Topock Project Executive Abstract

Document Title:

Topock IM No. 3 WDR Combined First Quarter 2010 Monitoring Report

Submitting Agency/Authored by: RWQCB

Final Document? ☒ Yes ☐ No

Date of Document: April 15, 2010

Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)

PG&E

Document ID: PGE20100415A

Priority Status: ☐ HIGH ☐ MED ☒ LOW
Is this time critical? ☐ Yes ☒ No

Type of Document:
☐ Draft ☒ Report ☐ Letter ☐ Memo

☐ Other / Explain:

Action Required:
☒ Information Only ☐ Review & Comment
Return to: _____

By Date:_____
☐ Other / Explain:

What does this information pertain to?
☐ Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)
☐ RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)
☐ Corrective Measures Study (CMS)/Feasibility Study (FS)
☐ Corrective Measures Implementation (CMI)/Remedial Action
☐ California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)
☒ Interim Measures
☐ Other / Explain:

Is this a Regulatory Requirement?
☒ Yes
☐ No
If no, why is the document needed?

What is the consequence of NOT doing this item? What is the consequence of DOING this item?

Submittal of this report is a compliance requirement of RWQCB Waste Discharge Requirements/Order No. R7-2006-0060

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

Brief Summary of attached document:

This report covers the Interim Measure No. 3 (IM No. 3) groundwater treatment system monitoring activities during the First Quarter 2010 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: PG&E

Recommendations:
This report is for your information only.

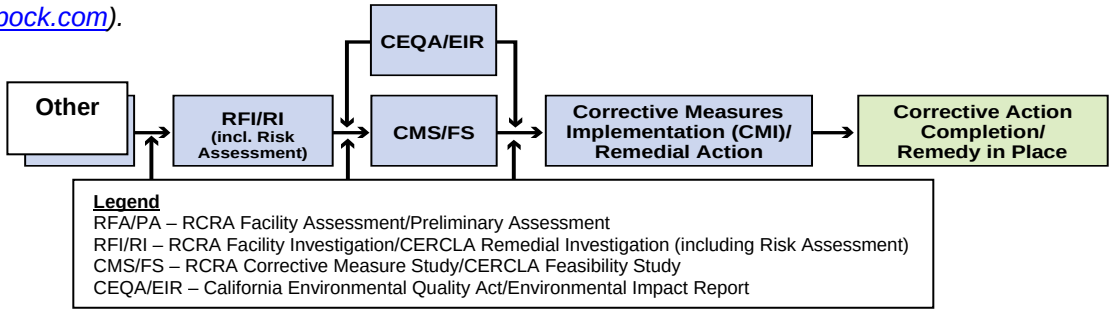
How is this information related to the Final Remedy or Regulatory Requirements:

The IM No. 3 WDR First Quarter 2010 Monitoring Report is related to the Interim Measure, and is designed to monitor compliance with RWQCB Waste Discharge Requirements/Order No. R7-2006-0060.

Other requirements of this information?
None.

Related Reports and Documents:

Click any boxes in the Regulatory Road Map (below) to be linked to the Documents Library on the DTSC Topock Web Site (www.dtsc-topock.com).



Legend
RFA/PA – RCRA Facility Assessment/Preliminary Assessment
RFI/RI – RCRA Facility Investigation/CERCLA Remedial Investigation (including Risk Assessment)
CMS/FS – RCRA Corrective Measure Study/CERCLA Feasibility Study
CEQA/EIR – California Environmental Quality Act/Environmental Impact Report

Version 9

Pacific Gas and Electric Company

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April 15, 2010

Robert Perdue
Executive Officer
California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Subject: First Quarter 2010 Monitoring Report – Board Order No. R7-2006-0060
PG&E Topock Compressor Station, Needles, California
Interim Measure No. 3 Groundwater Treatment System
(Document ID: PGE20100415A)

Dear Mr. Perdue:

Enclosed is the First Quarter 2010 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Interim Measure (IM) No. 3 Groundwater Treatment System.

This report is being submitted in compliance with the Waste Discharge Requirements (WDRs) issued September 20, 2006 by the California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) under Order No. R7-2006-0060 and in compliance with the revised Monitoring and Reporting Program for Order No. R7-2006-0060, issued August 28, 2008. The WDRs apply to IM No. 3 Treatment System discharge by subsurface injection.

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,

Curt Russell
Topock Site Manager

Enclosures:

First Quarter 2010 Monitoring Report for the IM No. 3 Groundwater Treatment System

cc: Cliff Raley, Water Board
Tom Vandenberg, State Water Resources Control Board
Aaron Yue, DTSC

First Quarter 2010 Monitoring Report

Interim Measure No. 3 Groundwater Treatment System

Document ID: PGE20100415A

Waste Discharge Requirements
Board Order No. R7-2006-0060
PG&E Topock Compressor Station
Needles, California

Prepared for

California Regional Water Quality Control Board
Colorado River Basin Region

on behalf of

Pacific Gas and Electric Company

April 15, 2010

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155 Grand Avenue, Suite 1000
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First Quarter 2010 Monitoring Report
for Interim Measure No. 3 Groundwater Treatment System
Waste Discharge Requirements Order No. R7-2006-0060
PG&E Topock Compressor Station
Needles, California

Prepared for
Pacific Gas and Electric Company

April 15, 2010

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

John Porcella, P.E.
Project Engineer

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Acronyms and Abbreviations

IM	Interim Measure
IW	injection well
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
RO	reverse osmosis
Truesdail	Truesdail Laboratories, Inc.
Water Board	California Regional Water Quality Control Board, Colorado River Basin Region
WDR	Waste Discharge Requirements

1.0 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 and management of extracted groundwater. The groundwater extraction, treatment, and injection systems collectively are referred to as IM No. 3. Figure 1 provides a map of the project area. All figures are located at the end of this report.

California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) Order No. R7-2006-0060 authorizes PG&E to inject treated groundwater into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. Order No. R7-2006-0060 was issued September 20, 2006 and is the successor to Order No. R7-2004-0103. The revised Monitoring and Reporting Program (MRP) under the Order, issued August 28, 2008, requires quarterly monitoring reports 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 No. 3 groundwater treatment system during the First Quarter 2010. 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.

2.0 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, TP-PR-10-10-08, and TP-PR-10-10-06, provided at the end of this report.

3.0 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, permitted by Order No. R7-2006-0060 (successor to Order No. R7-2004-0103), includes:

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

During the First Quarter 2010, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gallons per minute, excluding periods of planned and unplanned downtime. Extraction wells TW-2D and TW-2S were not operated during First Quarter 2010. The operational run time for the IM groundwater extraction system (combined or individual pumping), by month, was approximately:

- 96.9 percent during January 2010
- 95.9 percent during February 2010
- 95.3 percent during March 2010

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

Activities during the First Quarter 2010 included no extended shutdowns. IM No. 3 experienced a storm event on January 21, 2010 that produced surface runoff at one of the three storm water sampling locations identified in the IM No. 3 Storm Water Pollution Prevention Plan. Operators at IM No. 3 collected storm water runoff at storm water sampling location SW-2 during the first hour of the storm event runoff. The laboratory analytical results are presented in Appendix A.

4.0 Groundwater Treatment System Flow Rates

The First Quarter 2010 treatment system monthly average flow rates (influent, effluent, and reverse osmosis 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-RP-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-RP-10-10-11). The reverse osmosis concentrate flow rate was measured by a flow meter at the piping carrying water from reverse osmosis concentrate tank T-701 to the truck load-out station (Figure TP-RP-10-10-08).

The IM No. 3 facility treated approximately 16,671,253 gallons of extracted groundwater during the First Quarter 2010. The IM No. 3 facility also treated approximately 5,640 gallons of water generated from the groundwater monitoring program, 66,500 gallons of injection well backwashing/re-development water, and 1,300 gallons of storm water that collected in the plant containment.

Two containers of solids (sludge) were transported offsite from the IM No. 3 facility during First Quarter 2010 (January 15, 2010 and February 18, 2010).

