a.m. and from 7:00 a.m. to 7:04 a.m. on September 11, 2020 due to TW-3D failing and working on the electrical components in the MCC enclosure (bucket) for TW-3D. Extraction system downtime was 6 minutes.
- **September 12-13, 2020 (unplanned):** The extraction well system was offline from 1:50 a.m. to 2:50 a.m. on September 12, 2020 and from 3:42 a.m. to 7:54 a.m. on September 13, 2020 due to a high-water level in T-100 and TW-3D not working. The operator shut down extraction so the tank could drain below the high-level alarm setpoint. The TW-3D MCC enclosure was also replaced and the TW-3D starting issue was resolved. Extraction system downtime was 5 hours 12 minutes.
- **September 13, 2020 (unplanned):** The extraction system was offline from 7:56 a.m. to 7:58 a.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 2 minutes.
- **September 14, 2020 (unplanned):** The extraction well system was offline from 3:08 a.m. to 3:56 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 48 minutes.
- **September 14, 2020 (unplanned):** The extraction well system was offline from 10:00 a.m. to 11:06 a.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 6 minutes.

- **September 18-19, 2020 (unplanned):** The extraction well system was offline from 3:14 a.m. to 4:06 a.m. on September 18, 2020 and from 6:32 p.m. to 7:42 p.m. on September 19, 2020; 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 2 hours 34 minutes.
- **September 20, 2020 (unplanned):** The extraction well system was offline from 3:28 p.m. to 4:00 p.m. and from 4:06 p.m. to 4:18 p.m. due to a City of Needles power outage. Extraction system downtime was 44 minutes.
- **September 21, 2020 (unplanned):** The extraction well system was offline from 1:58 a.m. to 2:56 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 58 minutes.
- **September 22, 2020 (unplanned):** The extraction well system was offline from 11:26 a.m. to 12:44 p.m. due to replacing microfilter modules. Extraction system downtime was 1 hour 18 minutes.
- **September 22, 2020 (unplanned):** The extraction system was offline from 3:26 p.m. to 15:40 a.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 14 minutes.
- **September 22, 2020 (unplanned):** The extraction well system was offline from 3:44 p.m. to 8:14 p.m. due to a City of Needles power outage. Also, the backup generator would not start due to needing new batteries. Batteries were replaced. Extraction system downtime was 4 hours 30 minutes.
- **September 23, 2020 (unplanned):** The extraction system was offline from 4:46 p.m. to 4:52 p.m. due to a PLC and HMI connectivity issue. Extraction system downtime was 6 minutes.
- **September 23, 2020 (unplanned):** The extraction well system was offline from 4:56 p.m. to 6:40 p.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 44 minutes.
- **September 26, 2020 (planned):** The extraction well system was offline from 10:48 a.m. to 11:26 a.m. due to testing of the pipeline critical alarms and leak detection system. Extraction system downtime was 38 minutes.
- **September 29, 2020 (unplanned):** The extraction well system was offline from 1:32 a.m. to 4:04 a.m. due to replacing microfilter modules and 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 2 hours 32 minutes.
- **September 29, 2020 (planned):** The extraction well system was offline from 8:34 a.m. to 9:04 a.m. to process wastewater (8,000 gallons) generated from remedy well construction activities. Extraction system downtime was 30 minutes.
- **September 29, 2020 (unplanned):** The extraction system was offline from 2:20 p.m. to 2:30 p.m. due to an update of the onsite computers. Extraction system downtime was 10 minutes.
- **September 30, 2020 (planned):** The extraction well system was offline from 7:54 a.m. to 9:36 a.m. to process wastewater (8,000 gallons) generated from remedy well construction activities. Extraction system downtime was 1 hour 42 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 Third Quarter 2020, 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 Third Quarter 2020 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 Project Manager

Date: October 15, 2020

Tables

Table 1. Sampling Station Descriptions*Third Quarter 2020 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System*

Sample Station	Sample ID ^a	Location
Sampling Station A: Groundwater Treatment System Influent	SC-100B-WDR-###	Sample collected from tap on pipe into T-100 (see 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 (see 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 (see 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 (see 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*Third Quarter 2020 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)
July 2020 Average Monthly Flowrate	127.7 ^d	129.6	0.5
August 2020 Average Monthly Flowrate	110.1 ^e	110.1	0.6
September 2020 Average Monthly Flowrate	122.2 ^f	122.3	0.4

Notes:

gpm: gallons per minute

^a Extraction well TW-3D was operated during the Third Quarter 2020. Extraction wells TW-2D, TW-2S and PE-1 were not operated during Third Quarter 2020.

^b The difference between influent flow rate (including groundwater remedy wastewater and injection well backwash water) and the sum of the effluent and reverse osmosis concentrate flow rates during the Third Quarter 2020 is approximately 0.84 percent.

^c Due to Final Groundwater Remedy construction activities at the MW-20 bench, RO concentrate has not been 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.

^d The larger than normal amount of groundwater remedy wastewater (18,800 gallons) during July 2020 was included in the system influent value shown.

^e The larger than normal amount of groundwater remedy wastewater (57,141 gallons) during August 2020 was included in the system influent value shown.

^f The larger than normal amount of injection well development water and groundwater remedy wastewater (44,600 gallons) during September 2020 was included in the system influent value shown.

Table 3. Sample Collection Dates*Third Quarter 2020 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System*

Parameter	Sample Collection Dates	Results
Influent	July 7, 2020 August 4, 2020 September 1, 2020	See Table 4
Effluent	July 7, 2020 August 4, 2020 September 1, 2020	See Table 5
Reverse Osmosis Concentrate	July 7, 2020	See Table 6
Sludge ^a	July 7, 2020	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
Third Quarter 2020 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes Units ^b	MDL	TDS	Turbidity	Specific Conductance	Field ^c pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate/Nitrite (as N)	Sulfate	Iron	Zinc
		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
		50.0	0.100	0.100		0.650	1.70	200	0.0670	0.160	0.0810	0.150	0.0740	0.550	0.0480	0.130	0.260	0.210	0.260	0.160	2.00	18.0	2.30
Sampling Frequency		Monthly						Quarterly															
Sample ID	Date																						
SC-100B-WDR-604	7/7/2020	4600	0.310	7000	7.6	410	400	150	ND (0.200)	ND (0.500)	0.770	32.0	0.920	ND (1.00)	2.70	ND (1.00)	6.80	23.0	1.00 R	2.90	480	ND (20.0)	ND (10.0)J
	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	0.250	25.0	20.0	10.0
SC-100B-WDR-605	8/4/2020	4400	0.190	7200	7.5	420	440	ND (250)	---	ND (0.500)	ND (0.100)	32.0	0.780	ND (1.00)	---	ND (1.00)	7.10	23.0	1.00 R	---	---	ND (100)	ND (10.0)J
	RL	50.0	0.100	0.100	---	5.00	10.0	250	---	0.500	0.100	1.00	0.500	1.00	---	1.00	0.500	0.500	1.00	---	---	100	10.0
SC-100B-WDR-607	9/1/2020	4600	0.190	7000	7.0	420	420	---	---	---	---	---	---	---	---	---	9.90	---	---	---	---	140 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.

Table 5. Effluent Monitoring Results^a
Third Quarter 2020 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes Units ^c MDL ^d		TDS	Turbidity	Specific Conductance	Field ^e pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate/Nitrite (as N)	Sulfate	Iron	Zinc	
		mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/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
		50.0	0.100	0.100		0.130	0.0330	200	0.0670	0.160	0.0810	0.150	0.0740	0.550	0.0480	0.130	0.260	0.210	0.260	0.160	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	
	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	
Sampling Frequency		Monthly																						
Sample ID	Date																							
SC-700B-WDR-604	7/7/2020	4500	0.280	6900	7.4	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	23.0	0.860	ND (1.00)	2.50	ND (1.00)	64.0	23.0	ND (1.00)	3.20	460	23.0	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-605	8/4/2020	4500	0.670	7100	7.1	ND (1.00)	ND (0.200)	ND (250)	ND (0.200)	ND (0.500)	ND (0.100)	24.0	0.900	ND (1.00)	2.20	ND (1.00)	63.0	19.0	ND (1.00)	3.00	480	ND (100)	ND (10.0)	
	RL	50.0	0.100	0.100	---	1.00	0.200	250	0.200	0.500	0.100	1.00	0.500	1.00	0.500	1.00	0.500	0.500	1.00	0.250	25.0	100	10.0	
SC-700B-WDR-607	9/1/2020	4200	0.160	6900	7.0	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.200)	ND (0.500)	ND (0.100)	17.0	1.10	ND (1.00)	2.50	ND (1.00)	1.70	22.0	ND (1.00)	2.60	450	55.0	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	

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.

Table 6. Reverse Osmosis Concentrate Monitoring Results^a
Third Quarter 2020 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes	Units ^b	MDL	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	
			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	
			500	0.100		0.00013	0.00033	0.00016	0.000081	0.00075	0.000042	0.000053	0.000042	0.00055	0.190	0.00013	0.0011	0.00013	0.00026	0.00036	0.00023	0.00019	0.00028	0.0023	
Sampling Frequency			Quarterly																						
Sample ID	Date																								
SC-701-WDR-604	7/7/2020	38000	50000	8.2	0.00170	ND (0.0020)	ND (0.00050)	0.00170	0.230	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00390	24.0	ND (0.0010)	0.230	ND (0.00020)	0.0270	0.0450	ND (0.00050)	ND (0.00050)	0.00350	ND (0.0100)		
RL		500	0.100	---	0.0010	0.0020	0.00050	0.00010	0.0050	0.00050	0.00050	0.00050	0.0010	2.00	0.0010	0.0025	0.00020	0.0010	0.00050	0.00050	0.00050	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
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.

Table 7. Sludge Monitoring Results^a
Third Quarter 2020 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Analytes Units ^b MDL	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Bioassay	
	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	% Survival	
	2800	58.0	29.0	17.0	86.0	ND (3.50)	3.80	8.50	210	41.0	ND (3.50)	12.0	ND (0.350)	62.0	ND (3.50)	ND (3.50)	ND (6.90)	44.0	45.0	at 750 mg/L ^c	
Sampling Frequency		Quarterly																		Annually	
Sample ID	Date																				
Phase Separator-604-Sludge	7/7/2020	2800	58.0	29.0	17.0	86.0	ND (3.50)	3.80	8.50	210	41.0	ND (3.50)	12.0	ND (0.350)	62.0	ND (3.50)	ND (3.50)	ND (6.90)	44.0	45.0	100
RL		3.50	3.50	6.90	0.870	3.50	3.50	3.50	3.50	6.90	6.90	3.50	3.50	0.350	3.50	3.50	3.50	6.90	3.50	3.50	100

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*Third Quarter 2020 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-604	Ryan Phelps	7/7/2020	1:05:00 PM	ASSET	EPA 120.1	SC	7/8/2020	Lilia Ramit
					ASSET	EPA 200.7	AL	7/10/2020	Diane Jetajobe
					ASSET	EPA 200.7	B	7/10/2020	Diane Jetajobe
					ASSET	EPA 200.7	FE	7/10/2020	Diane Jetajobe
					ASSET	EPA 200.8	AS	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	BA	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	CR	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	CU	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	MN	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	MO	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	NI	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	PB	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	SB	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	ZN	7/10/2020	Claire Ignacio
					ASSET	EPA 218.6	CR6	7/9/2020	Ria Abes
					ASSET	EPA 300.0	FL	7/9/2020	Ria Abes
					ASSET	EPA 300.0	SO4	7/9/2020	Ria Abes
					Field	HACH	PH	7/7/2020	Ryan Phelps
					ASSET	SM 2540C	TDS	7/8/2020	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	7/9/2020	Julia Bundalian
					ASSET	SM2130B	TRB	7/8/2020	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	7/14/2020	Marion Cartin
SC-100B	SC-100B-WDR-605	Ryan Phelps	8/4/2020	8:20:00 AM	ASSET	EPA 120.1	SC	8/5/2020	Lilia Ramit
					ASSET	EPA 200.7	AL	8/9/2020	Diane Jetajobe
					ASSET	EPA 200.7	B	8/9/2020	Diane Jetajobe
					ASSET	EPA 200.7	FE	8/9/2020	Diane Jetajobe
					ASSET	EPA 200.8	AS	8/9/2020	Claire Ignacio
					ASSET	EPA 200.8	BA	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	CR	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	CU	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	MN	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	MO	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	NI	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	PB	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	SB	8/9/2020	Claire Ignacio
					ASSET	EPA 200.8	ZN	8/7/2020	Claire Ignacio
					ASSET	EPA 218.6	CR6	8/5/2020	Ria Abes
					Field	HACH	PH	8/4/2020	Ryan Phelps

Table 8. Monitoring Information*Third Quarter 2020 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-605	Ryan Phelps	8/4/2020	8:20:00 AM	ASSET	SM 2540C	TDS	8/5/2020	Lilia Ramit
					ASSET	SM2130B	TRB	8/5/2020	Lilia Ramit
SC-100B	SC-100B-WDR-607	Ron Phelps	9/1/2020	9:35:00 AM	ASSET	EPA 120.1	SC	9/2/2020	Lilia Ramit
					ASSET	EPA 200.7	FE	9/8/2020	Diane Jetajobe
					ASSET	EPA 200.8	CR	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	MN	9/4/2020	Claire Ignacio
					ASSET	EPA 218.6	CR6	9/3/2020	Quennie Manimtim
					Field	HACH	PH	9/1/2020	Ryan Phelps
					ASSET	SM 2540C	TDS	9/2/2020	Lilia Ramit
					ASSET	SM2130B	TRB	9/2/2020	Lilia Ramit
SC-700B	SC-700B-WDR-604	Ryan Phelps	7/7/2020	12:48:00 PM	ASSET	EPA 120.1	SC	7/8/2020	Lilia Ramit
					ASSET	EPA 200.7	AL	7/10/2020	Diane Jetajobe
					ASSET	EPA 200.7	B	7/10/2020	Diane Jetajobe
					ASSET	EPA 200.7	FE	7/10/2020	Diane Jetajobe
					ASSET	EPA 200.8	AS	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	BA	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	CR	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	CU	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	MN	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	MO	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	NI	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	PB	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	SB	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	ZN	7/10/2020	Claire Ignacio
					ASSET	EPA 218.6	CR6	7/9/2020	Ria Abes
					ASSET	EPA 300.0	FL	7/9/2020	Ria Abes
					ASSET	EPA 300.0	SO4	7/9/2020	Ria Abes
					Field	HACH	PH	7/7/2020	Ryan Phelps
					ASSET	SM 2540C	TDS	7/8/2020	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	7/9/2020	Julia Bundalian
					ASSET	SM2130B	TRB	7/8/2020	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	7/14/2020	Marion Cartin
SC-700B	SC-700B-WDR-605	Ryan Phelps	8/4/2020	8:30:00 AM	ASSET	EPA 120.1	SC	8/5/2020	Lilia Ramit
					ASSET	EPA 200.7	AL	8/9/2020	Diane Jetajobe
					ASSET	EPA 200.7	B	8/9/2020	Diane Jetajobe
					ASSET	EPA 200.7	FE	8/9/2020	Diane Jetajobe
					ASSET	EPA 200.8	AS	8/9/2020	Claire Ignacio
					ASSET	EPA 200.8	BA	8/7/2020	Claire Ignacio

Table 8. Monitoring Information*Third Quarter 2020 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-605	Ryan Phelps	8/4/2020	8:30:00 AM	ASSET	EPA 200.8	CR	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	CU	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	MN	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	MO	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	NI	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	PB	8/7/2020	Claire Ignacio
					ASSET	EPA 200.8	SB	8/9/2020	Claire Ignacio
					ASSET	EPA 200.8	ZN	8/7/2020	Claire Ignacio
					ASSET	EPA 218.6	CR6	8/5/2020	Ria Abes
					ASSET	EPA 300.0	FL	8/5/2020	Ria Abes
					ASSET	EPA 300.0	SO4	8/5/2020	Ria Abes
					Field	HACH	PH	8/4/2020	Ryan Phelps
					ASSET	SM 2540C	TDS	8/5/2020	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	8/11/2020	Julia Bundalian
					ASSET	SM2130B	TRB	8/5/2020	Lilia Ramit
SC-700B	SC-700B-WDR-607	Ron Phelps	9/1/2020	9:25:00 AM	BCLabs	SM4500NH3G	NH3N	8/11/2020	Marion Cartin
					ASSET	EPA 120.1	SC	9/2/2020	Lilia Ramit
					ASSET	EPA 200.7	AL	9/8/2020	Diane Jetajobe
					ASSET	EPA 200.7	B	9/8/2020	Diane Jetajobe
					ASSET	EPA 200.7	FE	9/8/2020	Diane Jetajobe
					ASSET	EPA 200.8	AS	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	BA	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	CR	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	CU	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	MN	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	MO	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	NI	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	PB	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	SB	9/4/2020	Claire Ignacio
					ASSET	EPA 200.8	ZN	9/4/2020	Claire Ignacio
					ASSET	EPA 218.6	CR6	9/3/2020	Quennie Manimtim
					ASSET	EPA 300.0	FL	9/16/2020	Julia Bundalian
					ASSET	EPA 300.0	SO4	9/16/2020	Julia Bundalian
		Ryan Phelps			Field	HACH	PH	9/1/2020	Ryan Phelps
		Ron Phelps			ASSET	SM 2540C	TDS	9/2/2020	Lilia Ramit
					ASSET	SM 4500-NO3F	NO3NO2N	9/10/2020	Julia Bundalian
					ASSET	SM2130B	TRB	9/2/2020	Lilia Ramit
					BCLabs	SM4500NH3G	NH3N	9/8/2020	Marion Cartin

Table 8. Monitoring Information*Third Quarter 2020 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-604	Ryan Phelps	7/7/2020	12:40:00 PM	ASSET	EPA 120.1	SC	7/8/2020	Lilia Ramit
					ASSET	EPA 200.8	AG	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	AS	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	BA	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	BE	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	CD	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	CO	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	CR	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	CU	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	MO	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	NI	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	PB	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	SB	7/15/2020	Claire Ignacio
					ASSET	EPA 200.8	SE	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	TL	7/10/2020	Claire Ignacio
					ASSET	EPA 200.8	V	7/13/2020	Claire Ignacio
					ASSET	EPA 200.8	ZN	7/10/2020	Claire Ignacio
					ASSET	EPA 218.6	CR6	7/9/2020	Ria Abes
					ASSET	EPA 245.1	HG	7/9/2020	Diane Jetajobe
					ASSET	EPA 300.0	FL	7/9/2020	Ria Abes
Phase Separator	Phase Separator-604-Sludge	Ryan Phelps	7/7/2020	1:25:00 PM	Field	HACH	PH	7/7/2020	Ryan Phelps
					ASSET	SM 2540C	TDS	7/8/2020	Lilia Ramit
					ASSET	EPA 300.0	FL	7/13/2020	Ria Abes
					ASSET	EPA 6010B	AG	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	BA	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	BE	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	CD	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	CO	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	CR	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	CU	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	MN	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	MO	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	NI	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	PB	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	SB	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	SE	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	TL	7/8/2020	Diane Jetajobe
					ASSET	EPA 6010B	V	7/8/2020	Diane Jetajobe

Table 8. Monitoring Information*Third Quarter 2020 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
Phase Separator	Phase Separator-604-Sludge	Ryan Phelps	7/7/2020	1:25:00 PM	ASSET	EPA 6010B	ZN	7/8/2020	Diane Jetajobe
					ASSET	EPA 7471A	HG	7/8/2020	Diane Jetajobe
					ASSET	SW 6020A	AS	7/16/2020	Claire Ignacio
					ASSET	SW 7199	CR6	7/9/2020	Ria Abes

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 CaCO ₃	MO = molybdenum
ALKC = alkalinity, carb as CaCO ₃	MOIST = moisture
AL = aluminum	NH ₃ N = ammonia (as N)
Ag = silver	NI = nickel
AS = arsenic	NO ₃ NO ₂ N = 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	SO ₄ = 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

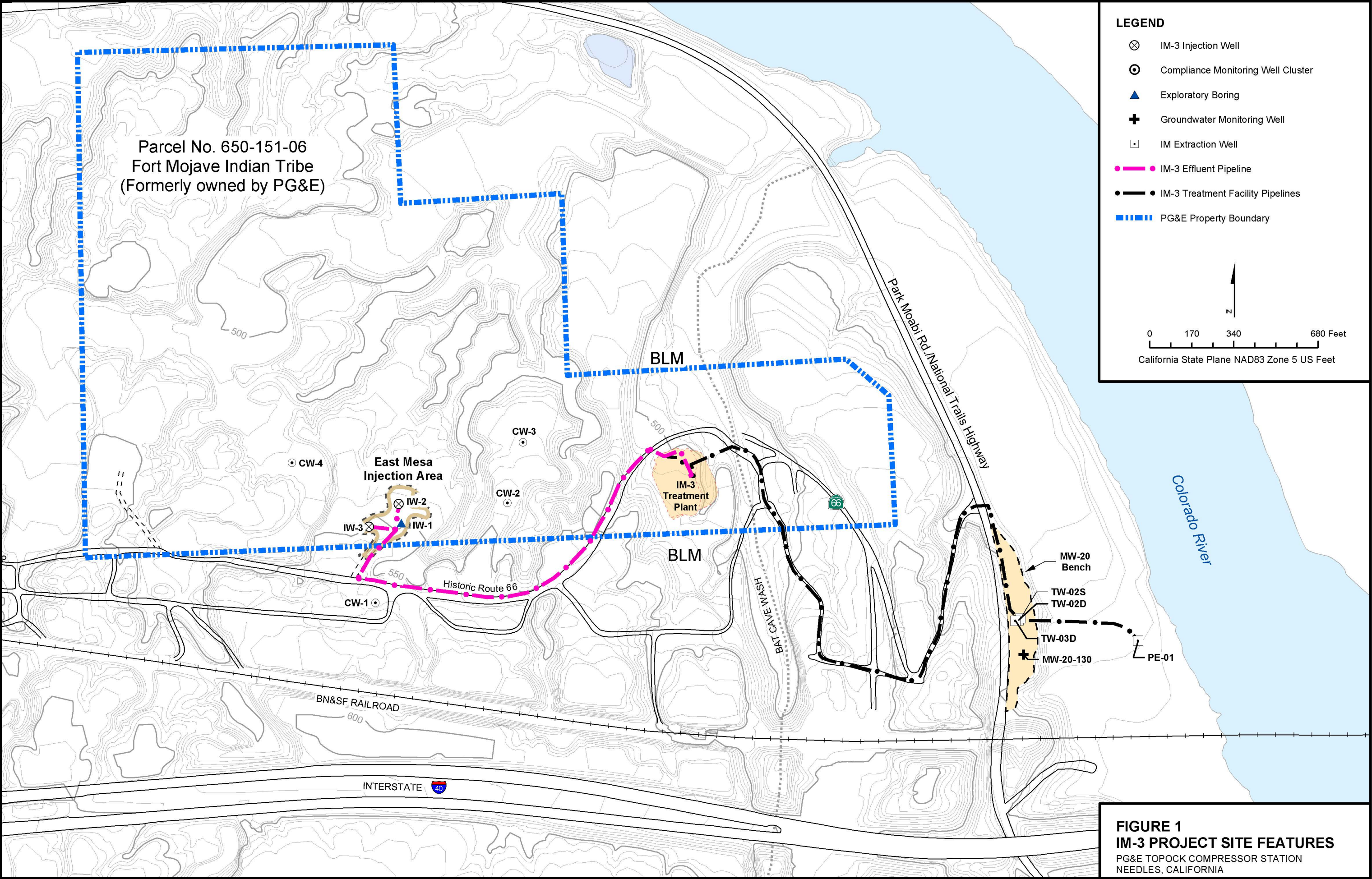
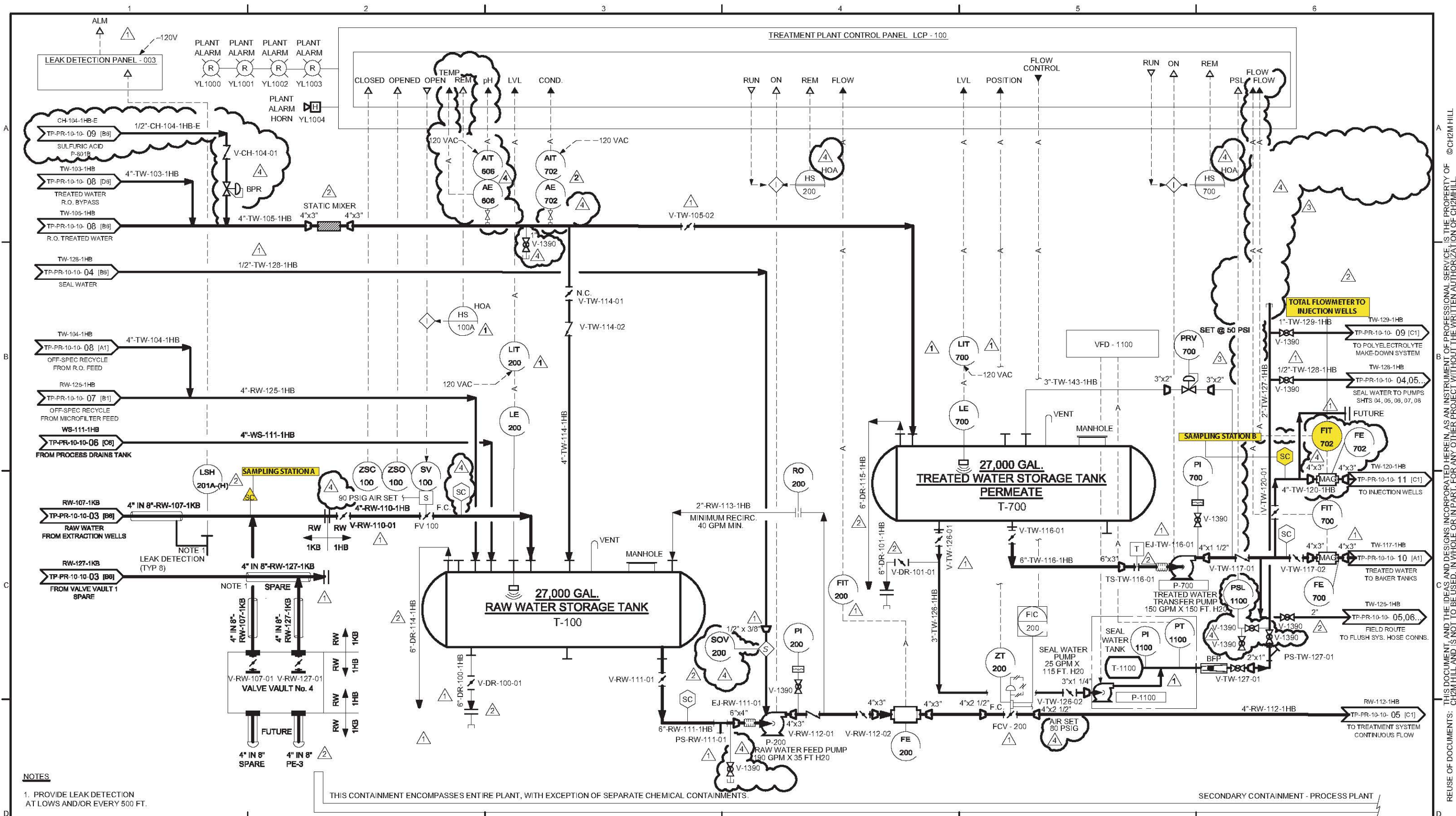