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 4.0 percent of downtime during First Quarter 2010) are summarized below. The times shown are in Pacific Standard Time to be consistent with other data collected (e.g., water level data) at the site.

4.1 January 2010

The operational run time for the IM No. 3 groundwater extraction system (combined or individual pumping) was 96.9 percent during the January 2010 reporting period.

The IM No. 3 facility treated approximately 5,775,157 gallons of extracted groundwater during January 2010. The IM No. 3 facility also treated approximately 600 gallons of water generated from the groundwater monitoring program and 11,700 gallons of injection well backwashing/re-development water. No containers of solids from the IM No. 3 facility were transported offsite during January 2010.

Injection wells IW-02 and IW-03 were operated during January 2010. The IM No. 3 facility injected approximately 5,637,472 gallons of treatment system effluent during January 2010.

The periods of planned and unplanned extraction system downtime (that together resulted in approximately 3.1 percent of downtime during January 2010) are summarized below.

- **January 1, 2010 (planned):** The extraction well system was offline from 12:50 p.m. to 1:02 p.m. for microfilter maintenance. Extraction system downtime was 12 minutes.

- **January 5, 2010 (planned):** The extraction well system was offline from 7:24 p.m. to 10:48 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 24 minutes.
- **January 10, 2010 (planned):** The extraction well system was offline from 6:32 a.m. to 7:40 a.m. for reverse osmosis system maintenance. Extraction system downtime was 1 hour and 8 minutes.
- **January 12, 2010 (planned):** The extraction well system was offline from 12:48 p.m. to 12:52 p.m. while the plant was run in recirculation mode. Extraction system downtime was 4 minutes.
- **January 13, 2010 (planned):** The extraction well system was offline from 12:30 p.m. to 12:32 p.m. and 1:18 p.m. to 1:20 p.m. for critical alarm testing. Extraction system downtime was 4 minutes.
- **January 13, 2010 (planned):** The extraction well system was offline from 5:50 p.m. to 6:48 p.m. for microfilter maintenance. Extraction system downtime was 58 minutes.
- **January 14, 2010 (planned):** The extraction well system was offline from 12:30 p.m. to 2:38 p.m. for microfilter maintenance. Extraction system downtime was 2 hours and 8 minutes.
- **January 15, 2010 (planned):** The extraction well system was offline from 11:46 a.m. to 12:40 p.m. for microfilter maintenance. Extraction system downtime was 54 minutes.
- **January 19, 2010 (planned):** The extraction well system was offline from 3:22 p.m. to 4:08 p.m. to reduce water level in T-100. Extraction system downtime was 46 minutes.
- **January 19, 2010 (unplanned):** The extraction well system was offline from 9:12 p.m. to 9:20 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 8 minutes.
- **January 20, 2010 (planned):** The extraction well system was offline from 3:00 p.m. to 4:06 p.m. to clean out microfilter strainer filter. Extraction system downtime was 1 hour and 6 minutes.
- **January 21, 2010 (unplanned):** The extraction well system was offline from 4:44 p.m. to 8:30 p.m. due to failure of chemical feed pumps. Extraction system downtime was 3 hours and 46 minutes.
- **January 23, 2010 (planned):** The extraction well system was offline from 10:48 a.m. to 2:38 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 50 minutes.
- **January 25, 2010 (planned):** The extraction well system was offline from 1:38 p.m. to 2:38 p.m. for microfilter maintenance. Extraction system downtime was 1 hour.
- **January 28, 2010 (planned):** The extraction well system was offline from 2:06 p.m. to 3:56 p.m. for microfilter maintenance. Extraction system downtime was 1 hour and 50 minutes.

- **January 29, 2010 (planned):** The extraction well system was offline from 7:06 p.m. to 8:31 p.m. for microfilter maintenance. Extraction system downtime was 1 hour and 25 minutes.

4.2 February 2010

The operational run time for the IM No. 3 groundwater extraction system (combined or individual pumping) was 95.9 percent during the February 2010 reporting period.

The IM No. 3 facility treated approximately 5,136,230 gallons of extracted groundwater during February 2010. The IM No. 3 facility also treated approximately 340 gallons of water generated from the groundwater monitoring program and 47,000 gallons of injection well backwashing/re-development water. One container of solids from the IM No. 3 facility was transported offsite during February 2010.

Injection wells IW-02 and IW-03 were operated during February 2010. The IM No. 3 facility injected approximately 5,031,840 gallons of treatment system effluent during February 2010.

The periods of planned and unplanned extraction system downtime (that together resulted in approximately 4.1 percent of downtime during February 2010) are summarized below.

- **February 1, 2010 (planned):** The extraction well system was offline from 5:14 p.m. to 6:10 p.m. for microfilter maintenance. Extraction system downtime was 56 minutes.
- **February 4, 2010 (planned):** The extraction well system was offline from 12:26 p.m. to 1:10 p.m. for microfilter maintenance. Extraction system downtime was 44 minutes.
- **February 5, 2010 (planned):** The extraction well system was offline from 2:22 p.m. to 3:02 p.m. for microfilter maintenance. Extraction system downtime was 40 minutes.
- **February 9, 2010 (planned):** The extraction well system was offline from 8:08 a.m. to 3:30 p.m. while the plant was shut down for injection line repair and cleaning of chemical loop. Extraction system downtime was 7 hours and 22 minutes.
- **February 10, 2010 (planned):** The extraction well system was offline from 8:18 a.m. to 8:20 a.m., 8:44 a.m. to 8:46 a.m., 8:52 a.m. to 9:10 a.m., 9:12 a.m. to 9:16 a.m., and 10:32 a.m. to 10:34 a.m. for testing of the pipeline leak detection alarm system. Extraction system downtime 28 minutes.
- **February 11, 2010 (planned):** The extraction well system was offline from 12:16 p.m. to 3:50 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 34 minutes.
- **February 15, 2010 (planned):** The extraction well system was offline from 1:38 a.m. to 2:18 a.m., and 10:22 a.m. to 3:44 p.m. for microfilter maintenance. Extraction system downtime was 6 hours and 2 minutes.
- **February 17, 2010 (planned):** The extraction well system was offline from 12:26 p.m. to 1:58 p.m. for microfilter maintenance. Extraction system downtime was 1 hour and 32 minutes.

- **February 18, 2010 (unplanned):** The extraction well system was offline from 12:14 p.m. to 12:42 p.m., 12:50 p.m. to 12:56 p.m., and 8:34 p.m. to 8:42 p.m., due to failure of level sensor in T-100. Extraction system downtime was 42 minutes.
- **February 18, 2010 (planned):** The extraction well system was offline from 2:10 p.m. to 2:26 p.m. for microfilter maintenance. Extraction system downtime was 16 minutes.
- **February 22, 2010 (unplanned):** The extraction well system was offline from 8:34 a.m. to 10:20 a.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 1 hour and 46 minutes.
- **February 22, 2010 (planned):** The extraction well system was offline from 2:44 p.m. to 6:14 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 30 minutes.

4.3 March 2010

The operational run time for the IM No. 3 groundwater extraction system (combined or individual pumping) was 95.3 percent during the March 2010 reporting period.

The IM No. 3 facility treated approximately 5,759,866 gallons of extracted groundwater during March 2010. The IM No. 3 facility also treated approximately 4,700 gallons of water generated from the groundwater monitoring program, 7,800 gallons of injection well backwashing/re-development water, and 1,300 gallons of storm water that collected in the plant containment. No containers of solids from the IM No. 3 facility were transported offsite during March 2010.

Injection wells IW-02 and IW-03 were operated during Mach 2010. The IM No. 3 facility injected approximately 5,625,524 gallons of treatment system effluent during March 2010.

The periods of planned and unplanned extraction system downtime (that together resulted in approximately 4.7 percent of downtime during March 2010) are summarized below.

- **March 1, 2010 (unplanned):** The extraction well system was offline from 10:04 a.m. to 12:26 p.m. due to air compressor failure. Extraction system downtime was 2 hours and 22 minutes.
- **March 2, 2010 (unplanned):** The extraction well system was offline from 12:40 a.m. to 1:42 a.m., and 2:10 a.m. to 6:32 a.m. due to microfilter failure. Extraction system downtime was 5 hours and 24 minutes.
- **March 5, 2010 (planned):** The extraction well system was offline from 11:16 a.m. to 1:32 p.m., and 5:18 p.m. to 6:38 p.m. for microfilter maintenance. Extraction system downtime was 3 hours and 36 minutes.
- **March 10, 2010 (planned):** The extraction well system was offline from 10:42 a.m. to 10:44 a.m., 1:08 p.m. to 1:12 p.m., and 1:30 p.m. to 1:34 p.m. for testing of the pipeline leak detection alarm system. Extraction system downtime was 10 minutes.

- **March 12, 2010 (unplanned):** The extraction well system was offline from 9:40 p.m. to 9:42 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 2 minutes.
- **March 13, 2010 (planned):** The extraction well system was offline from 6:26 p.m. to 9:24 p.m. for microfilter maintenance. Extraction system downtime was 2 hours and 58 minutes.
- **March 17, 2010 (planned):** The extraction well system was offline from 9:30 p.m. to 10:48 p.m. for a shutdown to generator power as a training exercise for new employees. Extraction system downtime was 1 hour and 18 minutes.
- **March 18, 2010 (unplanned):** The extraction well system was offline from 1:12 a.m. to 1:22 a.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 10 minutes.
- **March 24, 2010 (planned):** The extraction well system was offline from 9:58 a.m. to 12:28 p.m. for loop reactor maintenance. Extraction system downtime was 2 hours and 30 minutes.
- **March 30, 2010 (planned):** The extraction well system was offline from 7:36 a.m. to 5:50 p.m., and 6:20 p.m. to 7:16 p.m. for planned monthly maintenance. Extraction system downtime was 11 hours and 10 minutes.
- **March 31, 2010 (planned):** The extraction well system was offline from 5:30 p.m. to 10:46 p.m. for microfilter maintenance. Extraction system downtime was 5 hours and 16 minutes.

5.0 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 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 Truesdail via courier under chain-of-custody documentation. The laboratories confirmed the samples were received in chilled condition upon arrival.

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

During the First Quarter 2010, analysis of pH was conducted by field method pursuant to the 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, reverse osmosis concentrate, and sludge sampling frequency was conducted in accordance with the revised MRP, issued August 28, 2008.

Groundwater quality is being monitored in observation and compliance wells according to Order No. R7-2006-0060, the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* submitted to the Water Board on June 17, 2005, and the revised MRP under Order No. R7-2006-0060 issued August 28, 2008. 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.

6.0 Analytical Results

Laboratory reports for samples collected in First Quarter 2010 were prepared by certified analytical laboratories, and are presented in Appendix A.

Samples were collected in accordance with the WDR 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 reverse osmosis 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

7.0 Conclusions

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

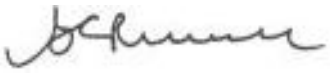
In addition, no incidents of non-compliance were identified during the reporting period. No events that caused an immediate or potential threat to human health or the environment, or new releases of hazardous waste or hazardous waste constituents, or new solid waste management units were identified during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

8.0 Certification

On August 12, 2005, PG&E submitted a signature delegation letter to the Water Board, delegating PG&E signature authority to Mr. Curt Russell and Ms. Yvonne Meeks for correspondence regarding Board Order No. R7-2004-0103. Order No. R7-2006-0060 is the successor to Order No. R7-2004-0103; an additional signature authority delegation is not required, as confirmed in an email from Jose Cortez dated December 12, 2006.

Certification Statement:

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

Signature: 

Name: Curt Russell

Company: Pacific Gas and Electric Company

Title: Topock Site Manager

Date: April 15, 2010

Tables

TABLE 1
Sampling Station Descriptions
First Quarter 2010 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 TP-RP-10-10-08).
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
First Quarter 2010 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	System Influent[a,b] (gpm)	System Effluent[b,c] (gpm)	Reverse Osmosis Concentrate[b] (gpm)
January 2010 Average Monthly Flowrate	129.4	126.3	2.4
February 2010 Average Monthly Flowrate	127.4	124.8	2.7
March 2010 Average Monthly Flowrate	129.0	126.0	2.5

Notes:

gpm: gallons per minute

[a] Extraction wells TW-3D and PE-1 were operated during the First Quarter 2010. Extraction wells TW-2D and TW-2S were not operated during the First Quarter 2010.

[b] The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the First Quarter 2010 is approximately 0.32 percent.

[c] Effluent was discharged into injection wells IW-2 and IW-3 during the First Quarter 2010. Flow to injection well IW-03 was not recorded by flow meter FT1203 on March 26, 2010 through March 31, 2010 – so, the flow to the injection wells during this period was captured by the combined plant effluent flow meter, FT700.

TABLE 3
Sample Collection Dates
First Quarter 2010 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	Sample Collection Dates	Results
Influent[a]	January 6, 2010	See Table 4
	February 3, 2010	
	March 3, 2010	
Effluent[b]	January 6, 2010	See Table 5
	January 13, 2010	
	January 19, 2010	
	January 27, 2010	
	February 3, 2010	
	February 10, 2010	
	February 18, 2010	
	February 24, 2010	
	March 3, 2010	
	March 10, 2010	
	March 16, 2010	
	March 24, 2010	
	March 31, 2010	
Reverse Osmosis Concentrate[c]	March 3, 2010	See Table 6
Sludge[d]	January 15, 2010	See Table 7
	February 18, 2010	

Notes:

[a] Influent sampling is required monthly.

[b] Effluent sampling is required weekly.

[c] Reverse Osmosis Concentrate sampling is required quarterly.

[d] Sludge samples analysis is required quarterly by composite.

TABLE 4
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Influent Monitoring Results [a]
First Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																					
Analytes		TDS	Turbidity	Specific Conductance	Field pH [c]	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
Units [b]		mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
MDL		7.00	0.0070	0.0220	---	0.0750	0.998	2.36	0.0050	0.495	0.140	0.210	0.0020	0.520	0.0600	0.0750	0.0600	0.725	0.205	0.0950	0.00020	1.00	3.00	1.50
Sample ID	**Date**																							
SC-100B-WDR-238	**1/6/2010**	**5690**	**ND (0.100)**	**7720**	**7.2**	**1050**	**1090**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**3.81**	**25.7**	**1.07**	**ND (5.00)**	**2.83**	**ND (10.0)**	**ND (10.0)**	**24.6**	**ND (10.0)**	**3.59**	**ND (0.0050)**	**573**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	1.00	10.5	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-100B-WDR-242	**2/3/2010**	**5430**	**ND (0.100)**	**7690**	**7.2**	**1020**	**1200**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**3.58**	**24.2**	**1.03**	**ND (5.00)**	**2.48**	**ND (10.0)**	**ND (10.0)**	**24.4**	**ND (10.0)**	**3.38**	**ND (0.500)**	**571**	**ND (20.0)**	**13.1**
RL		250	0.100	2.00	---	1.00	10.5	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.500	12.5	20.0	10.0
SC-100B-WDR-246	**3/3/2010**	**4840**	**ND (0.100)**	**7950**	**7.4**	**1070**	**1180**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**3.70**	**25.0**	**1.06**	**ND (5.00)**	**2.33**	**ND (10.0)**	**ND (10.0)**	**25.1**	**ND (10.0)**	**3.44**	**ND (0.0050)**	**581**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0

NOTES:

(---) = not required by the WDR 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 WDRs.