FIGURE 1
IM-3 PROJECT SITE FEATURES
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA



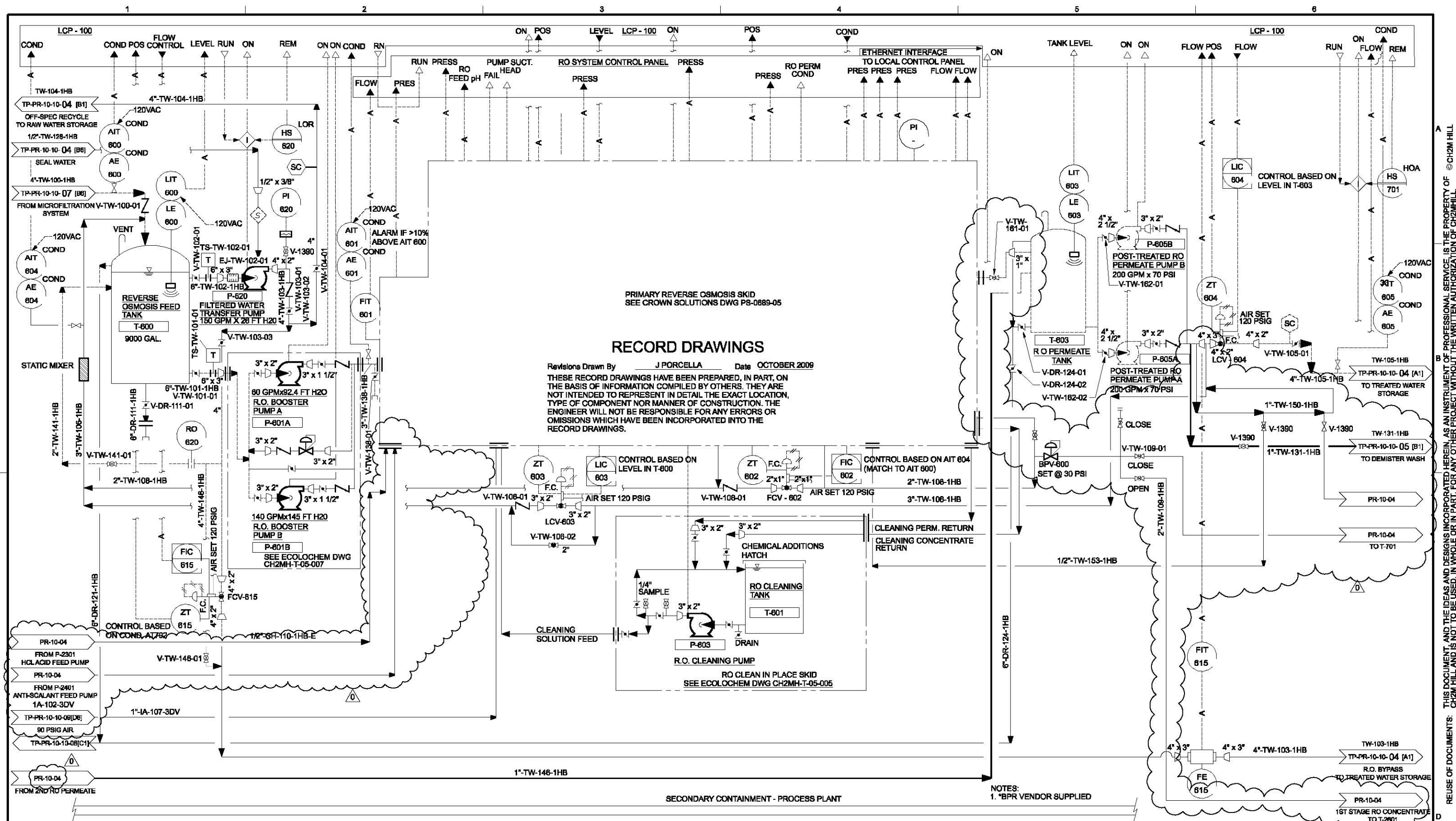
NOTES
1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.

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

SECONDARY CONTAINMENT - PROCESS PLANT

RESPONSIBLE ENGINEER: Kenneth L. Martins CH4876 Exp 6-30-06 PE #	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 4	DATE 09/21/05	PRINT DISTRIBUTION	STATUS					
	D	07/28/04	FOR INTERNAL REVIEW	EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE	ISSUED	REV	DATE	SDE	PEM
	0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL		ELECTRICAL		STATUS	PRELIMINARY				
	1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST. & CONTROL		REV.	FOR REVIEW AND APPROVAL	D	07/28/04		
	2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT	APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP
	3	02/14/05	ADDED RECIRC. LINE AND PRV VALVE TO T-700 - APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD	REVISED & APPROVED FOR CONSTRUCTION	4	/ /		
	4	09/21/05	REVISED PER AS-BUILT CONDITIONS	EFC	AJ	PIPING		GEN. ARRANG.		INTRA CO.					
														</	

PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM				PROCESS AND INSTRUMENTATION DIAGRAM SHEET 04 STORAGE AREA			
PROJ NO. 315994				DWG. NO. TP-PR-10-10-04			
CH2MHILL				REV. 4			



<div>*** ORIGINALLY STAMPED AND SIGNED BY: JOHN PORCELLA CALIFORNIA PE NO. C70145 ON 04-01-2009 ***</div>	<div>RESPONSIBLE ENGINEER John Porcella PE # C70145 Exp. 9-30-10</div>	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 0	DATE 10/02/09	PRINT DISTRIBUTION	STATUS					<div>PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 PLANT PERFORMANCE IMPROVEMENTS</div>	<div>PROCESS AND INSTRUMENTATION DIAGRAM REVERSE OSMOSIS SYSTEM SHEET ONE OF TWO</div>			
		A	2/12/09	INTERNAL REVIEW			DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE		ISSUED	REV	DATE	SDE					PEM
		B	2/12/09	CLIENT REVIEW			CIVIL	SJ	ELECTRICAL	FH	STATUS		PRELIMINARY	A	2/12/09	JP					JP
		C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP	STRUCTURAL		INST & CONTROL	JG	REV.		FOR REVIEW AND APPROVAL	C	4/01/09	JP					JP
		D	11/17/09	FINAL RECORD ISSUE	JR	JP	MECHANICAL	SJ	ARCHITECTURAL		CLIENT		APPROVED FOR CONSTRUCTION								
							PROCESS	DF	ENVIRONMENTAL		FIELD		REVISD & APPROVED FOR CONSTRUCTION	0	10/02/09	JP					JP
							PIPING	SJ	GEN. ARRANG.	SJ	INTRA CO.										
												SCALE NONE					CH2MHILL	DWG. NO. PR-10-03	REV. 0		

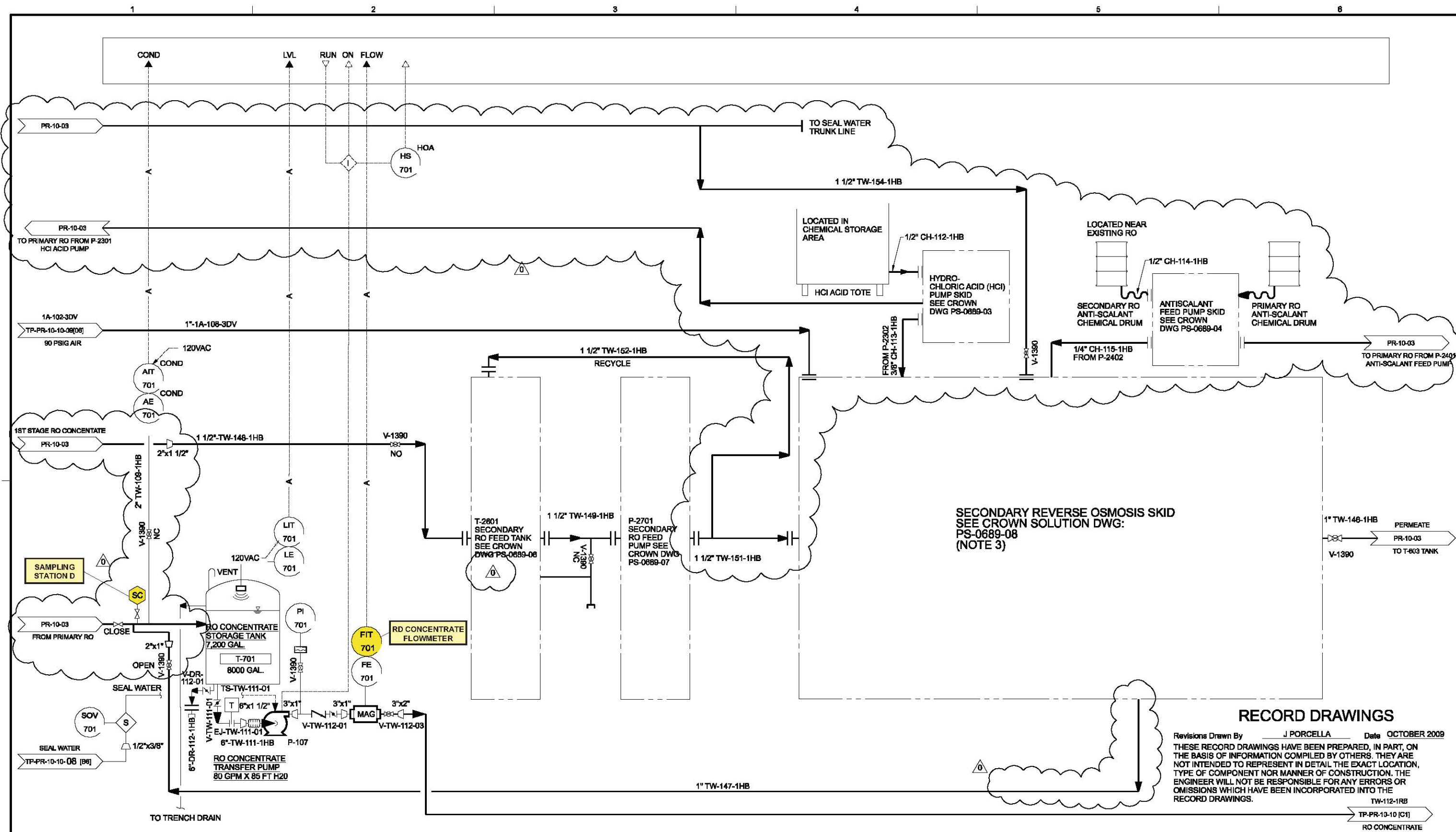
BAR IS ONE INCH ON
ORIGINAL DRAWING.
D 1

FILENAME: PR-10-03.dgn

PLOT DATE: 11/19/2009

PLOT TIME: 10:27:54 AM

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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 C70145 Exp. 6-30-10 PE #	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 0	DATE 10/02/09	PRINT DISTRIBUTION		STATUS				PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 PLANT PERFORMANCE IMPROVEMENTS		PROCESS AND INSTRUMENTATION DIAGRAM REVERSE OSMOSIS SYSTEM SHEET TWO OF TWO			
		A	2/12/09	INTERNAL REVIEW			DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE		ISSUED	REV	DATE	SDE						PEM
		B	2/12/09	CLIENT REVIEW			CIVIL	SJ	ELECTRICAL	FH	STATUS		PRELIMINARY	A	2/12/09	JP						JP
		C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP	STRUCTURAL		INST & CONTROL	JG	REV.		FOR REVIEW AND APPROVAL	C	4/01/09	JP						JP
		D	11/17/09	FINAL RECORD ISSUE	JR	JP	MECHANICAL	SJ	ARCHITECTURAL		CLIENT		APPROVED FOR CONSTRUCTION									
									PROCESS	DF	ENVIRONMENTAL		FIELD	REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP	PROJ NO. 362032			
									PIPING	SJ	GEN. ARRANG.	SJ	INTRA CD.									
SCALE												NONE		CH2MHILL		DWG. NO. PR-10-04		REV. 0				

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

RESPONSIBLE ENGINEER
 John Porcella
 PE # C70145 Exp 03-04-10

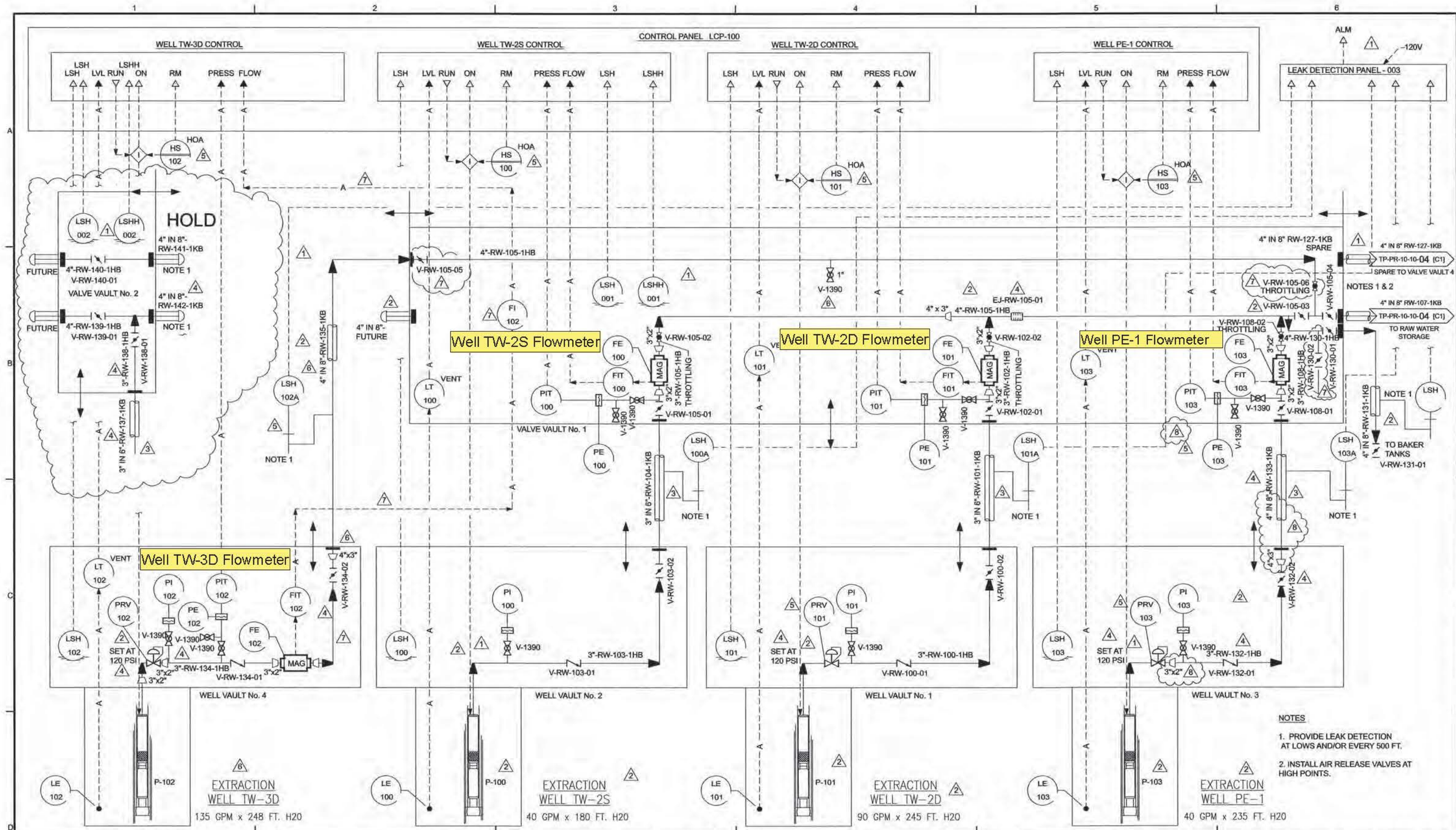
BAR IS ONE INCH ON
 ORIGINAL DRAWING.
 1"

FILENAME: PR-10-04.dgn

PLOT DATE: 11/19/2009

PLOT TIME: 10:28:26 AM

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF CH2M HILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CH2M HILL.



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

NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 8	DATE 12/06/05	PRINT DISTRIBUTION	STATUS
8	12/07/05	REMOVED PE-1 HOLDS	JBW	SDH	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL	—	ELECTRICAL	—	STATUS
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL	—	INST. & CONTROL	—	REV.
3	03/16/05	DELETED NOTES, APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL	—	ARCHITECTURAL	—	CLIENT
4	07/20/05	RELIEF VALVE SETTINGS, WELL PE-1 LINE TAGS, HOLDS REMOVED, APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS	—	ENVIRONMENTAL	—	FIELD
5	09/27/05	FINAL RECORD ISSUE	EFC	AJ	PIPING	SDH	GEN. ARRANG.	—	INTRA CO.
6	10/06/05	REVISED FINAL RECORD - ADDED TW-3D	EFC	AJ	—	—	—	—	—
7	10/19/05	REVISED AS NOTED	EFC	AJ	—	—	—	—	—

ISSUED	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	—	—

SCALE NONE

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

CH2MHILL

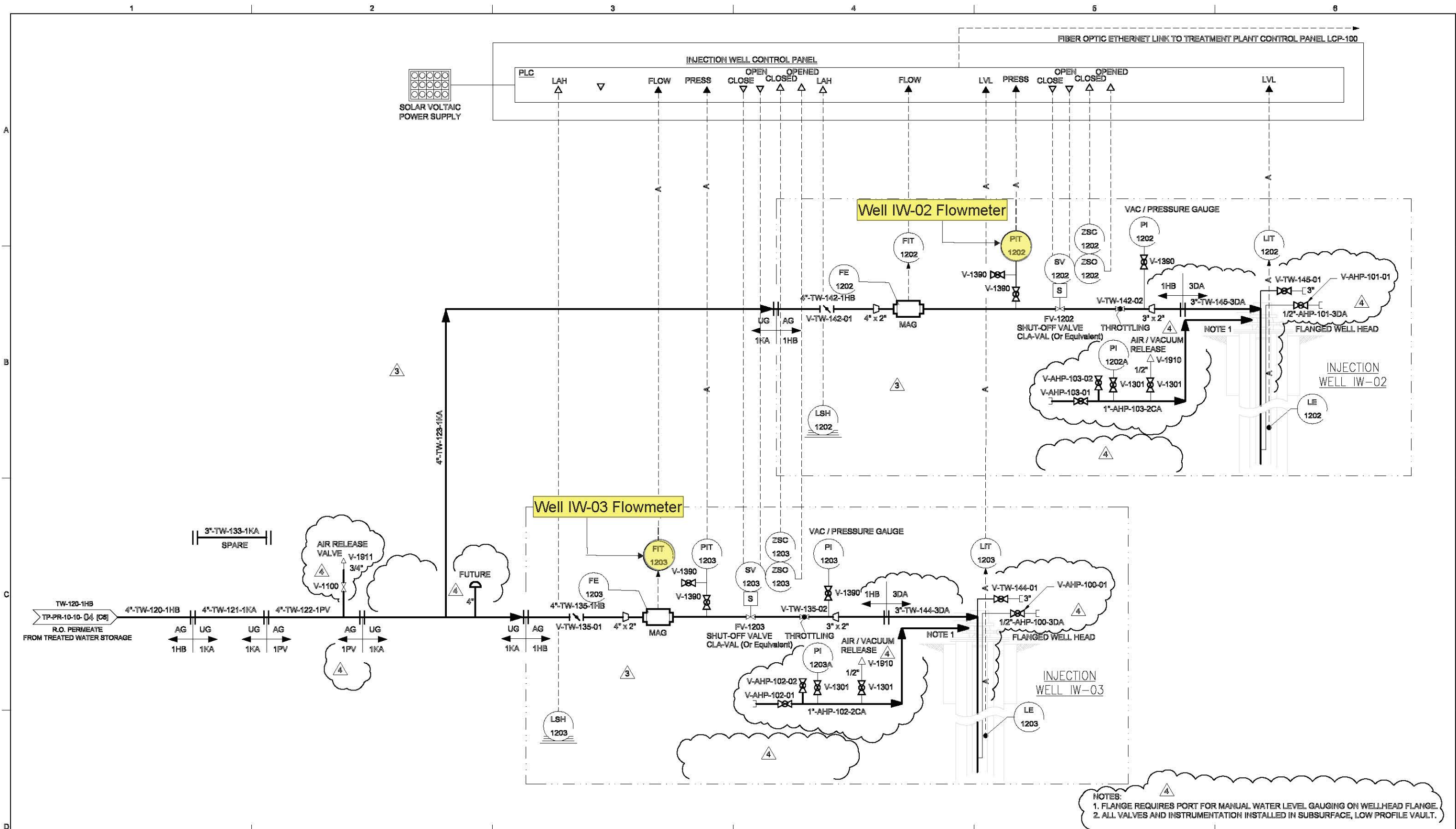
PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 03
EXTRACTION WELLS
PE-1, TW-2D, TW-2S AND TW-3D

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

FILENAME: tppr101003.dwg

PLOT DATE: 19-OCT-2005

PLOT TIME:



RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH4878 Exp 6-30-05	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 4	DATE 03/10/05	PRINT DISTRIBUTION		STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM PROJ NO. 315994		PROCESS AND INSTRUMENTATION DIAGRAM SHEET 11 INJECTION WELLS		
	A	07/28/04	FOR INTERNAL REVIEW	EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE		ISSUED	REV	DATE	SDE					
	0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL		ELECTRICAL		STATUS		PRELIMINARY								
	1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST & CONTROL		REV.		FOR REVIEW AND APPROVAL	A	07/28/04						
	2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT		APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP				
	3	02/14/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD		REVISED & APPROVED FOR CONSTRUCTION	4	/ /						
	4	03/10/05	REMOVED HOLD AND APPROVED FOR CONSTRUCTION	EFC	AJ	PIPING		GEN. ARRANG.		INTRA CO.										