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
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results[a]
First Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

WDRs 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
Required Sampling Frequency		**Weekly**						**Monthly**															
Analytes		TDS	Turbidity	Specific Conductance	Field pH[e]	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
Units[c]		mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
MDL[d]		0.700	0.0070	0.0220	---	0.0750	0.0200	2.36	0.0050	0.495	0.140	0.210	0.0020	0.520	0.0600	0.0750	0.0600	0.725	0.205	0.0950	0.00020	1.00	3.00	1.50
Sample ID	**Date**																						
SC-700B-WDR-238	**1/6/2010**	**4790**	**0.178**	**7200**	**6.90**	**1.31**	**ND (0.200)**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**16.7**	**1.03**	**ND (5.00)**	**2.38**	**ND (10.0)**	**42.3**	**18.6**	**ND (10.0)**	**3.09**	**ND (0.0050)**	**509**	**20.0**	**ND (10.0)**
RL		250	0.100	2.00	---	1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-700B-WDR-239	**1/13/2010**	**4310**	**0.170**	**7290**	**6.80**	**1.37**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-240	**1/19/2010**	**4140**	**0.100 R**	**7070**	**7.00**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-241	**1/27/2010**	**4310**	**0.102**	**7250**	**7.00**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-242	**2/3/2010**	**4510**	**ND (0.100)**	**7210**	**6.90**	**ND (1.00)**	**ND (0.200)**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**14.3**	**0.987**	**ND (5.00)**	**2.23**	**ND (10.0)**	**35.9**	**17.4**	**ND (10.0)**	**3.14**	**ND (0.500)**	**524**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.500	12.5	20.0	10.0
SC-700B-WDR-243	**2/10/2010**	**4300**	**ND (0.100)**	**7340**	**6.90**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-244	**2/18/2010**	**4260**	**ND (0.100)**	**7210**	**6.90**	**ND (1.00)**	**ND (1.05)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	1.05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-245	**2/24/2010**	**4470**	**ND (0.100)**	**7030**	**6.90**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-246	**3/3/2010**	**4230**	**ND (0.100)**	**7170**	**7.10**	**ND (1.00)**	**ND (1.05)**	**ND (50.0)**	**ND (0.500)**	**ND (10.0)**	**ND (1.00)**	**16.6**	**1.02**	**ND (5.00)**	**2.06**	**ND (10.0)**	**55.9**	**17.2**	**ND (10.0)**	**3.08**	**ND (0.0050)**	**510**	**ND (20.0)**	**ND (10.0)**
RL		250	0.100	2.00	---	1.00	1.05	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-700B-WDR-247	**3/10/2010**	**4130**	**ND (0.100)**	**7140**	**6.90**	**ND (1.00)**	**0.210**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-248	**3/16/2010**	**4170**	**0.134**	**7210**	**6.90**	**ND (1.00)**	**0.440**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-249	**3/24/2010**	**4060**	**ND (0.100)**	**7160**	**6.90**	**ND (1.00)**	**0.470**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
SC-700B-WDR-250	**3/31/2010**	**4130**	**ND (0.100)**	**7290**	**7.00**	**ND (1.00)**	**ND (0.200)**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**	**---**
RL		25.0	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TABLE 5
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results [a]
First Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

NOTES:

(---) = not required by the WDR 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 WDRs 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 WDRs.

[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
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Reverse Osmosis Concentrate Monitoring Results [a]
First Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																				
Analytes		TDS	Specific Conductance	Field pH [c]	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units [b]		mg/L	µmhos/cm	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MDL		35.0	0.0220	---	0.000075	0.00020	0.00050	0.00014	0.00021	0.00030	0.000060	0.000075	0.00052	0.0600	0.00050	0.00073	0.00013	0.00021	0.00025	0.00038	0.000085	0.000060	0.0090
Sample ID	**Date**																						
SC-701-WDR-246	**3/3/2010**	**32800**	**45100**	**7.4**	**0.00263**	**ND (0.0021)**	**ND (0.0100)**	**ND (0.0010)**	**0.147**	**ND (0.0020)**	**ND (0.0030)**	**0.00552**	**0.00571**	**17.6**	**ND (0.0100)**	**0.170**	**ND (0.0010)**	**0.0312**	**0.0255**	**ND (0.0050)**	**ND (0.0010)**	**ND (0.0050)**	**ND (0.0100)**
RL		1250	2.00	---	0.0010	0.0021	0.0100	0.0010	0.0100	0.0020	0.0030	0.0050	0.0050	0.500	0.0100	0.0100	0.0010	0.0100	0.0100	0.0050	0.0010	0.0050	0.0100

NOTES:
(---) = not required by the WDR Monitoring and Reporting Program
J = concentration or reporting limits estimated by laboratory or validation
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 TP-PR-10-10-08).

b Units reported in this table are those units required in the WDRs.

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
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Sludge Monitoring Results[a]
First Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		**Quarterly**																		
Analytes		Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
Units[b]		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL		0.237	0.300	0.500	0.0100	0.0100	0.0030	0.0100	0.0030	0.0200	0.0120	0.0500	0.0200	0.00025	0.0200	0.0100	0.0100	0.0150	0.0050	0.0200
Sample ID	**Date**																			
SC-Sludge-WDR-246	**3/3/2010**	**13200**	**153**	**ND (2.00)**	**38.8**	**101**	**2.17**	**44.5**	**24.8**	**149**	**26.2**	**18.3**	**35.1**	**0.592**	**32.0**	**ND (1.60)**	**ND (1.60)**	**ND (2.00)**	**161**	**107**
RL		32.0	7.91	2.00	1.60	1.60	1.60	1.60	1.60	1.60	15.8	1.60	1.60	0.320	1.60	1.60	1.60	2.00	1.60	2.00

NOTES:

(---) = not required by the WDR 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 WDRs.

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
First Quarter 2010 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-238	J.Aide	1/6/2010	8:40:00 AM	TLI	EPA 120.1	SC	1/8/2010	Tina Acquiat
					TLI	EPA 200.7	B	1/12/2010	Kris Collins
					TLI	EPA 200.7	FE	1/12/2010	Kris Collins
					TLI	EPA 200.7	ZN	1/12/2010	Kris Collins
					TLI	EPA 200.8	AL	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	AS	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	BA	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	CR	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	CU	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	MN	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	MO	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	NI	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	PB	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	SB	1/12/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	1/7/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	1/7/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/7/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	1/7/2010	Giawad Ghenniwa
					FIELD	HACH	PH	1/6/2010	J.Aide
					TLI	SM2130B	TRB	1/7/2010	Gautam Savani
					TLI	SM2540C	TDS	1/8/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	1/12/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	1/7/2010	Tina Acquiat
SC-100B	SC-100B-WDR-242	J. Aide	2/3/2010	8:10:00 AM	TLI	EPA 120.1	SC	2/4/2010	Tina Acquiat
					TLI	EPA 200.7	B	2/8/2010	Kris Collins
					TLI	EPA 200.7	FE	2/8/2010	Kris Collins
					TLI	EPA 200.7	MN	2/8/2010	Kris Collins
					TLI	EPA 200.8	AL	2/9/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	AS	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	BA	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	CR	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	CU	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	MO	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	NI	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	PB	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	SB	2/5/2010	Romuel Chavez/Daniel Kang

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
First Quarter 2010 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-242	J. Aide	2/3/2010	8:10:00 AM	TLI	EPA 200.8	ZN	2/9/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 218.6	CR6	2/4/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	2/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	2/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	2/4/2010	Giawad Ghenniwa
					FIELD	HACH	PH	2/3/2010	J. Aide
					TLI	SM2130B	TRB	2/4/2010	Gautam Savani
					TLI	SM2540C	TDS	2/4/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	2/9/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	2/4/2010	Tina Acquiat
SC-100B	SC-100B-WDR-246	J.Aide	3/3/2010	8:00:00 AM	TLI	EPA 120.1	SC	3/4/2010	Tina Acquiat
					TLI	EPA 200.7	AL	3/9/2010	Kris Collins
					TLI	EPA 200.7	B	3/9/2010	Kris Collins
					TLI	EPA 200.7	FE	3/9/2010	Kris Collins
					TLI	EPA 200.7	ZN	3/9/2010	Kris Collins
					TLI	EPA 200.8	AS	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	BA	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CR	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CU	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MN	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MO	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	NI	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	PB	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	SB	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 218.6	CR6	3/10/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	3/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	3/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	3/4/2010	Giawad Ghenniwa
					FIELD	HACH	PH	3/3/2010	J.Aide
					TLI	SM2130B	TRB	3/4/2010	Gautam Savani
					TLI	SM2540C	TDS	3/4/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	3/8/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	3/4/2010	Tina Acquiat
SC-700B	SC-700B-WDR-238	J.Aide	1/6/2010	8:40:00 AM	TLI	EPA 120.1	SC	1/8/2010	Tina Acquiat
					TLI	EPA 200.7	B	1/12/2010	Kris Collins
					TLI	EPA 200.7	FE	1/12/2010	Kris Collins

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
First Quarter 2010 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-238	J.Aide	1/6/2010	8:40:00 AM	TLI	EPA 200.7	ZN	1/12/2010	Kris Collins
					TLI	EPA 200.8	AL	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	AS	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	BA	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	CR	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	CU	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	MN	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	MO	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	NI	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	PB	1/12/2010	Romuel Chavez
					TLI	EPA 200.8	SB	1/12/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	1/7/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	1/7/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/7/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	1/7/2010	Giawad Ghenniwa
					FIELD	HACH	PH	1/6/2010	J.Aide
					TLI	SM2130B	TRB	1/7/2010	Gautam Savani
					TLI	SM2540C	TDS	1/8/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	1/12/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	1/7/2010	Tina Acquiat
SC-700B	SC-700B-WDR-239	J.Aide	1/13/2010	8:15:00 AM	TLI	EPA 120.1	SC	1/14/2010	Tina Acquiat
					TLI	EPA 200.8	CR	1/15/2010	Daniel Kang
					TLI	EPA 218.6	CR6	1/15/2010	Sonya Bersudsky
					FIELD	HACH	PH	1/13/2010	J.Aide
					TLI	SM2130B	TRB	1/14/2010	Gautam Savani
					TLI	SM2540C	TDS	1/15/2010	Tina Acquiat
SC-700B	SC-700B-WDR-240	Ron Phelps	1/19/2010	8:00:00 AM	TLI	EPA 120.1	SC	1/25/2010	Tina Acquiat
					TLI	EPA 200.8	CR	1/21/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	1/26/2010	Sonya Bersudsky
					FIELD	HACH	PH	1/19/2010	Ron Phelps
					TLI	SM2130B	TRB	1/25/2010	Gautam Savani
					TLI	SM2540C	TDS	1/25/2010	Tina Acquiat
SC-700B	SC-700B-WDR-241	J.Aide	1/27/2010	8:25:00 AM	TLI	EPA 120.1	SC	1/28/2010	Tina Acquiat
					TLI	EPA 200.8	CR	1/31/2010	Daniel Kang
					TLI	EPA 218.6	CR6	1/29/2010	Sonya Bersudsky
					FIELD	HACH	PH	1/27/2010	J.Aide

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
First Quarter 2010 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-241	J.Aide	1/27/2010	8:25:00 AM	TLI	SM2130B	TRB	1/28/2010	Gautam Savani
					TLI	SM2540C	TDS	1/28/2010	Tina Acquiat
SC-700B	SC-700B-WDR-242	J. Aide	2/3/2010	8:10:00 AM	TLI	EPA 120.1	SC	2/4/2010	Tina Acquiat
					TLI	EPA 200.7	B	2/8/2010	Kris Collins
					TLI	EPA 200.7	FE	2/8/2010	Kris Collins
					TLI	EPA 200.7	MN	2/8/2010	Kris Collins
					TLI	EPA 200.8	AL	2/9/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	AS	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	BA	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	CR	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	CU	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	MO	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	NI	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	PB	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	SB	2/5/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 200.8	ZN	2/9/2010	Romuel Chavez/Daniel Kang
					TLI	EPA 218.6	CR6	2/4/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	2/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	2/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	2/4/2010	Giawad Ghenniwa
					FIELD	HACH	PH	2/3/2010	J. Aide
					TLI	SM2130B	TRB	2/4/2010	Gautam Savani
					TLI	SM2540C	TDS	2/4/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	2/9/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	2/4/2010	Tina Acquiat
SC-700B	SC-700B-WDR-243	J.Aide	2/10/2010	12:00:00 PM	TLI	EPA 120.1	SC	2/11/2010	Tina Acquiat
					TLI	EPA 200.8	CR	2/18/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	2/12/2010	Sonya Bersudsky
					FIELD	HACH	PH	2/10/2010	J.Aide
					TLI	SM2130B	TRB	2/11/2010	Gautam Savani
					TLI	SM2540C	TDS	2/11/2010	Tina Acquiat
SC-700B	SC-700B-WDR-244	C.Knight	2/18/2010	8:00:00 AM	TLI	EPA 120.1	SC	2/19/2010	Tina Acquiat
					TLI	EPA 200.8	CR	2/23/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	2/19/2010	Sonya Bersudsky
					FIELD	HACH	PH	2/18/2010	C.Knight
					TLI	SM2130B	TRB	2/19/2010	Gautam Savani

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
First Quarter 2010 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-244	C.Knight	2/18/2010	8:00:00 AM	TLI	SM2540C	TDS	2/23/2010	Tina Acquiat
SC-700B	SC-700B-WDR-245	J.Aide	2/24/2010	8:00:00 AM	TLI	EPA 120.1	SC	2/25/2010	Tina Acquiat/Gautam Savani
					TLI	EPA 200.8	CR	3/1/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	2/26/2010	Sonya Bersudsky
					FIELD	HACH	PH	2/24/2010	J.Aide
					TLI	SM2130B	TRB	2/25/2010	Gautam Savani
					TLI	SM2540C	TDS	2/25/2010	Tina Acquiat
SC-700B	SC-700B-WDR-246	J.Aide	3/3/2010	8:00:00 AM	TLI	EPA 120.1	SC	3/4/2010	Tina Acquiat
					TLI	EPA 200.7	AL	3/9/2010	Kris Collins
					TLI	EPA 200.7	B	3/9/2010	Kris Collins
					TLI	EPA 200.7	FE	3/9/2010	Kris Collins
					TLI	EPA 200.7	ZN	3/9/2010	Kris Collins
					TLI	EPA 200.8	AS	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	BA	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CR	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CU	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MN	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MO	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	NI	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	PB	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	SB	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 218.6	CR6	3/10/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	3/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	3/4/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	3/4/2010	Giawad Ghenniwa
					FIELD	HACH	PH	3/3/2010	J.Aide
					TLI	SM2130B	TRB	3/4/2010	Gautam Savani
					TLI	SM2540C	TDS	3/4/2010	Tina Acquiat
					TLI	SM4500NH3D	NH3N	3/8/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	3/4/2010	Tina Acquiat
SC-700B	SC-700B-WDR-247	J.Aide	3/10/2010	8:00:00 AM	TLI	EPA 120.1	SC	3/11/2010	Tina Acquiat
					TLI	EPA 200.8	CR	3/15/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	3/11/2010	Sonya Bersudsky
					FIELD	HACH	PH	3/10/2010	J.Aide
					TLI	SM2130B	TRB	3/11/2010	Gautam Savani
					TLI	SM2540C	TDS	3/11/2010	Tina Acquiat