Appendix A
RO Concentrate Non-hazardous Waste
Manifests



LIQUID ENVIRONMENTAL SOLUTIONS

P 5464

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 pursuant 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)	Scott O'Donnell	Generator Rep. Signature	Scott O'Donnell
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)	NA	Date	7-20-09
				Time	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 Avens	Driver Signature	Manuel Avens
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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 of Arizona
5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442

www.liquidenviro.com



LIQUID ENVIRONMENTAL SOLUTIONS

P 5465

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 140 & 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 pursuant 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)	Don Phelps	Generator Rep. Signature	[Signature]
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	750	Tank#	334L	Inspection Paperwork Verified By:	
Waste Removed (Gallons)	5,000	Totalizer Readings (Gallons)	NA	Finish	NA
				Date	7-13-20
				Time	7:00

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)	Michael Avenue	Driver Signature	[Signature]
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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 of Arizona

5159 West Van Buren Street

Phoenix, AZ 85043

(602) 278-3442

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LIQUID ENVIRONMENTAL SOLUTIONS

P 5466

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 140 & 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 pursuant 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)	<i>Chares Lente</i>	Generator Rep. Signature	<i>[Signature]</i>
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	Tank#		Inspection Paperwork Verified By: <i>AL</i>			
Waste Removed (Gallons)	<i>3500</i>	Totalizer Readings (Gallons)	Start	Finish	Date <i>7/17/20</i>	Time

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)	<i>Marvel Avenue</i>	Driver Signature	<i>[Signature]</i>
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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 of Arizona

5159 West Van Buren Street Phoenix, AZ 85043 (602) 278-3442

www.liquidenviro.com



LIQUID ENVIRONMENTAL SOLUTIONS

P 5467

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 140 & 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 pursuant 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)	Chris L. Galt	Generator Rep. Signature	[Signature]
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	Tank#		Inspection Paperwork Verified By:			
Waste Removed (Gallons)	4500	Totalizer Readings (Gallons)	Start	Finish	Date	Time
					7/24/2021	

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 Arreola	Driver Signature	[Signature]
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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 of Arizona

5159 West Van Buren Street

Phoenix, AZ 85043

(602) 278-3442

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LIQUID ENVIRONMENTAL SOLUTIONS

P 5468

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 140 & 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 pursuant 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)	Chris Lenz	Generator Rep. Signature	
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	Tank#		Inspection Paperwork Verified By:			
Waste Removed (Gallons)	5000	Totalizer Readings (Gallons)	Start	Finish	Date	Time
					7/21/2023	
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)	Maurice Avance		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 of Arizona

5159 West Van Buren Street

Phoenix, AZ 85043

(602) 278-3442

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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 140 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		
<p>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 pursuant 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.</p>			
Generator Rep. Name (please print)	Chris Long	Generator Rep. Signature	[Signature]
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

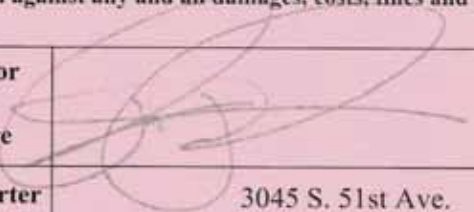
Truck #	Tank#		Inspection Paperwork Verified By:		
Waste Removed (Gallons)	5000	Totalizer Readings (Gallons)	Start	Finish	Date
					9/7/20
<p>I certify that the information above is accurate, and that only the waste certified for removal by the Generator is contained in the servicing vehicle. I am aware that falsification of this manifest may result in prosecution.</p>					
<p>Driver must comply with proper PPE requirements. Including: gloves, safety vest, hard hat, steel toes shoes & safety glasses</p>					
Driver Name (please print)	Michael A...		Driver Signature	[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			


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 140 & 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 pursuant 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)	Ryan Phelps	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)	5000	Totalizer Readings (Gallons)		Start	Finish
					Date
					8/17/20
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 Alvarez	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 of Arizona

5159 West Van Buren Street

Phoenix, AZ 85043

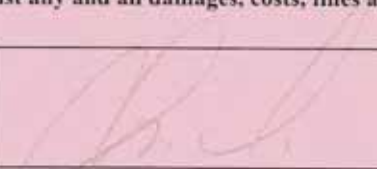
(602) 278-3442

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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 140 & 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 pursuant 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)	CHRIS LONE	Generator Rep. Signature	
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	Tank#		Inspection Paperwork Verified By:		
Waste Removed (Gallons)	4900	Totalizer Readings (Gallons)	Start	Finish	Date
					8/20/2011
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 Ayens		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 of Arizona

5159 West Van Buren Street

Phoenix, AZ 85043


(602) 278-3442

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
NON-HAZARDOUS WASTE MANIFEST

Profile Number

15713

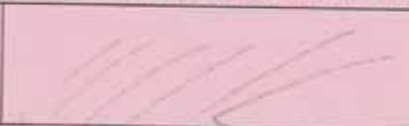
Generator Name	PG&E Topock Groundwater Extraction Site Phone: (760) 326-3326 Emergency: (800) 833-7602	Generator Address	15 Mi Southwest of Needles Hwy I40 & Park Moabi Rd. Needles, CA 92363 EPA ID#: CAR000151118
Waste Type	Non Hazardous Waste, Liquid (Brine Water)		
<p>I certify that the waste material 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 pursuant 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.</p>			
Generator Rep. Name (please print)	Chris Leutz	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)	5500	Totalizer Readings (Gallons)		Start	Finish
					Date
					8/26/2011
					Time

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

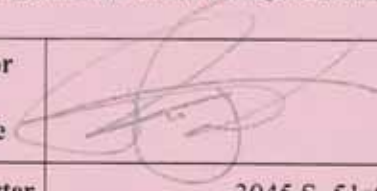
Driver Name (please print)	Mauro Alvarez	Driver Signature	
--------------------------------------	---------------	-------------------------	--

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	

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 140 & 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 pursuant 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)	Ryan Phelps	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:	JH		
Waste Removed (Gallons)	5500	Totalizer Readings (Gallons)		Start	Finish	Date	Time
						8-31-2020	9:00

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)	Maxwell Adams	Driver Signature	
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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

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LIQUID ENVIRONMENTAL SOLUTIONS

P 5474

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 140 & 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 pursuant 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)	Chris Lente	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)	5200	Totalizer Readings (Gallons)		Date	7-4-2011
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)	Marcel Aron	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

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LIQUID ENVIRONMENTAL SOLUTIONS

P 5475

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 140 & 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 pursuant 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)	Chris Lence	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)	5500	Totalizer Readings (Gallons)		Start	Finish
				Date	Time
				7/11/20	
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)	Maurice Arreola		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 of Arizona

5159 West Van Buren Street

Phoenix, AZ 85043

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LIQUID ENVIRONMENTAL SOLUTIONS

P 5476

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 140 & 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 pursuant 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)	Charmen Stone	Generator Rep. Signature	Charmen Stone
Transporter Name	MP Environmental Services	Transporter Address	3045 S. 51st Ave. Phoenix, AZ 85043

Vehicle Information

Truck #	Tank#		Inspection Paperwork Verified By:			
Waste Removed (Gallons)	4300	Totalizer Readings (Gallons)	Start 0875	Finish	Date 7-16-20	Time 0835
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 Arcana		Driver Signature	Manuel Arcana		

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

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Phoenix, AZ 85043

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Appendix B
Third Quarter 2020 Laboratory
Analytical Reports

July 21, 2020

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

TEL: (530) 229-3273

FAX: (510) 622-9129

Workorder No.: N041246

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

Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on July 07, 2020 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 Sibucan
Laboratory Director

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CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N041246

CASE NARRATIVE**SAMPLE RECEIVING/GENERAL COMMENTS:**

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

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

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

Samples were analyzed within method holding time.

Analytical Comments for EPA 300.0:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria in QC samples N041246-001AMS and N041246-001AMSD possibly due to matrix interference. Post Spike (PS) passed criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical Comments for EPA 6010B:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N041216-001A-MS and N041216-001A-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.



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ASSET Laboratories

Date: 21-Jul-20

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N041246
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041246-001A	Phase Separator-604-Sludge	Soil	7/7/2020 1:25:00 PM	7/7/2020	7/21/2020
N041246-001B	Phase Separator-604-Sludge	Soil	7/7/2020 1:25:00 PM	7/7/2020	7/21/2020
N041246-001C	Phase Separator-604-Sludge	Soil	7/7/2020 1:25:00 PM	7/7/2020	7/21/2020



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	Phase Separator-604-Sludge
Lab Order:	N041246	Collection Date:	7/7/2020 1:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	SOIL
Lab ID:	N041246-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200713A	QC Batch: R145725	PrepDate:	Analyst: RAB
Fluoride	41 0.67	6.9	mg/Kg-dry 2 7/13/2020 09:57 AM

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


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CLIENT: CH2M HILL
 Work Order: N041246
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID: MB-R145725	SampType: MBLK	TestCode: 300_S	Units: mg/Kg	Prep Date:				RunNo: 145725			
Client ID: PBS	Batch ID: R145725	TestNo: EPA 300.0			Analysis Date: 7/13/2020				SeqNo: 3845483		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	1.0									

Sample ID: LCS-R145725	SampType: LCS	TestCode: 300_S	Units: mg/Kg	Prep Date:				RunNo: 145725			
Client ID: LCSS	Batch ID: R145725	TestNo: EPA 300.0			Analysis Date: 7/13/2020				SeqNo: 3845484		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	12.959	1.0	12.50	0	104	90	110				

Sample ID: N041246-001ADUP	SampType: DUP	TestCode: 300_S	Units: mg/Kg-dry	Prep Date:				RunNo: 145725			
Client ID: ZZZZZZ	Batch ID: R145725	TestNo: EPA 300.0			Analysis Date: 7/13/2020				SeqNo: 3845487		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	37.533	6.9						40.64	7.95	20	

Sample ID: N041246-001AMS	SampType: MS	TestCode: 300_S	Units: mg/Kg-dry	Prep Date:				RunNo: 145725				
Client ID: ZZZZZZ	Batch ID: R145725	TestNo: EPA 300.0			Analysis Date: 7/13/2020				SeqNo: 3845488			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	73.210	6.9	43.42	40.64	75.0	80	120					S

Sample ID: N041246-001AMSD	SampType: MSD	TestCode: 300_S	Units: mg/Kg-dry	Prep Date:				RunNo: 145725			
Client ID: ZZZZZZ	Batch ID: R145725	TestNo: EPA 300.0			Analysis Date: 7/13/2020				SeqNo: 3845489		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	74.622	7.0	43.49	40.64	78.1	80	120	73.21	1.91	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: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_S

Sample ID: N041246-001APS	SampType: MS	TestCode: 300_S	Units: mg/L-dry	Prep Date:	RunNo: 145725						
Client ID: ZZZZZZ	Batch ID: R145725	TestNo: EPA 300.0	Analysis Date: 7/13/2020	SeqNo: 3845495							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	127.780	6.9	86.85	40.64	100	80	120				

Qualifiers:

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



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ANALYTICAL RESULTS

Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	Phase Separator-604-Sludge
Lab Order:	N041246	Collection Date:	7/7/2020 1:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	SOIL
Lab ID:	N041246-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP
EPA 3050B
EPA 6010B

RunID: NV00922-ICP2_200708B	QC Batch: 79985			PrepDate: 7/8/2020		Analyst: DJ
Antimony	29	1.1	6.9	mg/Kg-dry	1	7/8/2020 11:24 AM
Barium	86	1.1	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Beryllium	ND	0.75	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Cadmium	3.8	0.92	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Chromium	2800	1.1	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Cobalt	8.5	0.99	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Copper	210	3.1	6.9	mg/Kg-dry	1	7/8/2020 11:24 AM
Lead	ND	1.0	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Manganese	710	1.8	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Molybdenum	12	1.0	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Nickel	62	1.2	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Selenium	ND	2.1	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Silver	ND	2.2	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Thallium	ND	1.2	6.9	mg/Kg-dry	1	7/8/2020 09:13 PM
Vanadium	44	0.77	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM
Zinc	45	1.0	3.5	mg/Kg-dry	1	7/8/2020 11:24 AM

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


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CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 6010_SPGE**

Sample ID: MB-79985	SampType: MBLK	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145607						
Client ID: PBS	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3839565						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	2.0									
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									
Manganese	ND	1.0									
Molybdenum	ND	1.0									
Nickel	ND	1.0									
Selenium	ND	1.0									
Silver	ND	1.0									
Vanadium	ND	1.0									
Zinc	ND	1.0									

Sample ID: LCS1-79985	SampType: LCS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145607						
Client ID: LCSS	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3839566						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	25.655	2.0	25.00	0	103	85	115				
Barium	25.692	1.0	25.00	0	103	85	115				
Beryllium	25.392	1.0	25.00	0	102	85	115				
Cadmium	24.547	1.0	25.00	0	98.2	85	115				
Chromium	25.265	1.0	25.00	0	101	85	115				
Cobalt	26.314	1.0	25.00	0	105	85	115				
Copper	25.319	2.0	25.00	0	101	85	115				
Lead	25.526	1.0	25.00	0	102	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
 H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values


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CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: LCS1-79985	SampType: LCS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145607						
Client ID: LCSS	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3839566						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	50.139	1.0	50.00	0	100	85	115				
Molybdenum	24.919	1.0	25.00	0	99.7	85	115				
Nickel	25.051	1.0	25.00	0	100	85	115				
Selenium	24.537	1.0	25.00	0	98.1	85	115				
Silver	25.928	1.0	25.00	0	104	85	115				
Vanadium	24.930	1.0	25.00	0	99.7	85	115				
Zinc	25.701	1.0	25.00	0	103	85	115				

Sample ID: N041216-001A-MS	SampType: MS	TestCode: 6010_SPGE		Units: mg/Kg	Prep Date: 7/8/2020			RunNo: 145607			
Client ID: ZZZZZZ	Batch ID: 79985	TestNo: EPA 6010B		EPA 3050B	Analysis Date: 7/8/2020			SeqNo: 3839570			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	17.376	2.0	24.93	0	69.7	75	125				S
Barium	83.667	1.0	24.93	66.53	68.7	75	125				S
Beryllium	21.797	1.0	24.93	0	87.5	75	125				
Cadmium	23.201	1.0	24.93	0.4831	91.1	75	125				
Chromium	40.144	1.0	24.93	18.46	87.0	75	125				
Cobalt	31.970	1.0	24.93	8.853	92.7	75	125				
Copper	39.534	2.0	24.93	15.25	97.4	75	125				
Lead	46.642	1.0	24.93	25.10	86.4	75	125				
Manganese	376.853	1.0	49.85	351.4	51.1	75	125				S
Molybdenum	23.632	1.0	24.93	0	94.8	75	125				
Nickel	36.178	1.0	24.93	11.36	99.6	75	125				
Selenium	19.476	1.0	24.93	0	78.1	75	125				
Silver	22.936	1.0	24.93	0	92.0	75	125				
Vanadium	55.808	1.0	24.93	31.61	97.1	75	125				
Zinc	72.006	1.0	24.93	54.32	71.0	75	125				S

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: N041216-001A-MSD	SampType: MSD	TestCode: 6010_SPGE		Units: mg/Kg	Prep Date: 7/8/2020			RunNo: 145607			
Client ID: ZZZZZZ	Batch ID: 79985	TestNo: EPA 6010B		EPA 3050B	Analysis Date: 7/8/2020			SeqNo: 3839571			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	16.528	2.0	24.99	0	66.1	75	125	17.38	5.00	20	S
Barium	95.044	1.0	24.99	66.53	114	75	125	83.67	12.7	20	
Beryllium	21.714	1.0	24.99	0	86.9	75	125	21.80	0.384	20	
Cadmium	23.068	1.0	24.99	0.4831	90.4	75	125	23.20	0.574	20	
Chromium	41.043	1.0	24.99	18.46	90.4	75	125	40.14	2.22	20	
Cobalt	31.629	1.0	24.99	8.853	91.2	75	125	31.97	1.07	20	
Copper	41.007	2.0	24.99	15.25	103	75	125	39.53	3.66	20	
Lead	48.733	1.0	24.99	25.10	94.6	75	125	46.64	4.38	20	
Manganese	401.458	1.0	49.98	351.4	100	75	125	376.9	6.32	20	
Molybdenum	23.159	1.0	24.99	0	92.7	75	125	23.63	2.02	20	
Nickel	36.269	1.0	24.99	11.36	99.7	75	125	36.18	0.251	20	
Selenium	19.474	1.0	24.99	0	77.9	75	125	19.48	0.0128	20	
Silver	23.062	1.0	24.99	0	92.3	75	125	22.94	0.546	20	
Vanadium	55.776	1.0	24.99	31.61	96.7	75	125	55.81	0.0579	20	
Zinc	73.768	1.0	24.99	54.32	77.8	75	125	72.01	2.42	20	

Sample ID: MB-79985	SampType: MBLK	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145632						
Client ID: PBS	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3840220						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thallium ND 2.0

Sample ID: LCS1-79985	SampType: LCS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145632						
Client ID: LCSS	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3840221						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	24.590	2.0	25.00	0	98.4	85	115				

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: N041216-001A-MS	SampType: MS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145632						
Client ID: ZZZZZZ	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3840225						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thallium	20.622	2.0	24.93	0	82.7	75	125				
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Sample ID: N041216-001A-MSD	SampType: MSD	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145632						
Client ID: ZZZZZZ	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3840226						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thallium	20.502	2.0	24.99	0	82.0	75	125	20.62	0.584	20	
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Qualifiers:

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



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CLIENT: CH2M HILL
 Work Order: N041246
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 6010_SPGE

Sample ID: N041216-001A-PS	SampType: PS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date:	RunNo: 145607						
Client ID: ZZZZZZ	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3839569						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	22.439	2.0	24.95	0	89.9	80	120				
Barium	89.212	1.0	24.95	66.53	90.9	80	120				
Beryllium	20.777	1.0	24.95	0	83.3	80	120				
Cadmium	23.943	1.0	24.95	0.4831	94.0	80	120				
Chromium	39.925	1.0	24.95	18.46	86.0	80	120				
Cobalt	31.415	1.0	24.95	8.853	90.4	80	120				
Copper	39.202	2.0	24.95	15.25	96.0	80	120				
Lead	47.832	1.0	24.95	25.10	91.1	80	120				
Manganese	384.203	1.0	49.90	351.4	65.8	80	120				S
Molybdenum	22.969	1.0	24.95	0	92.1	80	120				
Nickel	34.978	1.0	24.95	11.36	94.7	80	120				
Selenium	18.783	1.0	24.95	0	75.3	80	120				S
Silver	22.384	1.0	24.95	0	89.7	80	120				
Vanadium	53.159	1.0	24.95	31.61	86.4	80	120				
Zinc	71.817	1.0	24.95	54.32	70.1	80	120				S

Sample ID: N041216-001A-PS	SampType: PS	TestCode: 6010_SPGE	Units: mg/Kg	Prep Date:	RunNo: 145632						
Client ID: ZZZZZZ	Batch ID: 79985	TestNo: EPA 6010B	EPA 3050B	Analysis Date: 7/8/2020	SeqNo: 3840224						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	21.385	2.0	24.95	0	85.7	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 | | | |



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	Phase Separator-604-Sludge
Lab Order:	N041246	Collection Date:	7/7/2020 1:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	SOIL
Lab ID:	N041246-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 3050B
EPA 6020

RunID: NV00922-ICP8_200716C	QC Batch: 80077	PrepDate: 7/16/2020	Analyst: CEI
Arsenic	17 0.28 0.87	mg/Kg-dry	1 7/16/2020 11:46 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		


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CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 6020_S_PGE_TPK**

Sample ID: MB-80077	SampType: MBLK	TestCode: 6020_S_PGE	Units: mg/Kg	Prep Date: 7/16/2020	RunNo: 145846						
Client ID: PBS	Batch ID: 80077	TestNo: EPA 6020	EPA 3050B	Analysis Date: 7/16/2020	SeqNo: 3852178						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.25									

Sample ID: LCS-80077	SampType: LCS	TestCode: 6020_S_PGE	Units: mg/Kg	Prep Date: 7/16/2020	RunNo: 145846						
Client ID: LCSS	Batch ID: 80077	TestNo: EPA 6020	EPA 3050B	Analysis Date: 7/16/2020	SeqNo: 3852179						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.254	0.25	5.000	0	105	85	115				

Sample ID: N041246-001B-MS	SampType: MS	TestCode: 6020_S_PGE	Units: mg/Kg-dry	Prep Date: 7/16/2020	RunNo: 145846						
Client ID: ZZZZZZ	Batch ID: 80077	TestNo: EPA 6020	EPA 3050B	Analysis Date: 7/16/2020	SeqNo: 3852183						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	32.963	0.87	17.33	16.84	93.1	75	125				

Sample ID: N041246-001B-MSD	SampType: MSD	TestCode: 6020_S_PGE	Units: mg/Kg-dry	Prep Date: 7/16/2020	RunNo: 145846						
Client ID: ZZZZZZ	Batch ID: 80077	TestNo: EPA 6020	EPA 3050B	Analysis Date: 7/17/2020	SeqNo: 3852184						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	33.267	0.87	17.35	16.84	94.7	75	125	32.96	0.920	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			



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	Phase Separator-604-Sludge
Lab Order:	N041246	Collection Date:	7/7/2020 1:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	SOIL
Lab ID:	N041246-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
	EPA 3060A			EPA 7199			
RunID: NV00922-IC6_200709A	QC Batch: 80003			PrepDate: 7/9/2020		Analyst: RAB	
Hexavalent Chromium	58	1.0	3.5		mg/Kg-dry	5	7/9/2020 03:45 PM

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


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CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 7199_S_PGE**

Sample ID: MB-80003	SampType: MBLK	TestCode: 7199_S_PGE	Units: mg/Kg	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: PBS	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842489						
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-80003	SampType: LCS	TestCode: 7199_S_PGE	Units: mg/Kg	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: LCSS	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842490						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	3.733	0.20	4.000	0	93.3	80	120				

Sample ID: N041251-001A-REP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842492						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.22						0	0	20	

Sample ID: N041251-001A-DUP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842493						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	ND	0.22						0	0	20	

Sample ID: N041251-001A-MS	SampType: MS	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842494						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	4.190	0.22	4.364	0	96.0	75	125				

Qualifiers:

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


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CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_S_PGE

Sample ID: N041251-001A-MSD	SampType: MSD	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842495						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	4.136	0.22	4.357	0	94.9	75	125	4.190	1.28	20
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Sample ID: N041251-001A-MS I	SampType: MS	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842496						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	647.617	11	715.6	0	90.5	75	125
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Sample ID: N041250-001A-REP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842502						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	ND	0.25						0	0	20
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Sample ID: N041246-001C-REP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842503						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	57.625	3.5						57.80	0.305	20
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Sample ID: N041248-001A-REP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842504						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	ND	0.21						0	0	20
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Qualifiers:

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	R	RPD outside 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: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 7199_S_PGE

Sample ID: N041282-001B-REP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842520						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	ND	0.20						0	0	20	
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Sample ID: N041282-002A-REP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842522						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	ND	0.21						0	0	20	
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Sample ID: N041283-001A-REP	SampType: DUP	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date: 7/9/2020	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842526						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	ND	0.21						0	0	20	
---------------------	----	------	--	--	--	--	--	---	---	----	--

Sample ID: N041251-001A-PS	SampType: MS	TestCode: 7199_S_PGE	Units: mg/Kg-dry	Prep Date:	RunNo: 145675						
Client ID: ZZZZZZ	Batch ID: 80003	TestNo: EPA 7199	EPA 3060A	Analysis Date: 7/9/2020	SeqNo: 3842527						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	4.352	0.22	4.363	0	99.7	75	125				
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Qualifiers:

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

ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	Phase Separator-604-Sludge
Lab Order:	N041246	Collection Date:	7/7/2020 1:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	SOIL
Lab ID:	N041246-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL MERCURY BY COLD VAPOR TECHNIQUE
EPA 7471A

RunID: NV00922-AA2_200708A	QC Batch: 79986	PrepDate: 7/8/2020	Analyst: DJ
Mercury	ND	0.094	0.35
		mg/Kg-dry	1
			7/8/2020 10:51 AM

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


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CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 7471_S_PGE**

Sample ID: MB-79986	SampType: MBLK	TestCode: 7471_S_PGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145605
Client ID: PBS	Batch ID: 79986	TestNo: EPA 7471A		Analysis Date: 7/8/2020	SeqNo: 3839498
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	0.10			

Sample ID: LCS-79986	SampType: LCS	TestCode: 7471_S_PGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145605
Client ID: LCSS	Batch ID: 79986	TestNo: EPA 7471A		Analysis Date: 7/8/2020	SeqNo: 3839499
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.434	0.10	0.4167	0	104 75 125

Sample ID: N041216-002A-MS	SampType: MS	TestCode: 7471_S_PGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145605
Client ID: ZZZZZZ	Batch ID: 79986	TestNo: EPA 7471A		Analysis Date: 7/8/2020	SeqNo: 3839504
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.474	0.10	0.4160	0	114 75 125

Sample ID: N041216-002A-MSD	SampType: MSD	TestCode: 7471_S_PGE	Units: mg/Kg	Prep Date: 7/8/2020	RunNo: 145605
Client ID: ZZZZZZ	Batch ID: 79986	TestNo: EPA 7471A		Analysis Date: 7/8/2020	SeqNo: 3839505
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.483	0.10	0.4153	0	116 75 125 0.4742 1.92 20

Qualifiers:

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


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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	Phase Separator-604-Sludge
Lab Order:	N041246	Collection Date:	7/7/2020 1:25:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	SOIL
Lab ID:	N041246-001		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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PERCENT MOISTURE
D2216

RunID: NV00922-WC_200708B	QC Batch: R145610	PrepDate:	Analyst: LR
Percent Moisture	71.21 0.1000 0.1000	wt%	1 7/8/2020 09:00 AM

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


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CLIENT: CH2M HILL
Work Order: N041246
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: PMOIST**

Sample ID: MB-R145610	SampType: MBLK	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 145610						
Client ID: PBS	Batch ID: R145610	TestNo: D2216		Analysis Date: 7/8/2020	SeqNo: 3839781						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.1000									

Sample ID: N041233-001ADUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 145610						
Client ID: ZZZZZZ	Batch ID: R145610	TestNo: D2216		Analysis Date: 7/8/2020	SeqNo: 3839783						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	0.147	0.1000						0.1565	6.46	30	

Sample ID: N041251-001ADUP	SampType: DUP	TestCode: PMOIST	Units: wt%	Prep Date:	RunNo: 145610						
Client ID: ZZZZZZ	Batch ID: R145610	TestNo: D2216		Analysis Date: 7/8/2020	SeqNo: 3839794						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	8.041	0.1000						8.385	4.19	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			

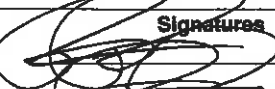


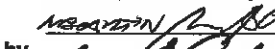


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Project Name PG&E Topock Location PG&E Topock Project Number D3184A1.EV.05-OM-TS Project Manager Scott O'Donnell Sample Manager Shawn Duffy Task Order Project IM3PLANT-ARAR-WDR-604-SLUDGE Turnaround Time 10 Days Shipping Date: 7/7/2020 COC Number: IM3-604S				Containers: Glass Jar(8 oz) 4 oz Jar none none 4°C Preservatives: Filtered: NA NA NA Holding Time: NA NA 180			Number of Containers COMMENTS
DATE TIME Matrix Phase Separator-604-Sludge 7-7-20 1325 Soil X X X N041246-01							
TOTAL NUMBER OF CONTAINERS			3				

Signatures Approved by  7-7-20 0600 Sampled by  7-7-20 1325 Relinquished by  7-7-20 1632 Received by  7/7/20 1632 Relinquished by  7/7/20 1845 Received by 		Date/Time 7-7-20 0600 7-7-20 1325 7-7-20 1632 7/7/20 1632 7/7/20 1845		Shipping Details Method of Shipment: FedEx On Ice: yes / no 7.1°C 12H2 Airbill No: 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	
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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: 7/7/2020 Workorder: N041246
 Rep sample Temp (Deg C): 4.1 IR Gun ID: 2
 Temp Blank: ☒ Yes ☐ No
 Carrier name: ASSET
 Last 4 digits of Tracking No.: NA Packing Material Used: None
 Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None

Sample Receipt Checklist

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

Comments:

For: 
 Checklist Completed By: MBC 7/9/2020

Reviewed By: 

ASSET Laboratories

WORK ORDER Summary

08-Jul-20

WorkOrder: N041246

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 7/7/2020

Comments:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041246-001A	Phase Separator-604-Sludge	7/7/2020 1:25:00 PM	7/21/2020	Soil	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N041246-001B			7/21/2020		EPA 3050B	SOPREP TOTAL METALS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			7/21/2020		EPA 6010B	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			7/21/2020			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			7/21/2020		EPA 7471A	TOTAL MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			7/21/2020		D2216	PERCENT MOISTURE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N041246-001C			7/21/2020		EPA 3060A	Prep for Hexavalend Chromium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
			7/21/2020		EPA 7199	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WS
N041246-002A	FOLDER	7/21/2020	7/21/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			7/21/2020		Folder	Level IV Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			7/21/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB

List of Analysts

ASSET Laboratories Work Order: N041246

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



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July 21, 2020

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

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

Workorder No.: N041247

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

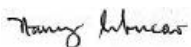
Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on July 07, 2020 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 Sibucan
Laboratory Director

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CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N041247

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 200.8:

Matrix Spike (MS) is outside recovery criteria for Chromium in QC sample N041247-001E-MS 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 N041247-001E-MS and N041247-001E-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Analytical comments for EPA 218.6:

Dilution was necessary for sample N041247-003 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.



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ASSET Laboratories

Date: 21-Jul-20

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N041247
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041247-001A	SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	7/7/2020	7/21/2020
N041247-001B	SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	7/7/2020	7/21/2020
N041247-001C	SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	7/7/2020	7/21/2020
N041247-001D	SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	7/7/2020	7/21/2020
N041247-001E	SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	7/7/2020	7/21/2020
N041247-001F	SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	7/7/2020	7/21/2020
N041247-002A	SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	7/7/2020	7/21/2020
N041247-002B	SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	7/7/2020	7/21/2020
N041247-002C	SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	7/7/2020	7/21/2020
N041247-002D	SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	7/7/2020	7/21/2020
N041247-002E	SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	7/7/2020	7/21/2020
N041247-002F	SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	7/7/2020	7/21/2020
N041247-003A	SC-701-WDR-604	Water	7/7/2020 12:40:00 PM	7/7/2020	7/21/2020
N041247-003B	SC-701-WDR-604	Water	7/7/2020 12:40:00 PM	7/7/2020	7/21/2020
N041247-003C	SC-701-WDR-604	Water	7/7/2020 12:40:00 PM	7/7/2020	7/21/2020
N041247-003D	SC-701-WDR-604	Water	7/7/2020 12:40:00 PM	7/7/2020	7/21/2020



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE
EPA 120.1

RunID: NV00922-WC_200708D	QC Batch: R145614			PrepDate:		Analyst: LR
Specific Conductance	7000	0.10	0.10	umhos/cm	1	7/8/2020 10:25 AM

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-002

Client Sample ID: SC-700B-WDR-604
Collection Date: 7/7/2020 12:48:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE
EPA 120.1

RunID: NV00922-WC_200708D	QC Batch: R145614			PrepDate:		Analyst: LR
Specific Conductance	6900	0.10	0.10	umhos/cm	1	7/8/2020 10:25 AM

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



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ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-701-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE
EPA 120.1

RunID: NV00922-WC_200708D	QC Batch: R145614	PrepDate:	Analyst: LR
Specific Conductance	50000	0.10	0.10
		umhos/cm	1
			7/8/2020 10:25 AM

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


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CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 120.1_WPGE**

Sample ID: N041247-003ADUP		SampType: DUP	TestCode: 120.1_WPGE		Units: umhos/cm	Prep Date:			RunNo: 145614		
Client ID: ZZZZZZ		Batch ID: R145614	TestNo: EPA 120.1			Analysis Date: 7/8/2020			SeqNo: 3839844		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	49900.000	0.10						50000	0.200	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		

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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL FILTERABLE RESIDUE
SM2540C

RunID: NV00922-WC_200708J	QC Batch: 80001			PrepDate: 7/8/2020		Analyst: LR
Total Dissolved Solids (Residue, Filterable)	4600	50	50	mg/L	1	7/8/2020 01:03 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



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ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-002

Client Sample ID: SC-700B-WDR-604
Collection Date: 7/7/2020 12:48:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL FILTERABLE RESIDUE
SM2540C

RunID: NV00922-WC_200708J	QC Batch: 80001			PrepDate: 7/8/2020		Analyst: LR
Total Dissolved Solids (Residue, Filterable)	4500	50	50	mg/L	1	7/8/2020 01:03 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



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ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-701-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL FILTERABLE RESIDUE
SM2540C

RunID: NV00922-WC_200708J	QC Batch: 80001	PrepDate: 7/8/2020	Analyst: LR
Total Dissolved Solids (Residue, Filterable)	38000	500	500
		mg/L	1
			7/8/2020 01:03 PM

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


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CLIENT: CH2M HILL
 Work Order: N041247
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: LCS-80001	SampType: LCS	TestCode: 160.1_2540C_ Units: mg/L				Prep Date: 7/8/2020			RunNo: 145638		
Client ID: LCSW	Batch ID: 80001	TestNo: SM2540C				Analysis Date: 7/8/2020			SeqNo: 3840492		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	974.000	10	1000	0	97.4	80	120				

Sample ID: MB-80001	SampType: MBLK	TestCode: 160.1_2540C_ Units: mg/L				Prep Date: 7/8/2020			RunNo: 145638		
Client ID: PBW	Batch ID: 80001	TestNo: SM2540C				Analysis Date: 7/8/2020			SeqNo: 3840493		
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: N041247-003ADUP	SampType: DUP	TestCode: 160.1_2540C_ Units: mg/L				Prep Date: 7/8/2020			RunNo: 145638		
Client ID: ZZZZZZ	Batch ID: 80001	TestNo: SM2540C				Analysis Date: 7/8/2020			SeqNo: 3840499		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	39800.000	500						38400	3.58	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			



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP
EPA 200.7

RunID: NV00922-ICP2_200710A	QC Batch: 80019	PrepDate: 7/9/2020	Analyst: DJ
Aluminum	150 40 50	µg/L	1 7/10/2020 08:10 AM
Boron	920 74 100	µg/L	1 7/10/2020 08:10 AM
Iron	ND 18 20	µg/L	1 7/10/2020 08:10 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



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ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-700B-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:48:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP
EPA 200.7

RunID: NV00922-ICP2_200710A	QC Batch: 80019	PrepDate: 7/9/2020	Analyst: DJ			
Aluminum	ND	40	50	µg/L	1	7/10/2020 08:15 AM
Boron	860	74	100	µg/L	1	7/10/2020 08:15 AM
Iron	23	18	20	µg/L	1	7/10/2020 08:15 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		


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CLIENT: CH2M HILL
 Work Order: N041247
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPB

Sample ID: LCS-80019	SampType: LCS	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145662						
Client ID: LCSW	Batch ID: 80019	TestNo: EPA 200.7		Analysis Date: 7/10/2020	SeqNo: 3841513						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9708.627	50	10000	0	97.1	85	115				
Boron	4666.052	100	5000	0	93.3	85	115				
Iron	110.272	20	100.0	0	110	85	115				

Sample ID: N041245-001A-MS	SampType: MS	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145662						
Client ID: ZZZZZZ	Batch ID: 80019	TestNo: EPA 200.7		Analysis Date: 7/10/2020	SeqNo: 3841517						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10510.832	50	10000	60.32	105	75	125				
Boron	5535.822	100	5000	1067	89.4	75	125				
Iron	160.125	20	100.0	69.19	90.9	75	125				

Sample ID: N041245-001A-MSD	SampType: MSD	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145662						
Client ID: ZZZZZZ	Batch ID: 80019	TestNo: EPA 200.7		Analysis Date: 7/10/2020	SeqNo: 3841518						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10504.221	50	10000	60.32	104	75	125	10510	0.0629	20	
Boron	5506.264	100	5000	1067	88.8	75	125	5536	0.535	20	
Iron	162.350	20	100.0	69.19	93.2	75	125	160.1	1.38	20	

Sample ID: MB-80019	SampType: MBLK	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145662						
Client ID: PBW	Batch ID: 80019	TestNo: EPA 200.7		Analysis Date: 7/10/2020	SeqNo: 3841521						
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									

Qualifiers:

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 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_200708C	QC Batch: R145652			PrepDate:		Analyst: RAB	
Hexavalent Chromium	400	1.7	10	µg/L	50	7/9/2020 03:42 AM	
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: NV00922-ICP8_200710E	QC Batch: 80038			PrepDate:	7/10/2020	Analyst: CEI	
Chromium	410	0.65	5.0	µg/L	5	7/10/2020 09:35 PM	

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



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ANALYTICAL RESULTS

Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-700B-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:48:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: NV00922-IC7_200708C	QC Batch: R145652			PrepDate:		Analyst: RAB	
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	7/9/2020 04:10 AM
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: NV00922-ICP8_200710E	QC Batch: 80038			PrepDate:	7/10/2020	Analyst: CEI	
Chromium	ND	0.13	1.0		µg/L	1	7/10/2020 10:49 PM

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


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ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-003

Client Sample ID: SC-701-WDR-604
Collection Date: 7/7/2020 12:40:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: NV00922-IC7_200709A	QC Batch: R145681			PrepDate:		Analyst: RAB	
Hexavalent Chromium	ND	0.33	2.0		µg/L	10	7/9/2020 11:32 AM
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: NV00922-ICP8_200710E	QC Batch: 80038			PrepDate:	7/10/2020	Analyst: CEI	
Chromium	1.7	0.13	1.0		µg/L	1	7/10/2020 11:12 PM

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



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“Serving Clients with Passion and Professionalism”

CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 200.8_W_CRPGE_TPK**

Sample ID: MB-80038	SampType: MBLK	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710
Client ID: PBW	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844507
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	ND	1.0			

Sample ID: LCS-80038	SampType: LCS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710
Client ID: LCSW	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844508
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	10.186	1.0	10.00	0	102 85 115

Sample ID: N041247-001E-MS	SampType: MS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844521
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	429.699	5.0	10.00	412.9	168 75 125 S

Sample ID: N041247-001E-MSD	SampType: MSD	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844524
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	421.547	5.0	10.00	412.9	86.4 75 125 429.7 1.92 20

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: MB-R145652	SampType: MBLK	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145652						
Client ID: PBW	Batch ID: R145652	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3841124						
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-R145652	SampType: LCS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145652						
Client ID: LCSW	Batch ID: R145652	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3841125						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.825 0.20 5.000 0 96.5 90 110

Sample ID: N041247-001CMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145652						
Client ID: ZZZZZZ	Batch ID: R145652	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3841127						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 646.935 10 250.0 402.4 97.8 90 110

Sample ID: N041247-001CMSD	SampType: MSD	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145652						
Client ID: ZZZZZZ	Batch ID: R145652	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3841128						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 649.050 10 250.0 402.4 98.7 90 110 646.9 0.326 20

Sample ID: N041247-002CMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145652						
Client ID: ZZZZZZ	Batch ID: R145652	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3841130						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 1.075 0.20 1.000 0 108 90 110

Qualifiers:

- | | | | | | |
|----|---|--------------------------------------|--------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit | R | RPD outside 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: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: N041242-024ADUP	SampType: DUP	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145652						
Client ID: ZZZZZZ	Batch ID: R145652	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3841134						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	7.096	0.20						7.198	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: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: MB-R145681	SampType: MBLK	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145681						
Client ID: PBW	Batch ID: R145681	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3842858						
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-R145681	SampType: LCS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145681						
Client ID: LCSW	Batch ID: R145681	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3842859						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.760 0.20 5.000 0 95.2 90 110

Sample ID: N041247-003BMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145681						
Client ID: ZZZZZZ	Batch ID: R145681	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3842863						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 10.069 2.0 10.00 1.036 90.3 90 110

Sample ID: N041277-007ADUP	SampType: DUP	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145681						
Client ID: ZZZZZZ	Batch ID: R145681	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3842885						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 1.284 0.20 1.283 0.0623 20

Sample ID: N041280-004AMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145681						
Client ID: ZZZZZZ	Batch ID: R145681	TestNo: EPA 218.6		Analysis Date: 7/9/2020	SeqNo: 3842890						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 0.994 0.20 1.000 0 99.4 90 110

Qualifiers:

- | | | | | | |
|----|---|--------------------------------------|--------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit | R | RPD outside 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: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: N041280-004AMSD	SampType: MSD	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 145681						
Client ID: ZZZZZZ	Batch ID: R145681	TestNo: EPA 218.6	Analysis Date: 7/9/2020	SeqNo: 3842891							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.031	0.20	1.000	0	103	90	110	0.9940	3.68	20	

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 200.8_W_CRPGE_TPK**

Sample ID: N041247-001E-PS	SampType: PS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date:	RunNo: 145710						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844518						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	425.272	5.0	10.00	412.9	124	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		

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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 200.8

RunID: NV00922-ICP8_200713C	QC Batch: 80038	PrepDate: 7/10/2020	Analyst: CEI			
Antimony	ND	0.16	0.50	µg/L	1	7/13/2020 10:41 AM
Arsenic	0.77	0.081	0.10	µg/L	1	7/10/2020 09:30 PM
Barium	32	0.15	1.0	µg/L	1	7/13/2020 10:41 AM
Copper	ND	0.55	1.0	µg/L	1	7/13/2020 10:41 AM
Lead	ND	0.13	1.0	µg/L	1	7/10/2020 09:30 PM
Manganese	6.8	0.26	0.50	µg/L	1	7/10/2020 09:30 PM
Molybdenum	23	0.21	0.50	µg/L	1	7/10/2020 09:30 PM
Nickel	ND	0.26	1.0	µg/L	1	7/10/2020 09:30 PM
Zinc	ND	2.3	10	µg/L	1	7/10/2020 09:30 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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-700B-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:48:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 200.8

RunID: NV00922-ICP8_200713C	QC Batch: 80038	PrepDate: 7/10/2020	Analyst: CEI			
Antimony	ND	0.16	0.50	µg/L	1	7/13/2020 11:13 AM
Arsenic	ND	0.081	0.10	µg/L	1	7/10/2020 10:49 PM
Barium	23	0.15	1.0	µg/L	1	7/13/2020 11:13 AM
Copper	ND	0.55	1.0	µg/L	1	7/13/2020 11:13 AM
Lead	ND	0.13	1.0	µg/L	1	7/10/2020 10:49 PM
Manganese	64	0.26	0.50	µg/L	1	7/10/2020 10:49 PM
Molybdenum	23	0.21	0.50	µg/L	1	7/10/2020 10:49 PM
Nickel	ND	0.26	1.0	µg/L	1	7/10/2020 10:49 PM
Zinc	ND	2.3	10	µg/L	1	7/10/2020 10:49 PM

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


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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-701-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 200.8

RunID: NV00922-ICP8_200715A	QC Batch: 80038	PrepDate: 7/10/2020	Analyst: CEI			
Antimony	ND	0.16	0.50	µg/L	1	7/15/2020 10:39 AM
Arsenic	1.7	0.081	0.10	µg/L	1	7/10/2020 11:12 PM
Barium	230	0.75	5.0	µg/L	5	7/13/2020 11:23 AM
Beryllium	ND	0.042	0.50	µg/L	1	7/10/2020 11:12 PM
Cadmium	ND	0.053	0.50	µg/L	1	7/10/2020 11:12 PM
Cobalt	ND	0.042	0.50	µg/L	1	7/10/2020 11:12 PM
Copper	3.9	0.55	1.0	µg/L	1	7/13/2020 11:18 AM
Lead	ND	0.13	1.0	µg/L	1	7/10/2020 11:12 PM
Molybdenum	230	1.1	2.5	µg/L	5	7/10/2020 11:16 PM
Nickel	27	0.26	1.0	µg/L	1	7/10/2020 11:12 PM
Selenium	45	0.36	0.50	µg/L	1	7/10/2020 11:12 PM
Silver	ND	0.23	0.50	µg/L	1	7/10/2020 11:12 PM
Thallium	ND	0.19	0.50	µg/L	1	7/10/2020 11:12 PM
Vanadium	3.5	0.28	1.0	µg/L	1	7/13/2020 11:18 AM
Zinc	ND	2.3	10	µg/L	1	7/10/2020 11:12 PM

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


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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 200.8_W_TPK**

Sample ID: MB-80038	SampType: MBLK	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710						
Client ID: PBW	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844593						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.10									
Beryllium	ND	0.50									
Cadmium	ND	0.50									
Cobalt	ND	0.50									
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									
Zinc	ND	10									

Sample ID: LCS-80038	SampType: LCS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710						
Client ID: LCSW	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844594						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	10.867	0.10	10.00	0	109	85	115				
Beryllium	10.106	0.50	10.00	0	101	85	115				
Cadmium	9.890	0.50	10.00	0	98.9	85	115				
Cobalt	9.628	0.50	10.00	0	96.3	85	115				
Lead	9.645	1.0	10.00	0	96.4	85	115				
Manganese	99.337	0.50	100.0	0	99.3	85	115				
Molybdenum	9.867	0.50	10.00	0	98.7	85	115				
Nickel	10.154	1.0	10.00	0	102	85	115				
Selenium	10.089	0.50	10.00	0	101	85	115				
Silver	10.384	0.50	10.00	0	104	85	115				
Thallium	9.475	0.50	10.00	0	94.7	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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: LCS-80038	SampType: LCS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710						
Client ID: LCSW	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844594						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zinc	10.355	10	10.00	0	104	85	115				
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Sample ID: N041247-001E-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844606						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	11.551	0.10	10.00	0.7655	108	75	125				
Beryllium	7.045	0.50	10.00	0	70.4	75	125				S
Cadmium	9.733	0.50	10.00	0	97.3	75	125				
Cobalt	8.363	0.50	10.00	0.05651	83.1	75	125				
Lead	10.689	1.0	10.00	0	107	75	125				
Manganese	96.698	0.50	100.0	6.810	89.9	75	125				
Molybdenum	34.088	0.50	10.00	23.05	110	75	125				
Nickel	ND	1.0	10.00	0	0	75	125				S
Selenium	13.726	0.50	10.00	4.288	94.4	75	125				
Silver	10.073	0.50	10.00	0	101	75	125				
Thallium	8.725	0.50	10.00	0	87.2	75	125				
Zinc	2.614	10	10.00	0	26.1	75	125				S

Sample ID: N041247-001E-MSD	SampType: MSD	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145710						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/10/2020	SeqNo: 3844609						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	11.375	0.10	10.00	0.7655	106	75	125	11.55	1.53	20	
Beryllium	6.963	0.50	10.00	0	69.6	75	125	7.045	1.16	20	S
Cadmium	9.628	0.50	10.00	0	96.3	75	125	9.733	1.08	20	
Cobalt	8.444	0.50	10.00	0.05651	83.9	75	125	8.363	0.966	20	
Lead	10.646	1.0	10.00	0	106	75	125	10.69	0.401	20	
Manganese	96.598	0.50	100.0	6.810	89.8	75	125	96.70	0.104	20	
Molybdenum	34.046	0.50	10.00	23.05	110	75	125	34.09	0.124	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: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N041247-001E-MSD	SampType: MSD	TestCode: 200.8_W_TP		Units: µg/L	Prep Date: 7/10/2020			RunNo: 145710			
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8			Analysis Date: 7/10/2020			SeqNo: 3844609			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	1.0	10.00	0	0	75	125	0	0	20	S
Selenium	13.804	0.50	10.00	4.288	95.2	75	125	13.73	0.564	20	
Silver	10.034	0.50	10.00	0	100	75	125	10.07	0.388	20	
Thallium	8.904	0.50	10.00	0	89.0	75	125	8.725	2.03	20	
Zinc	2.470	10	10.00	0	24.7	75	125	2.614	0	20	S

Sample ID: MB-80038	SampType: MBLK	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145731						
Client ID: PBW	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/13/2020	SeqNo: 3845922						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.50									
Barium	ND	1.0									
Copper	ND	1.0									
Vanadium	ND	1.0									

Sample ID: LCS-80038	SampType: LCS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145731						
Client ID: LCSW	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/13/2020	SeqNo: 3845923						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	9.932	0.50	10.00	0	99.3	85	115				
Barium	9.851	1.0	10.00	0	98.5	85	115				
Copper	9.752	1.0	10.00	0	97.5	85	115				
Vanadium	10.288	1.0	10.00	0	103	85	115				

Sample ID: N041247-001E-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145731						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/13/2020	SeqNo: 3845929						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.781	0.50	10.00	0.2687	115	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: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N041247-001E-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145731						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/13/2020	SeqNo: 3845929						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	40.622	1.0	10.00	31.86	87.6	75	125				
Copper	8.663	1.0	10.00	0	86.6	75	125				
Vanadium	18.581	1.0	10.00	8.590	99.9	75	125				

Sample ID: N041247-001E-MSD	SampType: MSD	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 7/10/2020	RunNo: 145731						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8		Analysis Date: 7/13/2020	SeqNo: 3845930						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.840	0.50	10.00	0.2687	116	75	125	11.78	0.499	20	
Barium	40.852	1.0	10.00	31.86	89.9	75	125	40.62	0.564	20	
Copper	8.537	1.0	10.00	0	85.4	75	125	8.663	1.47	20	
Vanadium	18.514	1.0	10.00	8.590	99.2	75	125	18.58	0.359	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 | | | |



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CLIENT: CH2M HILL
 Work Order: N041247
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N041247-001E-PS	SampType: PS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date:	RunNo: 145710						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8	Analysis Date: 7/10/2020	SeqNo: 3844603							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	11.585	0.10	10.00	0.7655	108	80	120				
Beryllium	7.145	0.50	10.00	0	71.4	80	120				S
Cadmium	9.819	0.50	10.00	0	98.2	80	120				
Cobalt	8.651	0.50	10.00	0.05651	85.9	80	120				
Lead	10.688	1.0	10.00	0	107	80	120				
Manganese	98.720	0.50	100.0	6.810	91.9	80	120				
Molybdenum	34.517	0.50	10.00	23.05	115	80	120				
Nickel	ND	1.0	10.00	0	0	80	120				S
Selenium	13.718	0.50	10.00	4.288	94.3	80	120				
Silver	10.123	0.50	10.00	0	101	80	120				
Thallium	8.973	0.50	10.00	0	89.7	80	120				
Zinc	2.461	10	10.00	0	24.6	80	120				S

Sample ID: N041247-001E-PS	SampType: PS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date:	RunNo: 145731						
Client ID: ZZZZZZ	Batch ID: 80038	TestNo: EPA 200.8	Analysis Date: 7/13/2020	SeqNo: 3845928							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	12.338	0.50	10.00	0.2687	121	80	120				S
Barium	41.344	1.0	10.00	31.86	94.8	80	120				
Copper	8.545	1.0	10.00	0	85.5	80	120				
Vanadium	18.685	1.0	10.00	8.590	101	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
 H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TURBIDITY
SM 2130B

RunID: NV00922-WC_200708H	QC Batch: R145618	PrepDate:	Analyst: LR
Turbidity	0.31 0.10 0.10	NTU	1 7/8/2020 03:45 PM

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



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ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-700B-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:48:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TURBIDITY
SM 2130B