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
First Quarter 2010 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-248	Ron Phelps	3/16/2010	8:00:00 AM	TLI	EPA 120.1	SC	3/17/2010	Tina Acquiat
					TLI	EPA 200.8	CR	3/18/2010	Daniel Kang
					TLI	EPA 218.6	CR6	3/17/2010	Sonya Bersudsky
					FIELD	HACH	PH	3/16/2010	Ron Phelps
					TLI	SM2130B	TRB	3/17/2010	Gautam Savani
					TLI	SM2540C	TDS	3/17/2010	Tina Acquiat
SC-700B	SC-700B-WDR-249	J.Aide	3/24/2010	8:00:00 AM	TLI	EPA 120.1	SC	3/25/2010	Tina Acquiat
					TLI	EPA 200.8	CR	3/29/2010	Daniel Kang
					TLI	EPA 218.6	CR6	3/25/2010	Sonya Bersudsky
					FIELD	HACH	PH	3/24/2010	J.Aide
					TLI	SM2130B	TRB	3/25/2010	Gautam Savani
					TLI	SM2540C	TDS	3/25/2010	Tina Acquiat
SC-700B	SC-700B-WDR-250	J.Aide	3/31/2010	8:00:00 AM	TLI	EPA 120.1	SC	4/1/2010	Tina Acquiat
					TLI	EPA 200.8	CR	4/1/2010	Romuel Chavez
					TLI	EPA 218.6	CR6	4/2/2010	Sonya Bersudsky
					FIELD	HACH	PH	3/31/2010	J.Aide
					TLI	SM2130B	TRB	4/1/2010	Gautam Savani
					TLI	SM2540C	TDS	4/1/2010	Tina Acquiat
SC-701	SC-701-WDR-246	J.Aide	3/3/2010	8:00:00 AM	TLI	EPA 120.1	SC	3/8/2010	Tina Acquiat
					TLI	EPA 200.7	ZN	3/9/2010	Kris Collins
					TLI	EPA 200.8	AG	3/15/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	AS	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	BA	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	BE	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CD	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CO	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CR	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	CU	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	HG	3/8/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	MO	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	NI	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	PB	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	SB	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	SE	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 200.8	TL	3/5/2010	Daniel Kang/Romuel Chavez

TABLE 8
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
First Quarter 2010 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-246	J.Aide	3/3/2010	8:00:00 AM	TLI	EPA 200.8	V	3/5/2010	Daniel Kang/Romuel Chavez
					TLI	EPA 218.6	CR6	3/10/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	3/4/2010	Giawad Ghenniwa
					FIELD	HACH	PH	3/3/2010	J.Aide
					TLI	SM2540C	TDS	3/8/2010	Tina Acquiat
Phase Seperator	SC-Sludge-WDR-246	J.Aide	3/3/2010	8:00:00 AM	TLI	EPA 300.0	FL	3/4/2010	Giawad Ghenniwa
					TLI	EPA 6010B	AG	3/18/2010	Kris Collins
					TLI	EPA 6010B	BA	3/12/2010	Kris Collins
					TLI	EPA 6010B	BE	3/12/2010	Kris Collins
					TLI	EPA 6010B	CD	3/12/2010	Kris Collins
					TLI	EPA 6010B	CO	3/12/2010	Kris Collins
					TLI	EPA 6010B	CR	3/12/2010	Kris Collins
					TLI	EPA 6010B	CU	3/12/2010	Kris Collins
					TLI	EPA 6010B	NI	3/12/2010	Kris Collins
					TLI	EPA 6010B	PB	3/12/2010	Kris Collins
					TLI	EPA 6010B	V	3/12/2010	Kris Collins
					TLI	EPA 6010B	ZN	3/12/2010	Kris Collins
					TLI	SW 6020A	AS	3/17/2010	Romuel Chavez/Daniel Kang
					TLI	SW 6020A	HG	3/11/2010	Romuel Chavez/Daniel Kang
					TLI	SW 6020A	MO	3/17/2010	Romuel Chavez/Daniel Kang
					TLI	SW 6020A	SB	3/17/2010	Romuel Chavez/Daniel Kang
					TLI	SW 6020A	SE	3/17/2010	Romuel Chavez/Daniel Kang
					TLI	SW 6020A	TL	3/17/2010	Romuel Chavez/Daniel Kang
					TLI	SW 7199	CR6	3/16/2010	Sonya Bersudsky

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 TP-PR-10-10-08).

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.

AL =	aluminum	NH3N =	ammonia (as N)
Ag =	silver	NI =	nickel
AS =	arsenic	NO2N =	nitrite (as N)
B =	boron	NO3N =	nitrate (as N)
BA =	barium	PB =	lead
BE =	beryllium	PH =	pH
CD =	cadmium	SB =	antimony
CO =	cobalt	SC =	specific conductance
CR =	chromium	SE =	selenium
CR6 =	hexavalent chromium	SO4 =	sulfate
CU =	copper	TDS =	total dissolved solids
FE =	iron	TL =	thallium
FL =	fluoride	TLI =	Truesdail Laboratories, Inc.
HG =	mercury	TRB =	turbidity
MN =	manganese	V =	vanadium
MO =	molybdenum	ZN =	zinc

Figures

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

BLM

West Mesa

Center Mesa

East Mesa Injection Area

CW-4

CW-3

CW-2

CW-1

IW-1

IW-2

IW-3

IM-3 Treatment Plant

Historic Route 66

BAT CAVE WASH

BN&SF RAILROAD

INTERSTATE 40

Park Moabi Rd.

Colorado River

MW-20 Bench

TW-02S

TW-03D

TW-02D

MW-20-130

PE-01

500

550

600

66

LEGEND

- IM-3 Injection Well
- Observation Well Cluster
- Compliance Monitoring Well Cluster
- Exploratory Boring
- Groundwater Monitoring Well
- IM Extraction Well
- IM-3 Treatment Facility Pipelines
- IM-3 Effluent Pipeline

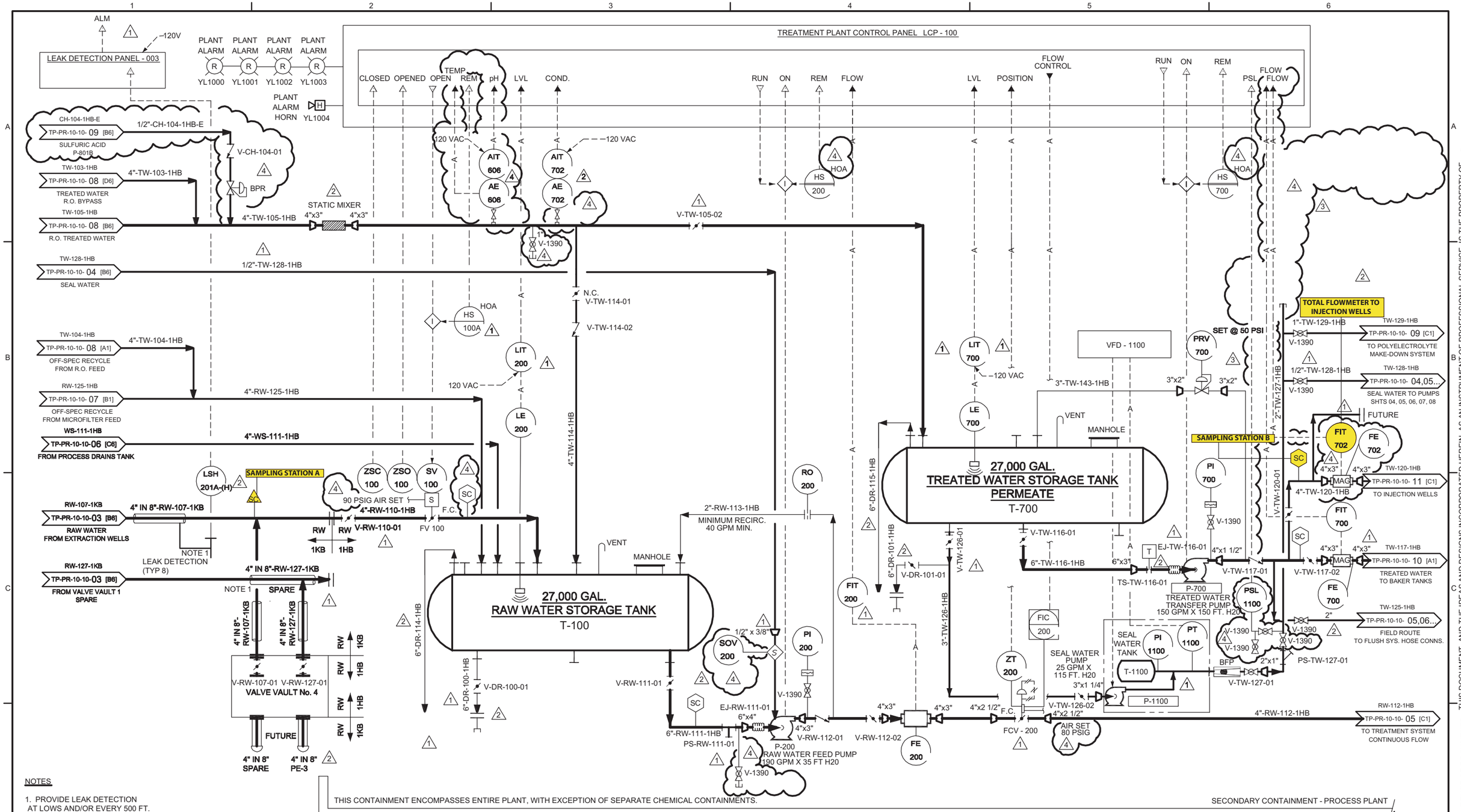
N

0 350 700 Feet

California State Plane NAD83 Zone 5 US Feet

FIGURE 1
IM NO. 3 PROJECT SITE FEATURES
PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

\\ZINFANDEL\PROJ\PACIFICGASELECTRICCO\TOPOCKPROGRAM\GIS\MAPFILES\2009\IM3\IM3_PROJECT_AREA_DEC09.MXD BKAHLER 1/12/2010 09:49:03



NOTES

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

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

SECONDARY CONTAINMENT - PROCESS PLANT

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

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

PRINT DISTRIBUTION

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

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

SCALE NONE

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

PROJ NO. 315994

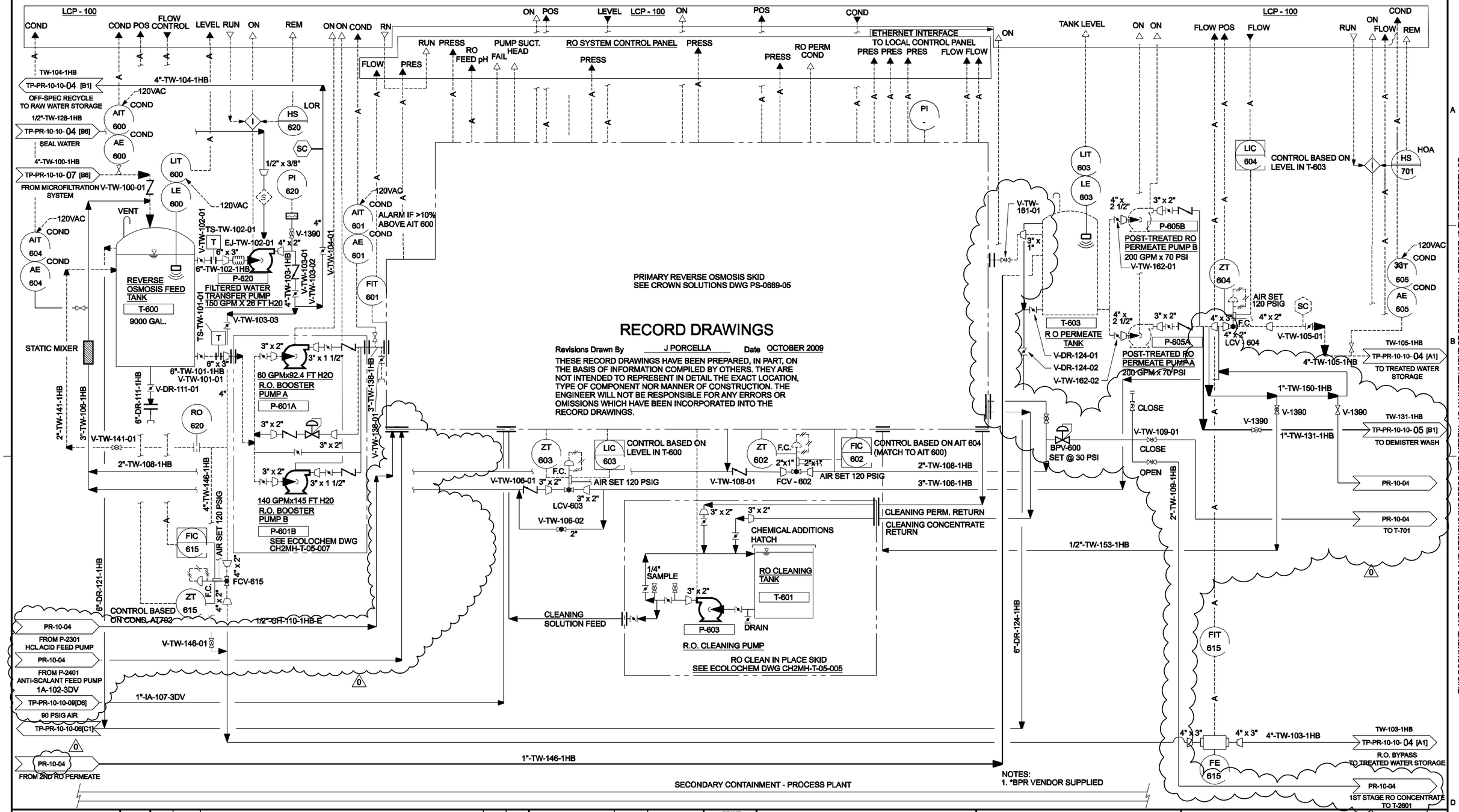
CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 04
STORAGE AREA

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

BAR IS ONE INCH ON ORIGINAL DRAWING

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



NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL			REV 0	DATE 10/02/09	PRINT DISTRIBUTION
					DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE	
A	2/12/09	INTERNAL REVIEW			CIVIL	SJ	ELECTRICAL	FH	STATUS	
B	2/12/09	CLIENT REVIEW			STRUCTURAL		INST & CONTROL	JG	REV.	
C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP	MECHANICAL	SJ	ARCHITECTURAL		CLIENT	
0	11/17/09	FINAL RECORD ISSUE	JR	JP	PROCESS	DF	ENVIRONMENTAL		FIELD	
					PIPING	SJ	GEN. ARRANG.	SJ	INTRA CO.	

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

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

RESPONSIBLE ENGINEER: John Porcella C70145 Exp. 9-30-10
PE#

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

PROJ NO. 362032

SCALE NONE

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
REVERSE OSMOSIS SYSTEM
SHEET ONE OF TWO

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

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

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

COND LVL RUN ON FLOW

PR-10-03 → TO SEAL WATER TRUNK LINE

HS 701 HOA

1 1/2" TW-154-1HB

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

LOCATED IN CHEMICAL STORAGE AREA

1/2" CH-112-1HB

HCl ACID TOTE

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

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

LOCATED NEAR EXISTING RO

1/2" CH-114-1HB

SECONDARY RO ANTI-SCALANT CHEMICAL DRUM

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

PRIMARY RO ANTI-SCALANT CHEMICAL DRUM

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

V-1390

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

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

1"-1A-108-3DV

120VAC

AIT 701 COND

AE 701 COND

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

1ST STAGE RO CONCENTATE
PR-10-03

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

2"x1 1/2"

V-1390
NO

2" TW-109-1HB

V-1390
NC

LIT 701

LE 701

120VAC

VENT

SC

PI 701

PR-10-03
FROM PRIMARY RO

CLOSE

2"x1"

OPEN

V-1390

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

V-DR-112-01

TS-TW-111-01

SEAL WATER

SOV 701

S

1/2"x3/8"

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

6"-DR-112-1HB

V-TW-111-01

T

6"x1 1/2"

EJ-TW-111-01

6"-TW-111-1HB

P-107

3"x1"

V-TW-112-01

FIT 701

FE 701

3"x1"

MAG

3"x2"