RunID: NV00922-WC_200708H	QC Batch: R145618	PrepDate:	Analyst: LR
Turbidity	0.28 0.10 0.10	NTU	1 7/8/2020 03:45 PM

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


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CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 2130_W**

Sample ID: MB-R145618	SampType: MBLK	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: 145618						
Client ID: PBW	Batch ID: R145618	TestNo: SM 2130B	Analysis Date: 7/8/2020	SeqNo: 3839867							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10									

Sample ID: N041247-002BDUP	SampType: DUP	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: 145618						
Client ID: ZZZZZZ	Batch ID: R145618	TestNo: SM 2130B	Analysis Date: 7/8/2020	SeqNo: 3839870							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	0.290	0.10						0.2800	3.51	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			

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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-701-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL MERCURY BY COLD VAPOR TECHNIQUE
EPA 245.1

RunID: NV00922-AA2_200709A	QC Batch: 80009	PrepDate: 7/9/2020	Analyst: DJ
Mercury	ND	0.13	0.20
		µg/L	1
			7/9/2020 11:00 AM

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


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CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 245.1_W**

Sample ID: MB-80009	SampType: MBLK	TestCode: 245.1_W	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145639
Client ID: PBW	Batch ID: 80009	TestNo: EPA 245.1		Analysis Date: 7/9/2020	SeqNo: 3840506
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	ND	0.20			

Sample ID: LCS-80009	SampType: LCS	TestCode: 245.1_W	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145639
Client ID: LCSW	Batch ID: 80009	TestNo: EPA 245.1		Analysis Date: 7/9/2020	SeqNo: 3840508
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	4.310	0.20	5.000	0	86.2 85 115

Sample ID: N041245-001A-MS	SampType: MS	TestCode: 245.1_W	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145639
Client ID: ZZZZZZ	Batch ID: 80009	TestNo: EPA 245.1		Analysis Date: 7/9/2020	SeqNo: 3840512
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	4.660	0.20	5.000	0	93.2 75 125

Sample ID: N041245-001A-MSD	SampType: MSD	TestCode: 245.1_W	Units: µg/L	Prep Date: 7/9/2020	RunNo: 145639
Client ID: ZZZZZZ	Batch ID: 80009	TestNo: EPA 245.1		Analysis Date: 7/9/2020	SeqNo: 3840513
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	4.860	0.20	5.000	0	97.2 75 125 4.660 4.20 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			


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ANALYTICAL RESULTS

Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200709A	QC Batch: R145654			PrepDate:		Analyst: RAB
Fluoride	2.7	0.048	0.50	mg/L	5	7/9/2020 09:05 PM

ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200708B	QC Batch: R145636			PrepDate:		Analyst: RAB
Sulfate	480	2.0	25	mg/L	50	7/9/2020 12:43 AM

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



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ANALYTICAL RESULTS

Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-700B-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:48:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-002		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200709A	QC Batch: R145654	PrepDate:	Analyst: RAB
Fluoride	2.5 0.048	0.50	mg/L
			5 7/9/2020 09:21 PM

ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200708B	QC Batch: R145636	PrepDate:	Analyst: RAB
Sulfate	460 2.0	25	mg/L
			50 7/9/2020 12:59 AM

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


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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT:	CH2M HILL	Client Sample ID:	SC-701-WDR-604
Lab Order:	N041247	Collection Date:	7/7/2020 12:40:00 PM
Project:	PG&E Topock, D3184A1.EV.05-OM-TS	Matrix:	WATER
Lab ID:	N041247-003		

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200709A	QC Batch: R145654	PrepDate:	Analyst: RAB
Fluoride	24 0.19	2.0	mg/L 20 7/9/2020 09:37 PM

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


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CLIENT: CH2M HILL
 Work Order: N041247
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: MB-R145654_F	SampType: MBLK	TestCode: 300_W_FPGE Units: mg/L				Prep Date:			RunNo: 145654		
Client ID: PBW	Batch ID: R145654	TestNo: EPA 300.0				Analysis Date: 7/9/2020			SeqNo: 3841239		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: LCS-R145654_F	SampType: LCS	TestCode: 300_W_FPGE Units: mg/L				Prep Date:			RunNo: 145654		
Client ID: LCSW	Batch ID: R145654	TestNo: EPA 300.0				Analysis Date: 7/9/2020			SeqNo: 3841240		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.331	0.10	1.250	0	106	90	110				

Sample ID: N041249-001BDUP	SampType: DUP	TestCode: 300_W_FPGE Units: mg/L				Prep Date:			RunNo: 145654		
Client ID: ZZZZZZ	Batch ID: R145654	TestNo: EPA 300.0				Analysis Date: 7/9/2020			SeqNo: 3841248		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.223	1.0						3.230	0.217	20	

Sample ID: N041249-001BMS	SampType: MS	TestCode: 300_W_FPGE Units: mg/L				Prep Date:			RunNo: 145654		
Client ID: ZZZZZZ	Batch ID: R145654	TestNo: EPA 300.0				Analysis Date: 7/9/2020			SeqNo: 3841249		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	15.680	1.0	12.50	3.230	99.6	80	120				

Sample ID: N041249-001BMSD	SampType: MSD	TestCode: 300_W_FPGE Units: mg/L				Prep Date:			RunNo: 145654		
Client ID: ZZZZZZ	Batch ID: R145654	TestNo: EPA 300.0				Analysis Date: 7/9/2020			SeqNo: 3841250		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	15.878	1.0	12.50	3.230	101	80	120	15.68	1.25	20	

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: LCS-R145636_SO4	SampType: LCS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 145636						
Client ID: LCSW	Batch ID: R145636	TestNo: EPA 300.0		Analysis Date: 7/8/2020	SeqNo: 3840451						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 4.107 0.50 4.000 0 103 90 110

Sample ID: MB-R145636_SO4	SampType: MBLK	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 145636						
Client ID: PBW	Batch ID: R145636	TestNo: EPA 300.0		Analysis Date: 7/8/2020	SeqNo: 3840452						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate ND 0.50

Sample ID: N041241-007BMS	SampType: MS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 145636						
Client ID: ZZZZZZ	Batch ID: R145636	TestNo: EPA 300.0		Analysis Date: 7/8/2020	SeqNo: 3840460						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 117.806 5.0 40.00 77.32 101 80 120

Sample ID: N041241-007BMSD	SampType: MSD	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 145636						
Client ID: ZZZZZZ	Batch ID: R145636	TestNo: EPA 300.0		Analysis Date: 7/8/2020	SeqNo: 3840461						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 117.642 5.0 40.00 77.32 101 80 120 117.8 0.139 20

Sample ID: N041241-002BMS	SampType: MS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 145636						
Client ID: ZZZZZZ	Batch ID: R145636	TestNo: EPA 300.0		Analysis Date: 7/8/2020	SeqNo: 3840463						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 79.710 2.5 20.00 59.38 102 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
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: N041241-001BDUP	SampType: DUP	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 145636						
Client ID: ZZZZZZ	Batch ID: R145636	TestNo: EPA 300.0	Analysis Date: 7/8/2020	SeqNo: 3840465							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	61.322	2.5						60.83	0.806	20	

Qualifiers:

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

ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-001

Client Sample ID: SC-100B-WDR-604
Collection Date: 7/7/2020 1:05:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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NITRATE/NITRITE-N BY CADMIUM REDUCTION
SM4500-NO3F

RunID: NV00922-WC_200709D	QC Batch: R145646			PrepDate:		Analyst: JBB
Nitrate/Nitrite as N	2.9	0.16	0.25	mg/L	5	7/9/2020 04:12 PM

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 21-Jul-20

CLIENT: CH2M HILL
Lab Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041247-002

Client Sample ID: SC-700B-WDR-604
Collection Date: 7/7/2020 12:48:00 PM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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NITRATE/NITRITE-N BY CADMIUM REDUCTION
SM4500-NO3F

RunID: NV00922-WC_200709D	QC Batch: R145646			PrepDate:		Analyst: JBB
Nitrate/Nitrite as N	3.2	0.16	0.25	mg/L	5	7/9/2020 04:15 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



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CLIENT: CH2M HILL
Work Order: N041247
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 4500N03F_W_PGE**

Sample ID: MB-R145646	SampType: MBLK	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 145646						
Client ID: PBW	Batch ID: R145646	TestNo: SM4500-NO3	Analysis Date: 7/9/2020	SeqNo: 3840738							
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-R145646	SampType: LCS	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 145646						
Client ID: LCSW	Batch ID: R145646	TestNo: SM4500-NO3	Analysis Date: 7/9/2020	SeqNo: 3840739							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	0.498	0.050	0.5000	0	99.5	85	115				

Sample ID: N041247-001DMS	SampType: MS	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 145646						
Client ID: ZZZZZZ	Batch ID: R145646	TestNo: SM4500-NO3	Analysis Date: 7/9/2020	SeqNo: 3840741							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.513	0.25	2.500	2.856	106	75	125				

Sample ID: N041247-001DMSD	SampType: MSD	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 145646						
Client ID: ZZZZZZ	Batch ID: R145646	TestNo: SM4500-NO3	Analysis Date: 7/9/2020	SeqNo: 3840742							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	5.485	0.25	2.500	2.856	105	75	125	5.513	0.518	20	

Sample ID: N041247-002DDUP	SampType: DUP	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 145646						
Client ID: ZZZZZZ	Batch ID: R145646	TestNo: SM4500-NO3	Analysis Date: 7/9/2020	SeqNo: 3840744							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrate/Nitrite as N	3.057	0.25						3.192	4.31	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			


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"Serving Clients with Passion and Professionalism"

Project Name PG&E Topock Location PG&E Topock Project Number D3184A1.EV.05-OM-TS Project Manager Scott O'Donnell Sample Manager Shawn Duffy Task Order Project IM3PLANT-ARAR-WDR-604 Turnaround Time 10 Days Shipping Date: 7/7/2020 COC Number: IM3-604			Containers: 1 Liter Poly 4°C Lab H2SO4 Preservatives: 4°C 4°C 4°C 4°C 4°C 4°C Lab H2SO4 4°C 4°C 4°C 4°C 4°C 4°C 4°C	1 Liter Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	1 Liter Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	1 Liter Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	250 ml Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	1 Liter Poly 4°C Lab H2SO4 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	1 Liter Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	500 ml Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	500 ml Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	500 ml Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	1 Liter Poly 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C 4°C	Number of Containers	COMMENTS		
Filtered: NA NA NA NA NA NA NA NA NA NA NA NA NA NA			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) Total Metals(E200.8) Total THe22Metals Turbidity (SM2130)														
Holding Time: 28 7 7 7 1 28 7 180 180 180 7																	
DATE TIME Matrix																	
SC-100B-WDR-604 7-7-20 1305 Water	X X X X X X X X X X X X X X	X X X X X X X X X X X X X X		X X X X X X X X X X X X X X	N041247-01 -02 -03	4 4 3	pH - 7.64 pH - 7.38 pH - 8.15										
TOTAL NUMBER OF CONTAINERS																11	

Approved by Sampled by Relinquished by Received by Relinquished by Received by	Signatures 	Date/Time 7-7-20 0600 7-7-20 1240 7-7-20 1632 7-7-20 1632 7-7-20 1940	Shipping Details Method of Shipment: FedEx On Ice: <input checked="" type="radio"/> yes <input type="radio"/> no Airbill No: 1R442 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
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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: 7/7/2020 Workorder: N041247
 Rep sample Temp (Deg C): 4.1 IR Gun ID: 2
 Temp Blank: ☒ Yes ☐ No
 Carrier name: ASSET
 Last 4 digits of Tracking No.: NA Packing Material Used: None
 Cooling process: ☒ Ice ☐ Ice Pack ☐ Dry Ice ☐ Other ☐ None


Sample Receipt Checklist

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

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 YRJ 7/10/2020

Reviewed By: 

ASSET Laboratories

WORK ORDER Summary

08-Jul-20

WorkOrder: N041247

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 7/7/2020

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041247-001A	SC-100B-WDR-604	7/7/2020 1:05:00 PM	7/21/2020	Water	SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N041247-001B			7/21/2020		EPA 120.1	SPECIFIC CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		SM2540C	TOTAL FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020			Total Dissolved Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N041247-001C			7/21/2020		EPA 218.6	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-001D			7/21/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-001E			7/21/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-001F							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-002A	SC-700B-WDR-604	7/7/2020 12:48:00 PM	7/21/2020		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N041247-002B			7/21/2020		EPA 120.1	SPECIFIC CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		SM2540C	TOTAL FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020			Total Dissolved Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR

ASSET Laboratories

WORK ORDER Summary

08-Jul-20

WorkOrder: N041247

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 7/7/2020

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041247-002B	SC-700B-WDR-604	7/7/2020 12:48:00 PM	7/21/2020	Water	EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N041247-002C			7/21/2020		EPA 218.6	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-002D			7/21/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-002E			7/21/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-002F							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-003A	SC-701-WDR-604	7/7/2020 12:40:00 PM	7/21/2020		EPA 120.1	SPECIFIC CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		SM2540C	TOTAL FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020			Total Dissolved Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			7/21/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N041247-003B			7/21/2020		EPA 218.6	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-003C			7/21/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020		EPA 245.1	TOTAL MERCURY BY COLD VAPOR TECHNIQUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			7/21/2020			MERCURY PREP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-003D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041247-004A	FOLDER	7/21/2020	7/21/2020	Folder	Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB

ASSET Laboratories

WORK ORDER Summary

08-Jul-20

WorkOrder: N041247

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 7/7/2020

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041247-004A	FOLDER	7/21/2020	7/21/2020		Folder	Level IV Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			7/21/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



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

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

09-Jul-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3D		
N041247-001A / SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	32OZP	1		
N041247-002A / SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	32OZP	1		

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

Please use PO#:N41247A 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.

		Date/Time	GSO #: 549640528	Date/Time
Relinquished by:	<u>YLT</u>	7/8/2020 1630	Received by:	
Relinquished by:			Received by:	

List of Analysts

ASSET Laboratories Work Order: N041247

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, EPA 245.1
Julia Bundalian	SM 4500-NO3F



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 Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

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Laboratories, Inc.

Environmental Testing Laboratory Since 1949



Date of Report: 07/15/2020

Marlon B. Cartin

ASSET Laboratories- Las Vegas

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

Client Project: N041247
BCL Project: Level IV + labSpec7
BCL Work Order: 2019716
Invoice ID: B385744

Enclosed are the results of analyses for samples received by the laboratory on 7/9/2020. 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

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Chain of Custody and Cooler Receipt Form for 2019716 Page 1 of 2



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

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

20-19716

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

09-Jul-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3D		
N041247-001A / SC-100B-WDR-604	Water	7/7/2020 1:05:00 PM	32OZP	1		
N041247-002A / SC-700B-WDR-604	Water	7/7/2020 12:48:00 PM	32OZP	1		

CHK BY <i>GJS</i>	DISTRIBUTION <i>WKS NIM JMH</i>
SUB OUT <input type="checkbox"/>	

General Comments:

Please email sample receipt acknowledgement to the PM. Please cc sonny.lorenzo@assetlaboratories.com

Please use PO#:N41247A Please email Invoices and Account Receivable Statements to ehira@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 #: 549640528

	Date/Time		Date/Time
Relinquished by: <i>YRJ</i>	7/8/2020 1630	Received by: <i>[Signature]</i>	7-9-20 1000
Relinquished by: _____	_____	Received by: _____	_____



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 2019716 Page 2 of 2

BC LABORATORIES INC.		COOLER RECEIPT FORM		Page 1 Of 1							
Submission #: 2019716											
SHIPPING INFORMATION		SHIPPING CONTAINER		FREE LIQUID							
Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Ontrac <input type="checkbox"/> Hand Delivery <input type="checkbox"/>		Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/>		YES <input type="checkbox"/> NO <input type="checkbox"/>							
BC Lab Field Service <input type="checkbox"/> Other (Specify) <u>ELS</u>		Other <input type="checkbox"/> (Specify) _____		W / S							
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments:											
Custody Seals: Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments:											
Intact? Yes <input type="checkbox"/> No <input type="checkbox"/> Intact? Yes <input type="checkbox"/> No <input type="checkbox"/>											
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All samples containers intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Description(s) match COC? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											
COC Received		Emissivity: <u>45</u> Container: <u>PE</u> Thermometer ID: <u>774</u>		Date/Time <u>7-9-20 1010</u>							
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Temperature: (A) <u>4.9</u> °C / (C) <u>4.7</u> °C		Analyst Init <u>TKJ</u>							
SAMPLE CONTAINERS		SAMPLE NUMBERS									
		1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		A	A								
4oz / Box / 16oz PE UNPRES											
2oz Cr ⁶											
QT INORGANIC CHEMICAL METALS											
INORGANIC CHEMICAL METALS 4oz / Box / 16oz											
PT CYANIDE											
PT NITROGEN FORMS		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											
SOIL SLEEVE											
PCB VIAL											
PLASTIC BAG											
TEDLAR BAG											
FERROUS IRON											
ENCORE											
SMART KIT											
SUMMA CANISTER											

Comments:

Sample Numbering Completed By: OM

A = Actual / C = Corrected

Date/Time: 7/9/20 2230

Rev 21 05/23/2016

ISANPPDoc\WordPerfect\LAB_COCS\FORMS\SAMRECaw 20

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

Reported: 07/15/2020 16:05
Project: Level IV + labSpec7
Project Number: N041247
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2019716-01	COC Number:	---	Receive Date:	07/09/2020 10:10
	Project Number:	---	Sampling Date:	07/07/2020 13:05
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	N041247-001A / SC-100B-WDR-604	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Water
2019716-02	COC Number:	---	Receive Date:	07/09/2020 10:10
	Project Number:	---	Sampling Date:	07/07/2020 12:48
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	N041247-002A / SC-700B-WDR-604	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Water

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

Reported: 07/15/2020 16:05
Project: Level IV + labSpec7
Project Number: N041247
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID:	2019716-01	Client Sample Name:	N041247-001A / SC-100B-WDR-604, 7/7/2020 1:05:00PM				
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		Analyst	Instrument	Dilution	QC	
			Date/Time					Batch ID	Prep Method
1	SM-4500-NH3G	07/13/20 09:30	07/14/20 10:54		JMH2	SC-2	1.033	B082166	SM 4500-NH3G

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

Reported: 07/15/2020 16:05
Project: Level IV + labSpec7
Project Number: N041247
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID:	2019716-02	Client Sample Name:	N041247-002A / SC-700B-WDR-604, 7/7/2020 12:48:00PM				
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		Analyst	Instrument	Dilution	QC	
			Date/Time					Batch ID	Prep Method
1	SM-4500-NH3G	07/13/20 09:30	07/14/20 10:56		JMH2	SC-2	1.034	B082166	SM 4500-NH3G

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Laboratories, Inc.

Environmental Testing Laboratory Since 1949



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

Reported: 07/15/2020 16:05
Project: Level IV + labSpec7
Project Number: N041247
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: B082166					
Ammonia as N (Distilled)	B082166-BLK1	ND	mg/L	0.20	

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Environmental Testing Laboratory Since 1949



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

Reported: 07/15/2020 16:05
Project: Level IV + labSpec7
Project Number: N041247
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

								<u>Control Limits</u>		
Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab
Quals										
QC Batch ID: B082166										
	Ammonia as N (Distilled)	B082166-BS1	LCS	1.9486	2.0000	mg/L	97.4		85 - 115	

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

Reported: 07/15/2020 16:05
Project: Level IV + labSpec7
Project Number: N041247
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: B082166		Used client sample: N									
Ammonia as N (Distilled)	DUP	2019264-01	ND	ND		mg/L			20		
	MS	2019264-01	ND	2.3182	2.3576	mg/L		98.3		80 - 120	
	MSD	2019264-01	ND	2.4024	2.3576	mg/L	3.6	102	20	80 - 120	

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August 18, 2020

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

TEL: (530) 229-3273

FAX: (510) 622-9129

Workorder No.: N041593

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

Attention: Mark Fesler/RDD

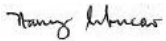
Enclosed are the results for sample(s) received on July 29, 2020 by ASSET Laboratories. The sample(s) are tested for the parameters as indicated in the enclosed chain of custody in accordance with the applicable laboratory certifications.

The attached report is the final hard copy pertaining to the subcontracted tests for the above project.

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 Sibucan
Laboratory Director

This cover letter is an integral part of this analytical report.



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ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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EPA ID CA01638

NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

ASSET Laboratories

Date: 18-Aug-20

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N041593
Contract No: IM3Plant-ARA

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041593-001A	Phase Sep-604-Sludge_Bio	Soil	7/29/2020 9:50:00 AM	7/29/2020	8/18/2020



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NEVADA | P:702.307.2659 F:702.307.2691
3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

Chain of Custody Record

COC Number: **IM3-604**

JACOBS CH2M

Page 1 of 1

Project Name	PG&E Topock	Location	PG&E Topock
--------------	-------------	----------	-------------

Project IM3Plant-ARAR-WDR-604-Sludge

Project Number D3184A1.EV.05-OM-TS **Task Order**

Project Manager Scott O'Donnell

Sample Manager Shawn Duffy

Turnaround Time 10 Days

PO Number D3184A1

Sample ID	Sample Date/Time	Type	Matrix	Preservative
-----------	------------------	------	--------	--------------

Phase Sep-604-Sludge_Bio

N Soil

96hr Acute

4°C

Total Containers: 1

MS = Matrix Spike SD = Matrix Spike Duplicate

Sampled by

Relinquished by

Received by

Relinquished by

Received by

Signatures

Date/Time

Shipping Details

Shipment Method: FedEx**Airbill No:**

Lab Name: ASSET Laboratories

Lab Phone: (702) 307-2659

On Ice: yes / no Cooler Temp

ATTN:

**Sample Custody
and
Marlon Cartin**

Special Instructions:

Sub to Aquatic Bioassay and Consult

**Report Copy to
Mark Fesler
(530) 229-3273**

Reling. ~~of~~ ~~Sho~~ 7-29-2010
Received Joanda Rodriguez +1/29/20
1700

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: 7/29/2020

Workorder: N041593

Rep sample Temp (Deg C): 4.5

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

Comments: See Correspondence.

Checklist Completed By: YR  7/30/2020

Reviewed By: 

Mary Ann Balilu (maryann.balilu@assetlaboratoriesph.com)

From: Fesler, Mark/RDD <Mark.Fesler@jacobs.com>
Sent: Wednesday, July 29, 2020 6:30 PM
To: Yoandra Rodriguez
Cc: maryann.balilu@assetlaboratoriesph.com; sonny.lorenzo@assetlaboratories.com
Subject: RE: [EXTERNAL] PG&E Topock, D3184A1.EV.05-OM-TS (ASSET Labs No. N41593)

Yes, use date/time from sample label

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

-----Original Message-----

From: Yoandra Rodriguez [<mailto:yoandra@assetlaboratories.com>]
Sent: Wednesday, July 29, 2020 6:11 PM
To: Fesler, Mark/RDD <Mark.Fesler@jacobs.com>
Cc: maryann.balilu@assetlaboratoriesph.com; sonny.lorenzo@assetlaboratories.com
Subject: [EXTERNAL] PG&E Topock, D3184A1.EV.05-OM-TS (ASSET Labs No. N41593)

Hello Mark,

Please kindly confirm if the collection date and time for the sample on the attached COC is 7/29/2020 at 9:50 am as per labels.

Thanks,

--

This email has been checked for viruses by Avast antivirus software.

[https://urldefense.com/v3/_https://www.avast.com/antivirus_!!B5cixuoO7ltTeg!USwqKz63Ev8xUdL3wX_DktcUoLV3hZBMtWDkn4rDLGy2USHArfdCoABB0mP9om-s3Q\\$](https://urldefense.com/v3/_https://www.avast.com/antivirus_!!B5cixuoO7ltTeg!USwqKz63Ev8xUdL3wX_DktcUoLV3hZBMtWDkn4rDLGy2USHArfdCoABB0mP9om-s3Q$)

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ASSET Laboratories

WORK ORDER Summary

30-Jul-20

WorkOrder: N041593

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 7/29/2020

Comments: Sub to Aquatic Bioassay and consult

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041593-001A	Phase Sep-604-Sludge_Bio	7/29/2020 9:50:00 AM	8/12/2020	Soil	Bioassay	Bioassay	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N041593-002A	FOLDER	8/12/2020	8/12/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			8/12/2020		Folder	Level IV Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			8/12/2020		Folder	WO has been subbed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			8/12/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



ASSET Laboratories

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www.atl-labs.com

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FAX: 7023072691

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: Level IV

Subcontractor:

Aquatic Testing Lab

TEL: (805) 650-0546

FAX:

Acct #:

Field Sampler: SIGNED

30-Jul-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				Bioassay		
N041593-001A /	Soil	7/29/2020 9:50:00 AM	4OZG	1		

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

Please use PO#:N41593A 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 Bioassay 96hr Acute. EDD Requirement Labspec7 edata.

GSO #: 549897629

				Date/Time	
Relinquished by:	<u>YRJ</u>	<u>7/30/2020 1430</u>	Received by:		
Relinquished by:			Received by:		

LABORATORY REPORT



"dedicated to providing quality aquatic toxicity testing"

Date: August 6, 2020

Client: Asset Laboratories
3151-3153 W. Post Rd.
Las Vegas, NV 89118

4350 Transport Street, Unit 107
Ventura, CA 93003
(805) 650-0546 FAX (805) 650-0756
CA ELAP Cert. No.: 1775

Laboratory No.: A-20073102-001
Sample ID.: N041593-001A

Sample Control: The sample was received by ATL in a chilled state and with the chain of custody record attached.

Date Sampled: 07/29/20
Date Received: 07/31/20
Date Tested: 08/02/20 to 08/06/20

Sample Analysis: The following analyses were performed on your sample:

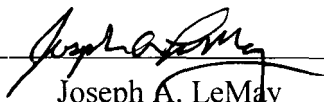
CCR Title 22 Fathead Minnow Hazardous Waste Screen Bioassay (Polisini & Miller 1988).

Attached are the test data generated from the analysis of your sample. All testing was conducted under the direct supervision of Joseph A. LeMay.

Result Summary:

<u>Sample ID.</u>	<u>Results</u>
N041593-001A	LC50 > 750 mg/l

Quality Control: Reviewed and approved by:



Joseph A. LeMay
Laboratory Director

FATHEAD MINNOW HAZARDOUS WASTE SCREEN BIOASSAY



Lab No.: A20073102-001

Client/ID: ASSET NO41593-001A

TEST SUMMARY

Species: Pimephales promelas.

Fish weight (gm): av: 0.26 ; min: 0.22 ; max: 0.34 .

Reference Toxicant: SDS conducted monthly per source.

Test chamber volume: 10 liters.

Temperature: 20 +/- 2°C.

Aeration: none/minimum (>4.0 mg/l DO).

Number of replicates: 2.

Dilution water: Soft reconstituted water (40-48 mg/l CaCO₃).

Source: Thomas Fish .

Regulations: CCR Title 22.

Test Protocol: California F&G/DHS 1988.

Endpoints: Survival at 96 hrs.

Test type: Static.

Feeding: None.

Number of fish per chamber: 10 .

Photoperiod: 16/8 hrs light/dark.

TEST DATA

	INITIAL				24 Hr				48 Hr				72 Hr				96 Hr			
Date/Time:	8-2-2020 1100				8-3-2020 1130				8-4-2020 1100				8-5-2020 1100				8-6-2020 1100			
Analyst:	Z				m				Z				Z				Z			
	°C	DO	pH		°C	DO	pH	# D	°C	DO	pH	# D	°C	DO	pH	# D	°C	DO	pH	# D
Control A	20.2	8.4	7.9		20.2	7.2	7.6	0	20.6	7.0	7.8	0	20.2	6.1	7.5	0	20.9	5.2	7.5	0
Control B	20.2	8.3	8.0		20.3	7.1	7.6	0	20.5	7.0	7.6	0	20.2	6.0	7.7	0	20.8	5.3	7.2	0
400 mg/l A	20.3	8.1	8.2		20.7	7.0	7.7	0	20.3	6.8	7.9	0	20.3	6.2	7.7	0	20.5	5.2	7.5	0
400 mg/l B	20.2	7.9	8.2		20.6	7.2	7.7	0	20.2	7.0	7.8	0	20.2	6.0	7.8	0	20.4	5.3	7.5	0
750 mg/l A	20.4	8.2	8.1		20.2	7.3	7.8	0	20.3	7.4	7.8	0	20.4	6.1	7.7	0	20.5	5.2	7.5	0
750 mg/l B	20.2	8.2	8.2		20.6	7.1	7.8	0	20.3	6.7	7.5	0	20.4	6.0	7.6	0	20.4	5.3	7.4	0

Comments: Extraction method: Mechanical shaking ☒ . Dissolved Oxygen (DO) readings in mg/l O₂.
None (aqueous solution) NA .
Test Aeration: None ☒ .
* Aerated NA . (Minimum needed to maintain DO > 5.5 mg/L through narrow-bore glass tube at < 100 bubbles per minute)

	CONTROL		HIGH CONCENTRATION		Total Number Dead
	Alkalinity	Hardness	Alkalinity	Hardness	
Initial	33 mg/l CaCO ₃	46 mg/l CaCO ₃	33 mg/l CaCO ₃	48 mg/l CaCO ₃	Control 0 / 20
Final	33 mg/l CaCO ₃	47 mg/l CaCO ₃	38 mg/l CaCO ₃	63 mg/l CaCO ₃	400 mg/l 0 / 20
					750 mg/l 0 / 20

RESULT

(the checked (✓) result applies based on fish survival rates of this test; NA - not applicable)

✓	LC50 > 750 mg/l (<40% dead in 750 mg/l conc.)
NA	≥40% dead in 750 mg/l (close to passing - definitive test recommended)
NA	LC50 < 400 mg/l (>60% dead in 400 mg/l conc.)



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CHAIN-OF-CUSTODY RECORD

Page 1 of 1

QC Level: Level IV

Subcontractor:

Aquatic Testing Lab
4350 Transport St #107
Ventura, CA 93003

TEL: (805) 650-0546
FAX: (805) 650-0756
Acct #:

Field Sampler: SIGNED

30-Jul-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				Bioassay	
N041593-001A / Phase Sep-604-Sludge_Bio	Soil	7/29/2020 9:50:00 AM	4OZG	1	

General Comments: PLEASE EMAIL SAMPLE RECEIPT ACKNOWLEDGEMENT TO THE PM. ALWAYS CC: sonny.lorenzo@assetlaboratories.com
Please use PO#:N41593A 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 Bioassay 96hr Acute. EDD Requirement Labspec7 edata.

GSO #: 549897629	
Date/Time	Date/Time
Relinquished by: <u>YLT</u>	7/30/2020 1430
Received by: <u>[Signature]</u>	7-31-20 <u>[Signature]</u>
Relinquished by:	Received by:

August 18, 2020

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

TEL: (530) 229-3273

FAX: (510) 622-9129

Workorder No.: N041660

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

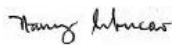
Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on August 04, 2020 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 Sibucan
Laboratory Director

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



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ORELAP/NELAP Cert 4046

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N041660

CASE NARRATIVE**SAMPLE RECEIVING/GENERAL COMMENTS:**

Samples were received intact with proper chain of custody documentation.

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

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

Samples were analyzed within method holding time.

Subcontracted Analyses:

Ammonia was subcontracted to BC Labs- Bakersfield,CA.

Analytical Comments for EPA 200.7:

Dilution was necessary for samples since plasma was extinguished when samples were analyzed at lower dilution.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Iron in QC samples N041660-001C-MS1 and N041660-001C-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 N041660-001C-MS and N041660-001C-MSD since the analyte concentration in the sample is disproportionate to the spike level. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for some analytes in QC samples N041660-001C-MS and N041660-001C-MSD possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.



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ASSET Laboratories

Date: 18-Aug-20

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N041660
Contract No: IM3PLANT-AR

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N041660-001A	SC-100B-WDR-605	Water	8/4/2020 8:20:00 AM	8/4/2020	8/18/2020
N041660-001B	SC-100B-WDR-605	Water	8/4/2020 8:20:00 AM	8/4/2020	8/18/2020
N041660-001C	SC-100B-WDR-605	Water	8/4/2020 8:20:00 AM	8/4/2020	8/18/2020
N041660-001D	SC-100B-WDR-605	Water	8/4/2020 8:20:00 AM	8/4/2020	8/18/2020
N041660-002A	SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	8/4/2020	8/18/2020
N041660-002B	SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	8/4/2020	8/18/2020
N041660-002C	SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	8/4/2020	8/18/2020
N041660-002D	SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	8/4/2020	8/18/2020
N041660-002E	SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	8/4/2020	8/18/2020
N041660-002F	SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	8/4/2020	8/18/2020



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-001

Client Sample ID: SC-100B-WDR-605
Collection Date: 8/4/2020 8:20:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

SPECIFIC CONDUCTANCE
EPA 120.1

RunID: NV00922-WC_200805A	QC Batch: R146348			PrepDate:		Analyst: LR
Specific Conductance	7200	0.10	0.10	umhos/cm	1	8/5/2020 09:50 AM

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
Collection Date: 8/4/2020 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE
EPA 120.1

RunID: NV00922-WC_200805A	QC Batch: R146348			PrepDate:		Analyst: LR
Specific Conductance	7100	0.10	0.10	umhos/cm	1	8/5/2020 09:50 AM

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



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CLIENT: CH2M HILL
Work Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 120.1_WPGE**

Sample ID: N041660-001ADUP		SampType: DUP	TestCode: 120.1_WPGE		Units: umhos/cm	Prep Date:			RunNo: 146348		
Client ID: ZZZZZZ		Batch ID: R146348	TestNo: EPA 120.1			Analysis Date: 8/5/2020			SeqNo: 3882084		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7130.000	0.10						7150	0.280	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		

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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-001

Client Sample ID: SC-100B-WDR-605
Collection Date: 8/4/2020 8:20:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

TOTAL FILTERABLE RESIDUE
SM2540C

RunID: NV00922-WC_200805G	QC Batch: 80464			PrepDate: 8/5/2020		Analyst: LR
Total Dissolved Solids (Residue, Filterable)	4400	50	50	mg/L	1	8/5/2020 01:03 PM

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
Collection Date: 8/4/2020 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

TOTAL FILTERABLE RESIDUE
SM2540C

RunID: NV00922-WC_200805G	QC Batch: 80464			PrepDate: 8/5/2020		Analyst: LR
Total Dissolved Solids (Residue, Filterable)	4500	50	50	mg/L	1	8/5/2020 01:03 PM

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



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CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: LCS-80464	SampType: LCS	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 8/5/2020	RunNo: 146382						
Client ID: LCSW	Batch ID: 80464	TestNo: SM2540C		Analysis Date: 8/5/2020	SeqNo: 3883553						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	978.000	10	1000	0	97.8	80	120				

Sample ID: MB-80464	SampType: MBLK	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 8/5/2020	RunNo: 146382						
Client ID: PBW	Batch ID: 80464	TestNo: SM2540C		Analysis Date: 8/5/2020	SeqNo: 3883554						
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: N041660-001ADUP	SampType: DUP	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 8/5/2020	RunNo: 146382						
Client ID: ZZZZZZ	Batch ID: 80464	TestNo: SM2540C		Analysis Date: 8/5/2020	SeqNo: 3883556						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4505.000	50						4370	3.04	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			



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-001

Client Sample ID: SC-100B-WDR-605
Collection Date: 8/4/2020 8:20:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP
EPA 200.7

RunID: NV00922-ICP2_200809A	QC Batch: 80509			PrepDate: 8/7/2020	Analyst: DJ
Aluminum	ND	200	250	µg/L	5 8/9/2020 09:15 AM
Boron	780	370	500	µg/L	5 8/9/2020 09:15 AM
Iron	ND	89	100	µg/L	5 8/9/2020 09:15 AM

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
Collection Date: 8/4/2020 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP
EPA 200.7

RunID: NV00922-ICP2_200809A	QC Batch: 80509			PrepDate: 8/7/2020	Analyst: DJ
Aluminum	ND	200	250	µg/L	5 8/9/2020 10:54 AM
Boron	900	370	500	µg/L	5 8/9/2020 10:54 AM
Iron	ND	89	100	µg/L	5 8/9/2020 10:54 AM

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



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CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPB

Sample ID: N041660-001C-MS1		SampType: MS	TestCode: 200.7_WPGE		Units: µg/L	Prep Date: 8/7/2020			RunNo: 146471		
Client ID: ZZZZZZ		Batch ID: 80509	TestNo: EPA 200.7			Analysis Date: 8/9/2020			SeqNo: 3887530		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9461.769	250	10000	0	94.6	75	125				
Boron	5634.243	500	5000	777.6	97.1	75	125				
Iron	ND	100	100.0	0	0	75	125				S

Sample ID: MB-80509	SampType: MBLK	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146471						
Client ID: PBW	Batch ID: 80509	TestNo: EPA 200.7		Analysis Date: 8/9/2020	SeqNo: 3887533						
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: LCS1-80509	SampType: LCS	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146471						
Client ID: LCSW	Batch ID: 80509	TestNo: EPA 200.7		Analysis Date: 8/9/2020	SeqNo: 3887534						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9915.140	50	10000	0	99.2	85	115				
Boron	4751.007	100	5000	0	95.0	85	115				
Iron	87.963	20	100.0	0	88.0	85	115				

Sample ID: N041660-001C-MSD	SampType: MSD	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146471						
Client ID: ZZZZZZ	Batch ID: 80509	TestNo: EPA 200.7		Analysis Date: 8/9/2020	SeqNo: 3887535						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9927.333	250	10000	0	99.3	75	125	9462	4.80	20	
Boron	5993.459	500	5000	777.6	104	75	125	5634	6.18	20	
Iron	ND	100	100.0	0	0	75	125	0	0	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
 H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values

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CLIENT: CH2M HILL
Work Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 200.7_WPGEPB**

Sample ID: N041660-001C-PS	SampType: PS	TestCode: 200.7_WPGE	Units: µg/L	Prep Date:					RunNo: 146471		
Client ID: ZZZZZZ	Batch ID: 80509	TestNo: EPA 200.7			Analysis Date: 8/9/2020					SeqNo: 3887529	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9681.926	250	10000	0	96.8	80	120				
Boron	5773.944	500	5000	777.6	99.9	80	120				
Iron	ND	100	100.0	0	0	80	120				S

Qualifiers:

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

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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-001

Client Sample ID: SC-100B-WDR-605
Collection Date: 8/4/2020 8:20:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: NV00922-IC7_200805A	QC Batch: R146357			PrepDate:		Analyst: RAB	
Hexavalent Chromium	440	1.7	10	µg/L	50	8/5/2020 12:30 PM	
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: NV00922-ICP8_200807C	QC Batch: 80508			PrepDate:	8/7/2020	Analyst: CEI	
Chromium	420	0.65	5.0	µg/L	5	8/7/2020 11:39 AM	

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



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ANALYTICAL RESULTS

Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
Collection Date: 8/4/2020 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: NV00922-IC7_200805A	QC Batch: R146357			PrepDate:		Analyst: RAB	
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	8/5/2020 12:58 PM
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: NV00922-ICP8_200807C	QC Batch: 80508			PrepDate:	8/7/2020	Analyst: CEI	
Chromium	ND	0.13	1.0		µg/L	1	8/7/2020 12:25 PM

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



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CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: MB-80508	SampType: MBLK	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492
Client ID: PBW	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888770
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	0.197	1.0			

Sample ID: LCS-80508	SampType: LCS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492
Client ID: LCSW	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888771
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	9.878	1.0	10.00	0	98.8 85 115

Sample ID: N041660-001C-MS	SampType: MS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888778
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	425.814	5.0	10.00	422.3	35.1 75 125 S

Sample ID: N041660-001C-MSD	SampType: MSD	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888782
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	423.784	5.0	10.00	422.3	14.8 75 125 425.8 0.478 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			



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CLIENT: CH2M HILL
Work Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: MB-R146357	SampType: MBLK	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 146357						
Client ID: PBW	Batch ID: R146357	TestNo: EPA 218.6		Analysis Date: 8/5/2020	SeqNo: 3882241						
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-R146357	SampType: LCS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 146357						
Client ID: LCSW	Batch ID: R146357	TestNo: EPA 218.6		Analysis Date: 8/5/2020	SeqNo: 3882242						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 5.019 0.20 5.000 0 100 90 110

Sample ID: N041667-004ADUP	SampType: DUP	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 146357						
Client ID: ZZZZZZ	Batch ID: R146357	TestNo: EPA 218.6		Analysis Date: 8/5/2020	SeqNo: 3882253						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 0.516 0.20 0.5072 1.78 20

Sample ID: N041660-001BMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 146357						
Client ID: ZZZZZZ	Batch ID: R146357	TestNo: EPA 218.6		Analysis Date: 8/5/2020	SeqNo: 3882255						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 688.770 10 250.0 437.8 100 90 110

Sample ID: N041660-001BMSD	SampType: MSD	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 146357						
Client ID: ZZZZZZ	Batch ID: R146357	TestNo: EPA 218.6		Analysis Date: 8/5/2020	SeqNo: 3882256						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 690.135 10 250.0 437.8 101 90 110 688.8 0.198 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: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: N041660-002CMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 146357						
Client ID: ZZZZZZ	Batch ID: R146357	TestNo: EPA 218.6	Analysis Date: 8/5/2020	SeqNo: 3882258							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	1.126	0.20	1.000	0.08330	104	90	110				

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: N041660-001C-PS	SampType: PS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date:	RunNo: 146492						
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888776						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	419.380	5.0	10.00	422.3	-29.2	80	120				S

Qualifiers:

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



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ANALYTICAL RESULTS

Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-001

Client Sample ID: SC-100B-WDR-605
Collection Date: 8/4/2020 8:20:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 200.8

RunID: NV00922-ICP8_200809A	QC Batch: 80508	PrepDate: 8/7/2020	Analyst: CEI			
Antimony	ND	0.16	0.50	µg/L	1	8/9/2020 04:07 PM
Arsenic	ND	0.081	0.10	µg/L	1	8/9/2020 04:07 PM
Barium	32	0.15	1.0	µg/L	1	8/7/2020 11:34 AM
Copper	ND	0.55	1.0	µg/L	1	8/7/2020 11:34 AM
Lead	ND	0.13	1.0	µg/L	1	8/7/2020 11:34 AM
Manganese	7.1	0.26	0.50	µg/L	1	8/7/2020 11:34 AM
Molybdenum	23	0.21	0.50	µg/L	1	8/7/2020 11:34 AM
Nickel	ND	0.26	1.0	µg/L	1	8/7/2020 11:34 AM
Zinc	ND	2.3	10	µg/L	1	8/7/2020 11:34 AM

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



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
Collection Date: 8/4/2020 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 200.8

RunID: NV00922-ICP8_200809A	QC Batch: 80508	PrepDate: 8/7/2020	Analyst: CEI			
Antimony	ND	0.16	0.50	µg/L	1	8/9/2020 04:30 PM
Arsenic	ND	0.081	0.10	µg/L	1	8/9/2020 04:30 PM
Barium	24	0.15	1.0	µg/L	1	8/7/2020 12:25 PM
Copper	ND	0.55	1.0	µg/L	1	8/7/2020 12:25 PM
Lead	ND	0.13	1.0	µg/L	1	8/7/2020 12:25 PM
Manganese	63	0.26	0.50	µg/L	1	8/7/2020 12:25 PM
Molybdenum	19	0.21	0.50	µg/L	1	8/7/2020 12:25 PM
Nickel	ND	0.26	1.0	µg/L	1	8/7/2020 12:25 PM
Zinc	ND	2.3	10	µg/L	1	8/7/2020 12:25 PM

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: MB-80508	SampType: MBLK	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492						
Client ID: PBW	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888860						
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									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Nickel	ND	1.0									
Zinc	ND	10									

Sample ID: LCS-80508	SampType: LCS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492						
Client ID: LCSW	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888861						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	10.263	1.0	10.00	0	103	85	115				
Copper	10.026	1.0	10.00	0	100	85	115				
Lead	9.806	1.0	10.00	0	98.1	85	115				
Manganese	101.339	0.50	100.0	0	101	85	115				
Molybdenum	9.857	0.50	10.00	0	98.6	85	115				
Nickel	10.037	1.0	10.00	0	100	85	115				
Zinc	10.024	10	10.00	0	100	85	115				

Sample ID: N041660-001C-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492						
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/7/2020	SeqNo: 3888867						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	42.392	1.0	10.00	32.29	101	75	125				
Copper	8.370	1.0	10.00	0	83.7	75	125				
Lead	10.421	1.0	10.00	0	104	75	125				
Manganese	105.907	0.50	100.0	7.084	98.8	75	125				

Qualifiers:

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
Work Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N041660-001C-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492						
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8	Analysis Date: 8/7/2020	SeqNo: 3888867							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	33.686	0.50	10.00	23.06	106	75	125				
Nickel	ND	1.0	10.00	0	0	75	125				S
Zinc	ND	10	10.00	0	0	75	125				S

Sample ID: N041660-001C-MSD	SampType: MSD	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146492						
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8	Analysis Date: 8/7/2020	SeqNo: 3888869							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	42.371	1.0	10.00	32.29	101	75	125	42.39	0.0496	20	
Copper	8.595	1.0	10.00	0	86.0	75	125	8.370	2.66	20	
Lead	10.464	1.0	10.00	0	105	75	125	10.42	0.411	20	
Manganese	105.180	0.50	100.0	7.084	98.1	75	125	105.9	0.690	20	
Molybdenum	33.983	0.50	10.00	23.06	109	75	125	33.69	0.878	20	
Nickel	ND	1.0	10.00	0	0	75	125	0	0	20	S
Zinc	2.440	10	10.00	0	24.4	75	125	0	0	20	S

Sample ID: MB-80508	SampType: MBLK	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146494						
Client ID: PBW	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/9/2020	SeqNo: 3890152						
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									

Sample ID: LCS-80508	SampType: LCS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146494						
Client ID: LCSW	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/9/2020	SeqNo: 3890153						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	9.763	0.50	10.00	0	97.6	85	115				
Arsenic	9.981	0.10	10.00	0	99.8	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: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N041660-001C-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146494						
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/9/2020	SeqNo: 3890157						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.502	0.50	10.00	0	105	75	125				
Arsenic	11.157	0.10	10.00	0	112	75	125				

Sample ID: N041660-001C-MSD	SampType: MSD	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 8/7/2020	RunNo: 146494						
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/9/2020	SeqNo: 3890158						
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	10.50	1.11	20	
Arsenic	11.396	0.10	10.00	0	114	75	125	11.16	2.12	20	

Qualifiers:

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

CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N041660-001C-PS	SampType: PS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date:				RunNo: 146492			
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8	Analysis Date: 8/7/2020				SeqNo: 3888865				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	43.314	1.0	10.00	32.29	110	80	120				
Copper	8.528	1.0	10.00	0	85.3	80	120				
Lead	10.431	1.0	10.00	0	104	80	120				
Manganese	106.471	0.50	100.0	7.084	99.4	80	120				
Molybdenum	33.671	0.50	10.00	23.06	106	80	120				
Nickel	ND	1.0	10.00	0	0	80	120				S
Zinc	3.244	10	10.00	0	32.4	80	120				S

Sample ID: N041660-001C-PS	SampType: PS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date:	RunNo: 146494						
Client ID: ZZZZZZ	Batch ID: 80508	TestNo: EPA 200.8		Analysis Date: 8/9/2020	SeqNo: 3890156						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	10.421	0.50	10.00	0	104	80	120				
Arsenic	11.350	0.10	10.00	0	113	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			



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ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-001

Client Sample ID: SC-100B-WDR-605
Collection Date: 8/4/2020 8:20:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TURBIDITY
SM 2130B

RunID: NV00922-WC_200805F	QC Batch: R146356	PrepDate:	Analyst: LR
Turbidity	0.19 0.10 0.10	NTU	1 8/5/2020 03:00 PM

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



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ANALYTICAL RESULTS

Print Date: 18-Aug-20

CLIENT: CH2M HILL
 Lab Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS
 Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
 Collection Date: 8/4/2020 8:30:00 AM
 Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TURBIDITY

SM 2130B

RunID: NV00922-WC_200805F	QC Batch: R146356	PrepDate:	Analyst: LR
Turbidity	0.67 0.10 0.10	NTU	1 8/5/2020 03:00 PM

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



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CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 2130_W

Sample ID: MB-R146356	SampType: MBLK	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: 146356						
Client ID: PBW	Batch ID: R146356	TestNo: SM 2130B		Analysis Date: 8/5/2020	SeqNo: 3882203						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10									

Sample ID: N041660-002BDUP	SampType: DUP	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: 146356						
Client ID: ZZZZZZ	Batch ID: R146356	TestNo: SM 2130B		Analysis Date: 8/5/2020	SeqNo: 3882206						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	0.690	0.10						0.6700	2.94	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			



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ANALYTICAL RESULTS

Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
Collection Date: 8/4/2020 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200805B	QC Batch: R146373			PrepDate:		Analyst: RAB
Fluoride	2.2	0.048	0.50	mg/L	5	8/5/2020 07:50 PM

ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200805B	QC Batch: R146373			PrepDate:		Analyst: RAB
Sulfate	480	2.0	25	mg/L	50	8/5/2020 08:51 PM

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



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CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_FPGE

Sample ID: MB-R146373_F	SampType: MBLK	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: PBW	Batch ID: R146373	TestNo: EPA 300.0	Analysis Date: 8/5/2020	SeqNo: 3883169							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									

Sample ID: LCS-R146373_F	SampType: LCS	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: LCSW	Batch ID: R146373	TestNo: EPA 300.0	Analysis Date: 8/5/2020	SeqNo: 3883170							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.338	0.10	1.250	0	107	90	110				

Sample ID: N041660-002BDUP	SampType: DUP	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: ZZZZZZ	Batch ID: R146373	TestNo: EPA 300.0	Analysis Date: 8/5/2020	SeqNo: 3883176							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.517	0.50						2.218	12.6	20	

Sample ID: N041660-002BMS	SampType: MS	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: ZZZZZZ	Batch ID: R146373	TestNo: EPA 300.0	Analysis Date: 8/5/2020	SeqNo: 3883177							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	8.873	0.50	6.250	2.218	106	80	120				

Sample ID: N041660-002BMSD	SampType: MSD	TestCode: 300_W_FPGE	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: ZZZZZZ	Batch ID: R146373	TestNo: EPA 300.0	Analysis Date: 8/5/2020	SeqNo: 3883178							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	9.057	0.50	6.250	2.218	109	80	120	8.873	2.05	20	

Qualifiers:

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



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CLIENT: CH2M HILL
Work Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: MB-R146373_SO4	SampType: MBLK	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: PBW	Batch ID: R146373	TestNo: EPA 300.0		Analysis Date: 8/5/2020	SeqNo: 3883230						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate ND 0.50

Sample ID: LCS-R146373_SO4	SampType: LCS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: LCSW	Batch ID: R146373	TestNo: EPA 300.0		Analysis Date: 8/5/2020	SeqNo: 3883231						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 3.969 0.50 4.000 0 99.2 90 110

Sample ID: N041660-002BDUP	SampType: DUP	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: ZZZZZZ	Batch ID: R146373	TestNo: EPA 300.0		Analysis Date: 8/5/2020	SeqNo: 3883237						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 479.440 25 483.6 0.861 20

Sample ID: N041660-002BMS	SampType: MS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: ZZZZZZ	Batch ID: R146373	TestNo: EPA 300.0		Analysis Date: 8/5/2020	SeqNo: 3883238						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 678.500 25 200.0 483.6 97.5 80 120

Sample ID: N041660-002BMSD	SampType: MSD	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 146373						
Client ID: ZZZZZZ	Batch ID: R146373	TestNo: EPA 300.0	Analysis Date: 8/5/2020	SeqNo: 3883239							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 686.160 25 200.0 483.6 101 80 120 678.5 1.12 20

Qualifiers:

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

ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 18-Aug-20

CLIENT: CH2M HILL
Lab Order: N041660
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N041660-002

Client Sample ID: SC-700B-WDR-605
Collection Date: 8/4/2020 8:30:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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NITRATE/NITRITE-N BY CADMIUM REDUCTION
SM4500-NO3F

RunID: NV00922-WC_200811A	QC Batch: R146525			PrepDate:		Analyst: JBB
Nitrate/Nitrite as N	3.0	0.16	0.25	mg/L	5	8/11/2020 01:11 PM

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



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CLIENT: CH2M HILL
 Work Order: N041660
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 4500N03F_W_PGE

Sample ID: MB-R146525	SampType: MBLK	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 146525
Client ID: PBW	Batch ID: R146525	TestNo: SM4500-NO3		Analysis Date: 8/11/2020	SeqNo: 3891401
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-R146525	SampType: LCS	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 146525
Client ID: LCSW	Batch ID: R146525	TestNo: SM4500-NO3		Analysis Date: 8/11/2020	SeqNo: 3891402
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	0.471	0.050	0.5000	0	94.2 85 115

Sample ID: N041672-001DMS	SampType: MS	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 146525
Client ID: ZZZZZ	Batch ID: R146525	TestNo: SM4500-NO3		Analysis Date: 8/11/2020	SeqNo: 3891404
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	5.059	0.25	2.500	2.506	102 75 125

Sample ID: N041672-001DMSD	SampType: MSD	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 146525
Client ID: ZZZZZ	Batch ID: R146525	TestNo: SM4500-NO3		Analysis Date: 8/11/2020	SeqNo: 3891405
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	5.385	0.25	2.500	2.506	115 75 125 5.059 6.23 20

Sample ID: N041660-002DDUP	SampType: DUP	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 146525
Client ID: ZZZZZ	Batch ID: R146525	TestNo: SM4500-NO3		Analysis Date: 8/11/2020	SeqNo: 3891407
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	2.813	0.25			3.022 7.16 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			









ASSET LABORATORIES

CALIFORNIA | P: 562.219.7435 F: 562.219.7436
 11110 Artesia Blvd., Ste B, Cerritos, CA 90703
 ELAP Cert 2921
 EPA ID CA01638

NEVADA | P: 702.307.2659 F: 702.307.2691
 3151 W. Post Rd., Las Vegas, NV 89118
 ELAP Cert 2676 | NV Cert NV00922
 ORELAP/NELAP Cert 4046

"Serving Clients with Passion and Professionalism"

Signatures Approved by  Sampled by  Relinquished by  Received by  Relinquished by  Received by 		Date/Time 8-4-20 0700 8-4-20 0820 8-4-20 1522 8-4-20 1522 8-4-20 1730 8/4/20 1720		Shipping Details Method of Shipment: FedEx On Ice: <input checked="" type="checkbox"/> yes / no 4.3°C in # 2 Airbill No: Lab Name: ASSET Laboratories Lab Phone: (702) 307-2659		ATTN: Sample Custody and Marton Cartin		Special Instructions: SC-700B Total metals List: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn Report Copy to Mark Fasler	
--	--	--	--	---	--	--	--	--	--

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: 8/4/2020 Workorder: N041660
 Rep sample Temp (Deg C): 4.3 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
2. Custody seals intact, signed, dated on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
3. Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
4. Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
5. Sampler's name present in COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
6. Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
7. Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
8. Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
9. Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
10. Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
11. All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
13. Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>
15. Did the bottle labels indicate correct preservatives used?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
16. Were there Non-Conformance issues at login?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Was Client notified?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

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.

Checklist Completed By: YR  8/5/2020

Reviewed By: 

ASSET Laboratories

WORK ORDER Summary

05-Aug-20

WorkOrder: N041660

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 8/4/2020

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041660-001A	SC-100B-WDR-605	8/4/2020 8:20:00 AM	8/18/2020	Water	EPA 120.1	SPECIFIC CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020		SM2540C	TOTAL FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020			Total Dissolved Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N041660-001B			8/18/2020		EPA 218.6	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041660-001C			8/18/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/18/2020		EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/18/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/18/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/18/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041660-001D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041660-002A	SC-700B-WDR-605	8/4/2020 8:30:00 AM	8/18/2020		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N041660-002B			8/18/2020		EPA 120.1	SPECIFIC CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020		SM2540C	TOTAL FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020			Total Dissolved Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			8/18/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N041660-002C			8/18/2020		EPA 218.6	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041660-002D			8/18/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041660-002E			8/18/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW

ASSET Laboratories

WORK ORDER Summary

05-Aug-20

WorkOrder: N041660

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 8/4/2020

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

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N041660-002E	SC-700B-WDR-605	8/4/2020 8:30:00 AM	8/18/2020	Water	EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/18/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/18/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			8/18/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041660-002F							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N041660-003A	FOLDER	8/18/2020	8/18/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			8/18/2020		Folder	Level IV Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			8/18/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB

**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

QC Level: Level IV**Subcontractor:**BC Labs
4100 Atlas Court
Bakersfield, CA 93308TEL: (661) 327-4911
FAX: (661) 327-1918
Acct #:

Field Sampler: SIGNED

05-Aug-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3D		
N041660-002A / SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	32OZP	1		

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

Please use PO#:N41660A 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 #: 549972859

	Date/Time		Date/Time
Relinquished by: <u>YRJ</u>	<u>8/5/2020 1630</u>	Received by: _____	_____
Relinquished by: _____	_____	Received by: _____	_____

List of Analysts

ASSET Laboratories Work Order: N041660

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



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 Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

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Laboratories, Inc.

Environmental Testing Laboratory Since 1949



Date of Report: 08/12/2020

Marlon B. Cartin

ASSET Laboratories- Las Vegas

3151-3153 W. Post Rd

Las Vegas, NV 89118

Client Project: N041660

BCL Project: Level IV + labSpec7

BCL Work Order: 2022624

Invoice ID: B388644

Enclosed are the results of analyses for samples received by the laboratory on 8/6/2020. 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

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Environmental Testing Laboratory Since 1949

MM

Chain of Custody and Cooler Receipt Form for 2022624 Page 1 of 2

Page 1 of 1

CHAIN-OF-CUSTODY RECORD



ASSET Laboratories 20-22 624
3151-3153 W Post Rd., Las Vegas, NV 89118
www.asset-labs.com
TEL: 7023072659 FAX: 7023072691

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

05-Aug-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests	
				SM4500-NH3D	
N041660-002A / SC-700B-WDR-605	Water	8/4/2020 8:30:00 AM	320ZP	1	

CHK BY	<i>[Signature]</i>	DISTRIBUTION
		<input checked="" type="checkbox"/> <i>[Signature]</i>
		SUB OUT <input type="checkbox"/>

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

Please use PO#N41660A. 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 #: 549972859

	Date/Time		Date/Time
Relinquished by: <i>YAS</i>	8/5/2020 1630	Received by: <i>[Signature]</i>	8-6-20 1025
Relinquished by: _____	_____	Received by: _____	_____



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 2022624 Page 2 of 2

BC LABORATORIES INC.		COOLER RECEIPT FORM		Page <u>1</u> Of <u>2</u>							
Submission #: <u>20-22624</u>											
SHIPPING INFORMATION Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> Ontrac <input type="checkbox"/> Hand Delivery <input type="checkbox"/> BC Lab Field Service <input type="checkbox"/> Other <input checked="" type="checkbox"/> (Specify) <u>ELIS</u>		SHIPPING CONTAINER Ice Chest <input checked="" type="checkbox"/> None <input type="checkbox"/> Box <input type="checkbox"/> Other <input type="checkbox"/> (Specify) _____		FREE LIQUID YES <input type="checkbox"/> NO <input type="checkbox"/> W / S							
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments: _____											
Custody Seals: Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments: _____ Intact? Yes <input type="checkbox"/> No <input type="checkbox"/> Intact? Yes <input type="checkbox"/> No <input type="checkbox"/>											
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All samples containers intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Description(s) match COC? Yes <input type="checkbox"/> No <input type="checkbox"/>											
COC Received <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Emissivity: <u>95</u> Container: <u>PE</u> Thermometer ID: <u>274</u> Temperature: (A) <u>3.1</u> °C / (C) <u>3.0</u> °C		Date/Time <u>8-6-20 1025</u> Analyst Init <u>TK</u>							
SAMPLE CONTAINERS		SAMPLE NUMBERS									
		1	2	3	4	5	6	7	8	9	10
QT PE UNPRES											
4oz / 8oz / 16oz PE UNPRES											
2oz Cr ⁴											
QT INORGANIC CHEMICAL METALS											
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz											
PT CYANIDE											
EP-NITROGEN FORMS <u>QT</u>		<u>A</u>									
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 503/503/5080											
QT EPA 515.1/5150											
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: 3/4 Full
Sample Numbering Completed By: CMS
A = Actual / C = Corrected

Date/Time: 9/6/20 1240 Rev 21 05/23/2016

IS://WFOcc/WorPerfor/LAB_DCSFORMS/515AMBER/201

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

Reported: 08/12/2020 15:50
Project: Level IV + labSpec7
Project Number: N041660
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2022624-01	COC Number:	---	Receive Date:	08/06/2020 10:25
	Project Number:	---	Sampling Date:	08/04/2020 08:30
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	N044660-002A / SC-700B-WDR-605	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Water

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

Reported: 08/12/2020 15:50
Project: Level IV + labSpec7
Project Number: N041660
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID:	2022624-01	Client Sample Name:	N044660-002A / SC-700B-WDR-605, 8/4/2020 8:30:00AM				
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	08/07/20 13:30	08/11/20 15:52	JMH2	SC-1	1.017	B084298	SM 4500-NH3G

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Environmental Testing Laboratory Since 1949



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

Reported: 08/12/2020 15:50
Project: Level IV + labSpec7
Project Number: N041660
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: B084298					
Ammonia as N (Distilled)	B084298-BLK1	ND	mg/L	0.20	

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

Reported: 08/12/2020 15:50
Project: Level IV + labSpec7
Project Number: N041660
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		Lab
								Percent Recovery	RPD	
								RPD	Quals	
QC Batch ID: B084298										
Ammonia as N (Distilled)	B084298-BS1	LCS	2.1598	2.0000	mg/L	108		85 - 115		

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

Reported: 08/12/2020 15:50
Project: Level IV + labSpec7
Project Number: N041660
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: B084298		Used client sample: N									
Ammonia as N (Distilled)	DUP	2021741-01	0.36718	0.44069		mg/L	18.2		20		
	MS	2021741-01	0.36718	2.4524	2.3121	mg/L		90.2		80 - 120	
	MSD	2021741-01	0.36718	2.4902	2.3121	mg/L	1.5	91.8	20	80 - 120	

September 17, 2020

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

TEL: (530) 229-3273

FAX: (510) 622-9129

Workorder No.: N042064

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

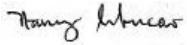
Attention: Mark Fesler/RDD

Enclosed are the results for sample(s) received on September 01, 2020 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 Sibucan
Laboratory Director

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



ASSET LABORATORIES
ANALYTICAL SUPPORT SERVICES FOR ENVIRONMENTAL TECHNOLOGIES

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3151 W. Post Rd., Las Vegas, NV 89118
ELAP Cert 2676 | NV Cert NV00922
ORELAP/NELAP Cert 4046

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N042064

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 (MS) is outside recovery criteria for Iron in QC sample N042064-001C-MS1 possibly due to matrix interference. Post Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.

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

Analytical Comments for EPA 200.8:

Method Blank (MB) has detect greater than 1/2 the reporting limit for Nickel. However, sample result for this analyte was none detect (ND) therefore reanalysis of the sample was not necessary.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) are outside recovery criteria for Chromium in QC samples N042067-001B-MS and N042067-001B-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 some analytes in QC samples N042067-001B-MS and N042067-001B-MSD possibly due to matrix interference. Post



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CLIENT: CH2M HILL

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

Lab Order: N042064

CASE NARRATIVE

Spike (PS) and Dilution Test (DT) were performed however, PS failed acceptance criteria. The associated Laboratory Control Sample (LCS) recovery was acceptable.



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ASSET Laboratories

Date: 17-Sep-20

CLIENT: CH2M HILL
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab Order: N042064
Contract No:

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Date Reported
N042064-001A	SC-100B-WDR-607	Water	9/1/2020 9:35:00 AM	9/1/2020	9/17/2020
N042064-001B	SC-100B-WDR-607	Water	9/1/2020 9:35:00 AM	9/1/2020	9/17/2020
N042064-001C	SC-100B-WDR-607	Water	9/1/2020 9:35:00 AM	9/1/2020	9/17/2020
N042064-001D	SC-100B-WDR-607	Water	9/1/2020 9:35:00 AM	9/1/2020	9/17/2020
N042064-002A	SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	9/1/2020	9/17/2020
N042064-002B	SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	9/1/2020	9/17/2020
N042064-002C	SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	9/1/2020	9/17/2020
N042064-002D	SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	9/1/2020	9/17/2020
N042064-002E	SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	9/1/2020	9/17/2020
N042064-002F	SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	9/1/2020	9/17/2020



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-001

Client Sample ID: SC-100B-WDR-607
Collection Date: 9/1/2020 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE
EPA 120.1

RunID: NV00922-WC_200902D	QC Batch: R147106			PrepDate:		Analyst: LR
Specific Conductance	7000	0.10	0.10	umhos/cm	1	9/2/2020 11:00 AM

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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SPECIFIC CONDUCTANCE
EPA 120.1

RunID: NV00922-WC_200902D	QC Batch: R147106			PrepDate:		Analyst: LR
Specific Conductance	6900	0.10	0.10	umhos/cm	1	9/2/2020 11:00 AM

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



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CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 120.1_WPGE**

Sample ID: N042064-001ADUP	SampType: DUP	TestCode: 120.1_WPGE	Units: umhos/cm	Prep Date:	RunNo: 147106						
Client ID: ZZZZZZ	Batch ID: R147106	TestNo: EPA 120.1		Analysis Date: 9/2/2020	SeqNo: 3924097						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	7010.000	0.10						7020	0.143	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		

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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-001

Client Sample ID: SC-100B-WDR-607
Collection Date: 9/1/2020 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL FILTERABLE RESIDUE
SM2540C

RunID: NV00922-WC_200902H	QC Batch: 82030			PrepDate: 9/2/2020		Analyst: LR
Total Dissolved Solids (Residue, Filterable)	4600	50	50	mg/L	1	9/2/2020 01:12 PM

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



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ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL FILTERABLE RESIDUE
SM2540C

RunID: NV00922-WC_200902H	QC Batch: 82030			PrepDate: 9/2/2020		Analyst: LR
Total Dissolved Solids (Residue, Filterable)	4200	50	50	mg/L	1	9/2/2020 01:12 PM

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



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CLIENT: CH2M HILL
 Work Order: N042064
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 160.1_2540C_W

Sample ID: LCS-82030	SampType: LCS	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 9/2/2020	RunNo: 147135						
Client ID: LCSW	Batch ID: 82030	TestNo: SM2540C		Analysis Date: 9/2/2020	SeqNo: 3924707						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	972.000	10	1000	0	97.2	80	120				

Sample ID: MB-82030	SampType: MBLK	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 9/2/2020	RunNo: 147135						
Client ID: PBW	Batch ID: 82030	TestNo: SM2540C		Analysis Date: 9/2/2020	SeqNo: 3924708						
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: N042067-001CDUP	SampType: DUP	TestCode: 160.1_2540C	Units: mg/L	Prep Date: 9/2/2020	RunNo: 147135						
Client ID: ZZZZZZ	Batch ID: 82030	TestNo: SM2540C		Analysis Date: 9/2/2020	SeqNo: 3924718						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4500.000	50						4540	0.885	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			



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-001

Client Sample ID: SC-100B-WDR-607
Collection Date: 9/1/2020 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP
EPA 200.7

RunID: NV00922-ICP2_200908A	QC Batch: 82045	PrepDate: 9/3/2020	Analyst: DJ
Iron	140 18	20	9/8/2020 07:29 AM

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICP
EPA 200.7

RunID: NV00922-ICP2_200908A	QC Batch: 82045			PrepDate: 9/3/2020	Analyst: DJ
Aluminum	ND	40	50	µg/L	1 9/8/2020 07:57 AM
Boron	1100	74	100	µg/L	1 9/8/2020 07:57 AM
Iron	55	18	20	µg/L	1 9/8/2020 07:57 AM

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



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CLIENT: CH2M HILL
 Work Order: N042064
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.7_WPGEPB

Sample ID: N042064-001C-MS1		SampType: MS	TestCode: 200.7_WPGE		Units: µg/L	Prep Date: 9/3/2020			RunNo: 147219		
Client ID: ZZZZZZ		Batch ID: 82045	TestNo: EPA 200.7			Analysis Date: 9/8/2020			SeqNo: 3928309		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10250.502	50	10000	0	103	75	125				
Boron	6097.297	100	5000	1014	102	75	125				
Iron	139.254	20	100.0	142.4	-3.12	75	125				S

Sample ID: N042064-001C-MSD		SampType: MSD	TestCode: 200.7_WPGE		Units: µg/L	Prep Date: 9/3/2020				RunNo: 147219	
Client ID: ZZZZZZ		Batch ID: 82045	TestNo: EPA 200.7			Analysis Date: 9/8/2020				SeqNo: 3928310	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10077.581	50	10000	0	101	75	125	10250	1.70	20	
Boron	6182.525	100	5000	1014	103	75	125	6097	1.39	20	
Iron	223.705	20	100.0	142.4	81.3	75	125	139.3	46.5	20	R

Sample ID: MB-82045	SampType: MBLK	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147219						
Client ID: PBW	Batch ID: 82045	TestNo: EPA 200.7		Analysis Date: 9/8/2020	SeqNo: 3928315						
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: LCS1-82045	SampType: LCS	TestCode: 200.7_WPGE	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147219						
Client ID: LCSW	Batch ID: 82045	TestNo: EPA 200.7		Analysis Date: 9/8/2020	SeqNo: 3928316						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10443.594	50	10000	0	104	85	115				
Boron	5086.520	100	5000	0	102	85	115				
Iron	91.016	20	100.0	0	91.0	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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 200.7_WPGEPBB**

Sample ID: N042064-001C-PS	SampType: PS	TestCode: 200.7_WPGE	Units: µg/L	Prep Date:	RunNo: 147219						
Client ID: ZZZZZZ	Batch ID: 82045	TestNo: EPA 200.7		Analysis Date: 9/8/2020	SeqNo: 3928308						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10092.692	50	10000	0	101	80	120				
Boron	6035.667	100	5000	1014	100	80	120				
Iron	173.532	20	100.0	142.4	31.2	80	120				S

Qualifiers:

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

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“Serving Clients with Passion and Professionalism”

ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-001

Client Sample ID: SC-100B-WDR-607
Collection Date: 9/1/2020 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: NV00922-IC7_200903A	QC Batch: R147159		PrepDate:		Analyst: QBM		
Hexavalent Chromium	420	1.7	10		µg/L	50	9/3/2020 02:55 PM
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: NV00922-ICP8_200904B	QC Batch: 82043		PrepDate: 9/3/2020		Analyst: CEI		
Chromium	420	0.65	5.0		µg/L	5	9/4/2020 03:13 PM

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



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
HEXAVALENT CHROMIUM BY IC							
EPA 218.6							
RunID: NV00922-IC7_200903A	QC Batch: R147159			PrepDate:		Analyst: QBM	
Hexavalent Chromium	ND	0.033	0.20		µg/L	1	9/3/2020 03:14 PM
TOTAL METALS BY ICPMS							
EPA 200.8							
RunID: NV00922-ICP8_200904B	QC Batch: 82043			PrepDate:	9/3/2020	Analyst: CEI	
Chromium	ND	0.13	1.0		µg/L	1	9/4/2020 03:17 PM

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



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
 Work Order: N042064
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_CRPGE_TPK

Sample ID: MB-82043	SampType: MBLK	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189
Client ID: PBW	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927271
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	ND	1.0			

Sample ID: LCS-82043	SampType: LCS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189
Client ID: LCSW	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927274
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	10.031	1.0	10.00	0	100 85 115

Sample ID: N042067-001B-MS	SampType: MS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927282
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	434.202	5.0	10.00	418.2	160 75 125 S

Sample ID: N042067-001B-MSD	SampType: MSD	TestCode: 200.8_W_CR	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927286
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Chromium	436.441	5.0	10.00	418.2	182 75 125 434.2 0.514 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



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CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: MB-R147159	SampType: MBLK	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: PBW	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925539						
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-R147159	SampType: LCS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: LCSW	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925540						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 4.942 0.20 5.000 0 98.8 90 110

Sample ID: N042079-001BDUP	SampType: DUP	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925544						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 821.040 20 814.0 0.862 20

Sample ID: N042079-001BMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925545						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 1339.450 20 500.0 814.0 105 90 110

Sample ID: N042080-001BMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925546						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium 140.211 2.0 50.00 90.29 99.9 90 110

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: N042080-001BMSD	SampType: MSD	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925547						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	140.010	2.0	50.00	90.29	99.4	90	110	140.2	0.143	20
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Sample ID: N042046-001AMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925550						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.948	0.20	1.000	0.9550	99.3	90	110
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Sample ID: N042044-001ADUP	SampType: DUP	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925552						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	3.712	0.20						3.732	0.527	20
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Sample ID: N042064-001BMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925566						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	678.815	10	250.0	424.2	102	90	110
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Sample ID: N042064-002CMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6		Analysis Date: 9/3/2020	SeqNo: 3925568						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Hexavalent Chromium	1.147	0.20	1.000	0.1327	101	90	110
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Qualifiers:

- | | | | | | |
|----|---|--------------------------------------|--------------------------------------|---|--|
| B | Analyte detected in the associated Method Blank | E | Value above quantitation range | H | Holding times for preparation or analysis exceeded |
| ND | Not Detected at the Reporting Limit | R | RPD outside 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: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 218.6_WU_PGE

Sample ID: N042067-001AMS	SampType: MS	TestCode: 218.6_WU_P	Units: µg/L	Prep Date:	RunNo: 147159						
Client ID: ZZZZZZ	Batch ID: R147159	TestNo: EPA 218.6	Analysis Date: 9/3/2020	SeqNo: 3925572							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Hexavalent Chromium	680.465	10	250.0	427.7	101	90	110				

Qualifiers:

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

CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 200.8_W_CRPGE_TPK**

Sample ID: N042067-001B-PS	SampType: PS	TestCode: 200.8_W_CR	Units: µg/L	Prep Date:	RunNo: 147189						
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927280						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	425.767	5.0	10.00	418.2	75.7	80	120				S

Qualifiers:

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

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ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-001

Client Sample ID: SC-100B-WDR-607
Collection Date: 9/1/2020 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 200.8

RunID: NV00922-ICP8_200904B	QC Batch: 82043			PrepDate: 9/3/2020		Analyst: CEI
Manganese	9.9	0.26	0.50	µg/L	1	9/4/2020 03:08 PM

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



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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TOTAL METALS BY ICPMS
EPA 200.8

RunID: NV00922-ICP8_200904B	QC Batch: 82043	PrepDate: 9/3/2020	Analyst: CEI			
Antimony	ND	0.16	0.50	µg/L	1	9/4/2020 03:17 PM
Arsenic	ND	0.081	0.10	µg/L	1	9/4/2020 03:17 PM
Barium	17	0.15	1.0	µg/L	1	9/4/2020 03:17 PM
Copper	ND	0.55	1.0	µg/L	1	9/4/2020 03:17 PM
Lead	ND	0.13	1.0	µg/L	1	9/4/2020 03:17 PM
Manganese	1.7	0.26	0.50	µg/L	1	9/4/2020 03:17 PM
Molybdenum	22	0.21	0.50	µg/L	1	9/4/2020 03:17 PM
Nickel	ND	0.26	1.0	µg/L	1	9/4/2020 03:17 PM
Zinc	ND	2.3	10	µg/L	1	9/4/2020 03:17 PM

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



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“Serving Clients with Passion and Professionalism”

CLIENT: CH2M HILL
 Work Order: N042064
 Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: MB-82043	SampType: MBLK	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189						
Client ID: PBW	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927324						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	ND	0.50									
Arsenic	ND	0.10									
Barium	ND	1.0									
Copper	ND	1.0									
Lead	ND	1.0									
Manganese	ND	0.50									
Molybdenum	ND	0.50									
Nickel	0.626	1.0									
Zinc	ND	10									

Sample ID: LCS-82043	SampType: LCS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189						
Client ID: LCSW	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927327						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Antimony	11.090	0.50	10.00	0	111	85	115				
Arsenic	10.636	0.10	10.00	0	106	85	115				
Barium	10.165	1.0	10.00	0	102	85	115				
Copper	10.253	1.0	10.00	0	103	85	115				
Lead	10.390	1.0	10.00	0	104	85	115				
Manganese	103.920	0.50	100.0	0	104	85	115				
Molybdenum	10.056	0.50	10.00	0	101	85	115				
Nickel	10.539	1.0	10.00	0	105	85	115				
Zinc	10.868	10	10.00	0	109	85	115				

Sample ID: N042067-001B-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189						
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927334						
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
 H Holding times for preparation or analysis exceeded
 S Spike/Surrogate outside of limits due to matrix interference

Calculations are based on raw values



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"Serving Clients with Passion and Professionalism"

CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N042067-001B-MS	SampType: MS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189						
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8	Analysis Date: 9/4/2020	SeqNo: 3927334							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.303	0.50	10.00	0	113	75	125				
Arsenic	10.862	0.10	10.00	0	109	75	125				
Barium	44.017	1.0	10.00	33.77	102	75	125				
Copper	8.832	1.0	10.00	0	88.3	75	125				
Lead	10.619	1.0	10.00	0	106	75	125				
Manganese	117.249	0.50	100.0	20.32	96.9	75	125				
Molybdenum	35.565	0.50	10.00	23.27	123	75	125				
Nickel	ND	1.0	10.00	0	0	75	125				S
Zinc	2.814	10	10.00	0	28.1	75	125				S

Sample ID: N042067-001B-MSD	SampType: MSD	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147189						
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/4/2020	SeqNo: 3927336						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.403	0.50	10.00	0	114	75	125	11.30	0.881	20	
Arsenic	11.165	0.10	10.00	0	112	75	125	10.86	2.76	20	
Barium	43.866	1.0	10.00	33.77	101	75	125	44.02	0.343	20	
Copper	8.712	1.0	10.00	0	87.1	75	125	8.832	1.37	20	
Lead	10.627	1.0	10.00	0	106	75	125	10.62	0.0775	20	
Manganese	116.517	0.50	100.0	20.32	96.2	75	125	117.2	0.626	20	
Molybdenum	35.151	0.50	10.00	23.27	119	75	125	35.56	1.17	20	
Nickel	ND	1.0	10.00	0	0	75	125	0	0	20	S

Sample ID: N042067-001B-MSD	SampType: MSD	TestCode: 200.8_W_TP	Units: µg/L	Prep Date: 9/3/2020	RunNo: 147223						
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8		Analysis Date: 9/8/2020	SeqNo: 3928445						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	10	10.00	0	0	75	125	2.814	0	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: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 200.8_W_TPK

Sample ID: N042067-001B-PS	SampType: PS	TestCode: 200.8_W_TP	Units: µg/L	Prep Date:	RunNo: 147189						
Client ID: ZZZZZZ	Batch ID: 82043	TestNo: EPA 200.8	Analysis Date: 9/4/2020	SeqNo: 3927332							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	11.186	0.50	10.00	0	112	80	120				
Arsenic	11.153	0.10	10.00	0	112	80	120				
Barium	42.726	1.0	10.00	33.77	89.6	80	120				
Copper	8.889	1.0	10.00	0	88.9	80	120				
Lead	10.477	1.0	10.00	0	105	80	120				
Manganese	114.660	0.50	100.0	20.32	94.3	80	120				
Molybdenum	34.581	0.50	10.00	23.27	113	80	120				
Nickel	ND	1.0	10.00	0	0	80	120				S
Zinc	ND	10	100.0	0	0	80	120				S

Qualifiers:

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



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-001

Client Sample ID: SC-100B-WDR-607
Collection Date: 9/1/2020 9:35:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
----------	--------	-----	-----	------	-------	----	---------------

TURBIDITY
SM 2130B

RunID: NV00922-WC_200902E	QC Batch: R147107	PrepDate:	Analyst: LR
Turbidity	0.19 0.10 0.10	NTU	1 9/2/2020 04:45 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	



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ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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TURBIDITY
SM 2130B

RunID: NV00922-WC_200902E	QC Batch: R147107	PrepDate:	Analyst: LR
Turbidity	0.16 0.10 0.10	NTU	1 9/2/2020 04:45 PM

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



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CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 2130_W**

Sample ID: MB-R147107	SampType: MBLK	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: 147107						
Client ID: PBW	Batch ID: R147107	TestNo: SM 2130B	Analysis Date: 9/2/2020	SeqNo: 3924100							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	ND	0.10									

Sample ID: N042064-001ADUP	SampType: DUP	TestCode: 2130_W	Units: NTU	Prep Date:	RunNo: 147107						
Client ID: ZZZZZZ	Batch ID: R147107	TestNo: SM 2130B	Analysis Date: 9/2/2020	SeqNo: 3924102							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Turbidity	0.200	0.10						0.1900	5.13	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			

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ASSET Laboratories
ANALYTICAL RESULTS

Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200916A	QC Batch: R147359			PrepDate:		Analyst: JBB
Fluoride	2.5	0.048	0.50	mg/L	5	9/16/2020 11:28 AM

ANIONS BY ION CHROMATOGRAPHY
EPA 300.0

RunID: NV00922-IC8_200916B	QC Batch: R147360			PrepDate:		Analyst: JBB
Sulfate	450	2.0	25	mg/L	50	9/16/2020 07:29 PM

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



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CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 300_W_FPGE**

Sample ID: MB1-R147359_F	SampType: MBLK	TestCode: 300_W_FPGE Units: mg/L				Prep Date:				RunNo: 147359		
Client ID: PBW	Batch ID: R147359	TestNo: EPA 300.0				Analysis Date: 9/16/2020				SeqNo: 3936337		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	ND	0.10										

Sample ID: LCS1-R147359_F	SampType: LCS	TestCode: 300_W_FPGE Units: mg/L				Prep Date:				RunNo: 147359		
Client ID: LCSW	Batch ID: R147359	TestNo: EPA 300.0				Analysis Date: 9/16/2020				SeqNo: 3936338		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	1.367	0.10	1.250	0	109	90	110					

Sample ID: N042081-001BDUP	SampType: DUP	TestCode: 300_W_FPGE Units: mg/L				Prep Date:				RunNo: 147359		
Client ID: ZZZZZZ	Batch ID: R147359	TestNo: EPA 300.0				Analysis Date: 9/16/2020				SeqNo: 3936340		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	4.720	0.50						4.775	1.17	20		

Sample ID: N042081-001BMS	SampType: MS	TestCode: 300_W_FPGE Units: mg/L				Prep Date:				RunNo: 147359		
Client ID: ZZZZZZ	Batch ID: R147359	TestNo: EPA 300.0				Analysis Date: 9/16/2020				SeqNo: 3936341		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	10.783	0.50	6.250	4.775	96.1	80	120					

Sample ID: N042081-001BMSD	SampType: MSD	TestCode: 300_W_FPGE Units: mg/L				Prep Date:				RunNo: 147359		
Client ID: ZZZZZZ	Batch ID: R147359	TestNo: EPA 300.0				Analysis Date: 9/16/2020				SeqNo: 3936342		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	10.851	0.50	6.250	4.775	97.2	80	120	10.78	0.624	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			



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CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W_SO4PGE

Sample ID: MB2-R147360_SO4	SampType: MBLK	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 147360						
Client ID: PBW	Batch ID: R147360	TestNo: EPA 300.0		Analysis Date: 9/16/2020	SeqNo: 3936434						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate ND 0.50

Sample ID: LCS2-R147360_SO4	SampType: LCS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 147360						
Client ID: LCSW	Batch ID: R147360	TestNo: EPA 300.0		Analysis Date: 9/16/2020	SeqNo: 3936435						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 3.937 0.50 4.000 0 98.4 90 110

Sample ID: N042067-001CDUP	SampType: DUP	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 147360						
Client ID: ZZZZZZ	Batch ID: R147360	TestNo: EPA 300.0		Analysis Date: 9/16/2020	SeqNo: 3936437						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 473.380 25 474.0 0.138 20

Sample ID: N042067-001CMS	SampType: MS	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 147360						
Client ID: ZZZZZZ	Batch ID: R147360	TestNo: EPA 300.0		Analysis Date: 9/16/2020	SeqNo: 3936438						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 675.025 25 200.0 474.0 100 80 120

Sample ID: N042067-001CMSD	SampType: MSD	TestCode: 300_W_SO4P	Units: mg/L	Prep Date:	RunNo: 147360						
Client ID: ZZZZZZ	Batch ID: R147360	TestNo: EPA 300.0		Analysis Date: 9/16/2020	SeqNo: 3936439						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sulfate 679.260 25 200.0 474.0 103 80 120 675.0 0.625 20

Qualifiers:

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

ASSET Laboratories
ANALYTICAL RESULTS
Print Date: 17-Sep-20

CLIENT: CH2M HILL
Lab Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS
Lab ID: N042064-002

Client Sample ID: SC-700B-WDR-607
Collection Date: 9/1/2020 9:25:00 AM
Matrix: WATER

Analyses	Result	MDL	PQL	Qual	Units	DF	Date Analyzed
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NITRATE/NITRITE-N BY CADMIUM REDUCTION
SM4500-NO3F

RunID: NV00922-WC_200910B	QC Batch: R147263			PrepDate:		Analyst: JBB
Nitrate/Nitrite as N	2.6	0.16	0.25	mg/L	5	9/10/2020 12:50 PM

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



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CLIENT: CH2M HILL
Work Order: N042064
Project: PG&E Topock, D3184A1.EV.05-OM-TS

ANALYTICAL QC SUMMARY REPORT**TestCode: 4500N03F_W_PGE**

Sample ID: MB-R147263	SampType: MBLK	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 147263
Client ID: PBW	Batch ID: R147263	TestNo: SM4500-NO3		Analysis Date: 9/10/2020	SeqNo: 3930743
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-R147263	SampType: LCS	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 147263
Client ID: LCSW	Batch ID: R147263	TestNo: SM4500-NO3		Analysis Date: 9/10/2020	SeqNo: 3930744
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	0.497	0.050	0.5000	0	99.3 85 115

Sample ID: N042113-001CMS	SampType: MS	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 147263
Client ID: ZZZZZZ	Batch ID: R147263	TestNo: SM4500-NO3		Analysis Date: 9/10/2020	SeqNo: 3930746
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	0.565	0.050	0.5000	0.1383	85.3 75 125

Sample ID: N042113-001CMSD	SampType: MSD	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 147263
Client ID: ZZZZZZ	Batch ID: R147263	TestNo: SM4500-NO3		Analysis Date: 9/10/2020	SeqNo: 3930747
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	0.618	0.050	0.5000	0.1383	96.0 75 125 0.5648 9.01 20

Sample ID: N042067-001DDUP	SampType: DUP	TestCode: 4500N03F_W	Units: mg/L	Prep Date:	RunNo: 147263
Client ID: ZZZZZZ	Batch ID: R147263	TestNo: SM4500-NO3		Analysis Date: 9/10/2020	SeqNo: 3930749
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Nitrate/Nitrite as N	2.785	0.25			2.923 4.84 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			


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CH2HI01

C: 9/15/2020 12:00 AM

FOLDER

R: 9/1/2020

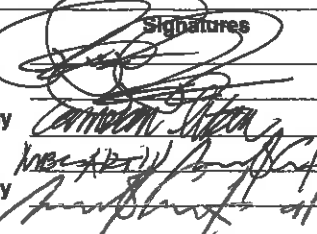

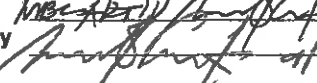

N042064-003A

1 of 1

JACOBS ch2m.

CHAIN OF CUSTODY RECORD

Project Name PG&E Topock			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	Number of Containers	COMMENTS
Location PG&E Topock			Preservatives:	4°C Lab H2SO4	4°C	4°C	4°C	4°C Lab H2SO4	4°C	4°C	4°C	4°C		
Project Number D3184A1.EV.05-OM-TS			Filtered:	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Project Manager Scott O'Donnell			Holding Time:	28	7	7	1	28	7	180	180	7		
Sample Manager Shawn Duffy				AMMONIA (SM4500NH3D)	Anions (E300.0) F1, 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)		
Task Order														
Project IM3PLANT-ARAR-WDR-607														
Turnaround Time 10 Days														
Shipping Date: 9/1/2020														
COC Number: 607-IM3														
DATE	TIME	Matrix												
SC-100B-WDR-607	9-1-20	9:35	Water			X	X		X		X	X	N042064-01	3 pH=7.03
SC-700B-WDR-607	9-1-20	9:25	Water	X	X	X	X	X	X	X		X	-02	4 pH=6.96
TOTAL NUMBER OF CONTAINERS													7	

Signatures Approved by  Sampled by  Relinquished by  Received by  Relinquished by Received by		Date/Time 9-1-20 0700 9-1-20 0925 9-1-20 1555 9-1-20 @1555 9-1-20 @1830		Shipping Details Method of Shipment: FedEx On Ice: <input checked="" type="radio"/> yes <input type="radio"/> no 1.8°C 1RH2 Airbill No: Lab Name: ASSET Laboratories Lab Phone: (702) 307-2659		ATTN: Sample Custody and Marlon Cartin		Special Instructions: SC-700B Total metals List: Cr,Al,Sb,As,Ba,B,Cu,Pb,Mn,Mo,Ni,Fe,Zn Report Copy to Mark Fesler	
--	--	---	--	--	--	--	--	--	--

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: 9/1/2020 Workorder: N042064
 Rep sample Temp (Deg C): 1.8 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
2. Custody seals intact, signed, dated on shipping container/cooler?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
3. Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
4. Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
5. Sampler's name present in COC?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
6. Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
7. Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
8. Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
9. Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
10. Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
11. All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
12. Temperature of rep sample or Temp Blank within acceptable limit?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
13. Water - VOA vials have zero headspace?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
14. Water - pH acceptable upon receipt? Example: pH > 12 for (CN,S); pH<2 for Metals	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	NA <input type="checkbox"/>
15. Did the bottle labels indicate correct preservatives used?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>
16. Were there Non-Conformance issues at login?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	NA <input type="checkbox"/>
Was Client notified?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	NA <input checked="" type="checkbox"/>

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 *YRJ* 9/2/2020

Reviewed By:

MBC

9/3/2020

ASSET Laboratories

WORK ORDER Summary

02-Sep-20

WorkOrder: N042064

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 9/1/2020

Comments: SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N042064-001A	SC-100B-WDR-607	9/1/2020 9:35:00 AM	9/16/2020	Water	EPA 120.1	SPECIFIC CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020		SM2540C	TOTAL FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020			Total Dissolved Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N042064-001B			9/16/2020		EPA 218.6	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N042064-001C			9/16/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			9/16/2020		EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			9/16/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			9/16/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			9/16/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N042064-001D							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N042064-002A	SC-700B-WDR-607	9/1/2020 9:25:00 AM	9/16/2020		SM4500-NH3D	AMMONIA-N BY ION SELECTIVE ELECTRODE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SUB
N042064-002B			9/16/2020		EPA 120.1	SPECIFIC CONDUCTANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020		SM2540C	TOTAL FILTERABLE RESIDUE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020			Total Dissolved Solids Prep	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020		SM 2130B	TURBIDITY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
			9/16/2020		EPA 300.0	ANIONS BY ION CHROMATOGRAPHY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LSR
N042064-002C			9/16/2020		EPA 218.6	Hexavalent Chromium by IC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N042064-002D			9/16/2020		SM4500-NO3F	NITRATE/NITRITE-N BY CADMIUM REDUCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N042064-002E			9/16/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW

ASSET Laboratories

WORK ORDER Summary

02-Sep-20

WorkOrder: N042064

Client ID: CH2HI01

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

QC Level: Level IV

Date Received: 9/1/2020

Comments: SC-700B Total metals List:

Sample ID	Client Sample ID	Date Collected	Date Due	Matrix	Test No	Test Name	Hld	MS	Sub	Storage
N042064-002E	SC-700B-WDR-607	9/1/2020 9:25:00 AM	9/16/2020	Water	EPA 200.7	TOTAL METALS BY ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			9/16/2020			AQPREP TOTAL METALS: ICP, FLAA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			9/16/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
			9/16/2020		EPA 200.8	TOTAL METALS BY ICPMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N042064-002F							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	WW
N042064-003A	FOLDER	9/16/2020	9/16/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			9/16/2020		Folder	Level IV Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB
			9/16/2020		Folder	Folder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	LAB



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

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-Sep-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3D		
N042064-002A / SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	32OZP	1		

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

Please use PO#:N42064A 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 #: 550309434

	Date/Time		Date/Time
Relinquished by: <u>YLT</u>	9/3/2020 1630	Received by: _____	_____
Relinquished by: _____	_____	Received by: _____	_____

List of Analysts

ASSET Laboratories Work Order: N042064

NAME	TEST METHOD
Claire Ignacio	EPA 200.8
Lilia Ramit	EPA 120.1, SM 2540C, SM 2130B
Quennie Manimtim	EPA 218.6
Diane Jetajobe	EPA 200.7
Julia Bundalian	EPA 300.0, SM 4500-NO3F



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 Rd., Las Vegas, NV 89118
P: 702.307.2659 F: 702.307.2691

“Serving Clients with Passion and Professionalism”



Laboratories, Inc.

Environmental Testing Laboratory Since 1949



Date of Report: 09/09/2020

Marlon B. Cartin

ASSET Laboratories- Las Vegas

3151-3153 W. Post Rd

Las Vegas, NV 89118

Client Project: N042064

BCL Project: Level IV + labSpec7

BCL Work Order: 2025905

Invoice ID: B391406

Enclosed are the results of analyses for samples received by the laboratory on 9/4/2020. 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

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

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Environmental Testing Laboratory Since 1949

[Signature]

Chain of Custody and Cooler Receipt Form for 2025905 Page 1 of 2

20-25905

CHAIN-OF-CUSTODY RECORD

Page 1 of 1



ASSET Laboratories

3151-3153 W Post Rd., Las Vegas, NV 89118
www.at-labs.com
TEL: 7023072659 FAX: 7023072681

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-Sep-20

Sample ID	Matrix	Date Collected	Bottle Type	Requested Tests		
				SM4500-NH3D		
N042064-002A / SC-700B-WDR-607	Water	9/1/2020 9:25:00 AM	32OZP	1		

CHK BY	DISTRIBUTION
<i>GSL</i>	<i>MAJMD pr13</i>
	SUB OUT <input type="checkbox"/>

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

Please use PO#N42064A 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 #: 550309434

Date/Time		Date/Time
Relinquished by: <i>YAT</i>	9/3/2020 1630	Received by: <i>772</i>
Relinquished by:		Received by:



Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Chain of Custody and Cooler Receipt Form for 2025905 Page 2 of 2

BC LABORATORIES INC.		COOLER RECEIPT FORM		Page 1 Of 1							
Submission #: <u>20-25905</u>											
SHIPPING INFORMATION			SHIPPING CONTAINER		FREE LIQUID						
Fed Ex <input type="checkbox"/>	UPS <input type="checkbox"/>	Ontrac <input type="checkbox"/> Hand Delivery <input type="checkbox"/>	Ice Chest <input checked="" type="checkbox"/>	None <input type="checkbox"/> Box <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>						
BC Lab Field Service <input type="checkbox"/> Other: <u>MS</u> (Specify)			Other <input type="checkbox"/> (Specify)		W / S						
Refrigerant: Ice <input checked="" type="checkbox"/> Blue Ice <input type="checkbox"/> None <input type="checkbox"/> Other <input type="checkbox"/> Comments:											
Custody Seals: Ice Chest <input type="checkbox"/> Containers <input type="checkbox"/> None <input checked="" type="checkbox"/> Comments:											
Intact? Yes <input type="checkbox"/> No <input type="checkbox"/> Intact? Yes <input type="checkbox"/> No <input type="checkbox"/>											
All samples received? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> All samples containers intact? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Description(s) match COC? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											
COC Received		Emissivity: <u>95</u>	Container: <u>PE</u>	Thermometer ID: <u>274</u>	Date/Time: <u>9-4-10 1015</u>						
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Temperature: (A) <u>2.9</u> °C (IC) <u>2.8</u> °C		Analyst Init: <u>TKJ</u>							
SAMPLE CONTAINERS		SAMPLE NUMBERS									
		1	2	3	4	5	6	7	8	9	10
QT PE UNPRES		<u>A</u>									
4oz / 8oz / 16oz PE UNPRES											
2oz Cr ⁶⁺											
QT INORGANIC CHEMICAL METALS											
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz											
PT CYANIDE											
PT NITROGEN FORMS		<u>A</u>									
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 508/509/510											
QT EPA 515.1/5150											
QT EPA 525											
QT EPA 525 TRAVEL BLANK											
40ml EPA 547											
40ml EPA 531.1											
Roz 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: <u>UP1</u> Date/Time: <u>9/4/10 1720</u>											
Actual / C = Corrected											
Rev 21 05/23/2016											
[S:\WPDoc\Word\Perfect\LAB_DOC\SI\FORMS\SAWRECrev 20]											

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

Reported: 09/09/2020 15:45
Project: Level IV + labSpec7
Project Number: N042064
Project Manager: Marlon B. Cartin

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2025905-01	COC Number:	---	Receive Date:	09/04/2020 10:15
	Project Number:	---	Sampling Date:	09/01/2020 09:25
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	N042064-002A / SC-700B-WDR-607	Lab Matrix:	Water
	Sampled By:	---	Sample Type:	Water

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

Reported: 09/09/2020 15:45
Project: Level IV + labSpec7
Project Number: N042064
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

BCL Sample ID:	2025905-01	Client Sample Name:	N042064-002A / SC-700B-WDR-607, 9/1/2020 9:25:00AM				
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	09/05/20 13:00	09/08/20 15:39	JMH2	SC-2	1.026	B086612	SM 4500-NH3G

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Laboratories, Inc.

Environmental Testing Laboratory Since 1949



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

Reported: 09/09/2020 15:45
Project: Level IV + labSpec7
Project Number: N042064
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: B086612					
Ammonia as N (Distilled)	B086612-BLK1	ND	mg/L	0.20	

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Laboratories, Inc.

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

Reported: 09/09/2020 15:45
Project: Level IV + labSpec7
Project Number: N042064
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Laboratory Control Sample

								<u>Control Limits</u>		
Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Percent Recovery	RPD	Lab
Quals										
QC Batch ID: B086612										
	Ammonia as N (Distilled)	B086612-BS1	LCS	2.0578	2.0000	mg/L	103		85 - 115	

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

Reported: 09/09/2020 15:45
Project: Level IV + labSpec7
Project Number: N042064
Project Manager: Marlon B. Cartin

Water Analysis (General Chemistry)

Quality Control Report - Precision & Accuracy

									Control Limits		
Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	RPD	Percent Recovery	Lab Quals
QC Batch ID: B086612		Used client sample: Y - Description: N042064-002A / SC-700B-WDR-607, 09/01/2020 09:25									
Ammonia as N (Distilled)	DUP	2025905-01	0.078564	ND		mg/L			20		A02
	MS	2025905-01	0.078564	2.4574	2.2770	mg/L		104		80 - 120	
	MSD	2025905-01	0.078564	2.3186	2.2770	mg/L	5.8	98.4	20	80 - 120	

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-604	7-7-20	1305	7-7-20	1308	HQ440d	7-7-20	0000	-56.84	Ryan Phelps	7.64

Notes:

2 SC-700B-604	7-7-20	1248	7-7-20	1300	HQ440d	7-7-20	0000	-56.84	Ryan Phelps	7.38
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Notes:

3 SC-701-604	7-7-20	1240	7-7-20	1244	HQ440d	7-7-20	0000	-56.84	Ryan Phelps	8.15
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Notes:

4 SC-100B-605	8-4-20	0820	8-4-20	0827	HQ440d	8-4-20	0000	-54.96	Ryan Phelps	7.45
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Notes:

5 SC-700B-605	8-4-20	0830	8-4-20	0836	HQ440d	8-4-20	0000	-54.96	Ryan Phelps	7.14
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Notes:

6										
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Notes:

7										
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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 700B-607	9-1-20	9:25	9-1-20	9:31	HQ440d	9-1-20	0000	-56.44	Ryan Phelps	6.94

Notes:

2 SC-100B-607	9-1-20	9:35	9-1-20	9:39	HQ440d	9-1-20	0000	-56.44	Ryan Phelps	7.03
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Notes:

3										
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Notes:

4										
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Notes:

5										
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Notes:

6										
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Notes:

7										
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Notes:

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4