V-TW-112-03

RO CONCENTRATE TRANSFER PUMP 80 GPM X 85 FT H20

TO TRENCH DRAIN

T-2601 SECONDARY RO FEED TANK SEE CROWN DWG PS-0689-06

1 1/2" TW-149-1HB

V-1390 NC

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

1 1/2" TW-151-1HB

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

1" TW-146-1HB

PERMEATE

PR-10-03
TO T-603 TANK

V-1390

1" TW-147-1HB

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

RECORD DRAWINGS

Revisions Drawn By J PORCELLA Date OCTOBER 2009

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

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

RESPONSIBLE ENGINEER: John Porcella Exp. 9-30-10 C70145 PE #

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

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

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

SCALE NONE

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

PROJ NO. 362032

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
REVERSE OSMOSIS SYSTEM
SHEET TWO OF TWO

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

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

FILENAME: PR-10-04.dgn PLOT DATE: 11/19/2009 PLOT TIME: 10:28:26 AM

CONTROL PANEL

PLC

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

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

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

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

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

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

TP-PR-10-10- 09 [D6]
90 PSIG AIR
1"-IA-104-3DV

M-400-A | M-400-B | M-400-C

CL-400 CLARIFIER

6"-DR-107-1HB

SEE PARKSON DRAWING 10066701-01

SV 400 | ZSC 400 ZSO 400 AIR SET 120 PSIG F. C. FV - 400 | AE 400 TURB | SV 401 120 PSIG AIR SET | PI 401 PE 401 | LE 402 | M-402

4"-WS-102-1HB

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

6"-RW-122-1HB

RW-122-1HB
TP-PR-10-10- 07 [B1]
MICROFILTRATION SYSTEM

120 PSIG AIR SET | HS 403 HOA | SV 403 | PI 404 | PE 404 | V-WS-103-01 | V-WS-103-02

WS-103-1HB
TP-PR-10-10- 05 [B1]
SLUDGE RECYCLE

P-404 SLUDGE RECYCLE PUMP 20 GPM X 30 FT. H2O

2"-WS-103-1HB | V-WS-109-01 | 2"-WS-109-1HB

ZSC 410 ZSO 410 AIR SET 120 PSIG F. C. FV - 410 | SV 410

V-WS-104-01

4"-WS-100-1HB

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

SLUDGE HOLDING TANK 6000 GAL T-402 | VENT | DECANT

2" V-1790 (TYP 5) | 4" (TYP 5) AIR/SIGHT GAP 4"

PI 403 PE 403

3% - 5% SOLIDS | 2"-WS-105-1HB | V-WS-105-01 | P-403 SEPARATOR FEED PUMP 20 GPM X 30 FT. H2O | 2"-WS-106-1HB | V-WS-106-01

HS 900 LOR | V-WS-108-01 | 4"-WS-108-1HB | 2"-WS-107-1HB | V-WS-107-01

4"-WS-110-1HB

TRUCK FILL FOR OFF-SITE DISPOSAL

V-WS-110-01

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

V-WS-111-02 | V-WS-111-03 | 4"-WS-111-1HB | V-WS-111-01 | PS-WS-111-01 | V-1390 | 1"-DR-106-1HB

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

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

V-WS-113-01 | 2"-WS-113-1HB | 4" x 2"

UNIT 2 CAKE CAKE | UNIT 1 CAKE CAKE

FH-WS-112-02 | 2"-WS-112-1HB | FH-WS-112-01

LSHH 405

480 VAC | LCP - 405

P-405 PHASE SEPARATOR SUMP PUMP PACKAGE 25 GPM x 25 FT. H2O

PUMPOUT VAULT

PS-405 PHASE SEPARATORS ALTERNATING DURING OPERATION

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

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

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

4"-WS-104-1HB

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

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

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

SECONDARY CONTAINMENT - PROCESS PLANT

T-900A PROCESS SUMP NOTE 1

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

NOTES:

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

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

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

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

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

SCALE NONE

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

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

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 06
CLARIFICATION AND SLUDGE REMOVAL

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

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

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

CONTROL PANEL LCP-100

WELL TW-3D CONTROL

WELL TW-2S CONTROL

WELL TW-2D CONTROL

WELL PE-1 CONTROL

LEAK DETECTION PANEL - 003

ALM

120V

LSH LVL RUN ON RM PRESS FLOW

LSHH

HOA

HS 102

HS 100

HS 101

HS 103

HOLD

LSH 002

LSHH 002

FUTURE

4"-RW-140-1HB

V-RW-140-01

VALVE VAULT No. 2

4" IN 8"-RW-141-1KB

NOTE 1

4"-RW-139-1HB

V-RW-139-01

4" IN 8"-RW-142-1KB

3"-RW-138-1HB

V-RW-138-01

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

4"-RW-105-1HB

V-RW-105-05

4" IN 8"-FUTURE

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

LSH 102A

NOTE 1

FI 102

LSH 001

LSHH 001

VENT

LT 100

PIT 100

FE 100

FIT 100

PE 100

V-1390

Well TW-2S Flowmeter

3"x2"

V-RW-105-02

MAG

3"-RW-105-1HB THROTTLING

V-RW-105-01

VALVE VAULT No. 1

3" IN 6"-RW-104-1KB

LSH 100A

NOTE 1

1"

V-1390

LT 101

PIT 101

FE 101

FIT 101

PE 101

Well TW-2D Flowmeter

4" x 3"

EJ-RW-105-01

V-RW-102-02

3"-RW-102-1HB THROTTLING

V-RW-102-01

3" IN 6"-RW-101-1KB

LSH 101A

NOTE 1

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

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

TP-PR-10-10-04 [C1]

SPARE TO VALVE VAULT 4

NOTES 1 & 2

V-RW-105-06 THROTTLING

V-RW-105-03

V-RW-105-04

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

TP-PR-10-10-04 [C1]

TO RAW WATER STORAGE

V-RW-108-02 THROTTLING

4"-RW-130-1HB

V-RW-130-02

V-RW-130-01

Well PE-1 Flowmeter

LT 103

PIT 103

FE 103

FIT 103

PE 103

V-RW-108-01

3"-RW-108-1HB

4" IN 8"-RW-131-1KB

NOTE 1

LSH

TO BAKER TANKS V-RW-131-01

LSH 103A

NOTE 1

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

4"x3"

V-RW-132-02

V-RW-132-01

3"-RW-132-1HB

3"x2"

Well TW-3D Flowmeter

VENT

LT 102

PI 102

PIT 102

FIT 102

PRV 102

PE 102

FE 102

LSH 102

SET AT 120 PSI

V-1390

3"x2"

3"-RW-134-1HB

V-RW-134-01

MAG

4"x3"

V-RW-134-02

WELL VAULT No. 4

P-102

LE 102

EXTRACTION WELL TW-3D

135 GPM x 248 FT. H20

PI 100

LSH 100

V-RW-103-02

3"-RW-103-1HB

V-RW-103-01

WELL VAULT No. 2

P-100

LE 100

EXTRACTION WELL TW-2S

40 GPM x 180 FT. H20

PI 101

PRV 101

LSH 101

V-RW-100-02

3"-RW-100-1HB

V-RW-100-01

WELL VAULT No. 1

P-101

LE 101

EXTRACTION WELL TW-2D

90 GPM x 245 FT. H20

PI 103

PRV 103

LSH 103

WELL VAULT No. 3

P-103

LE 103

EXTRACTION WELL PE-1

40 GPM x 235 FT. H20

NOTES

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

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

REVISION APPROVAL		REV 8 DATE 12/06/05	
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED
CIVIL	—	ELECTRICAL	—
STRUCTURAL	—	INST & CONTROL	—
MECHANICAL	AJ	ARCHITECTURAL	—
PROCESS	—	ENVIRONMENTAL	—
PIPING	SDH	GEN. ARRANG.	—

PRINT DISTRIBUTION

DATE	
STATUS	
REV.	
CLIENT	
FIELD	
INTRA CO.	

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

SCALE NONE

RESPONSIBLE ENGINEER: Kenneth L. Martins CH4876 Exp. 6-30-06

REGISTERED PROFESSIONAL ENGINEER — KENNETH L. MARTINS — No. CH4876 — Exp. 6-30-06 — CIVIL — STATE OF CALIFORNIA

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

PROJ NO. 315994

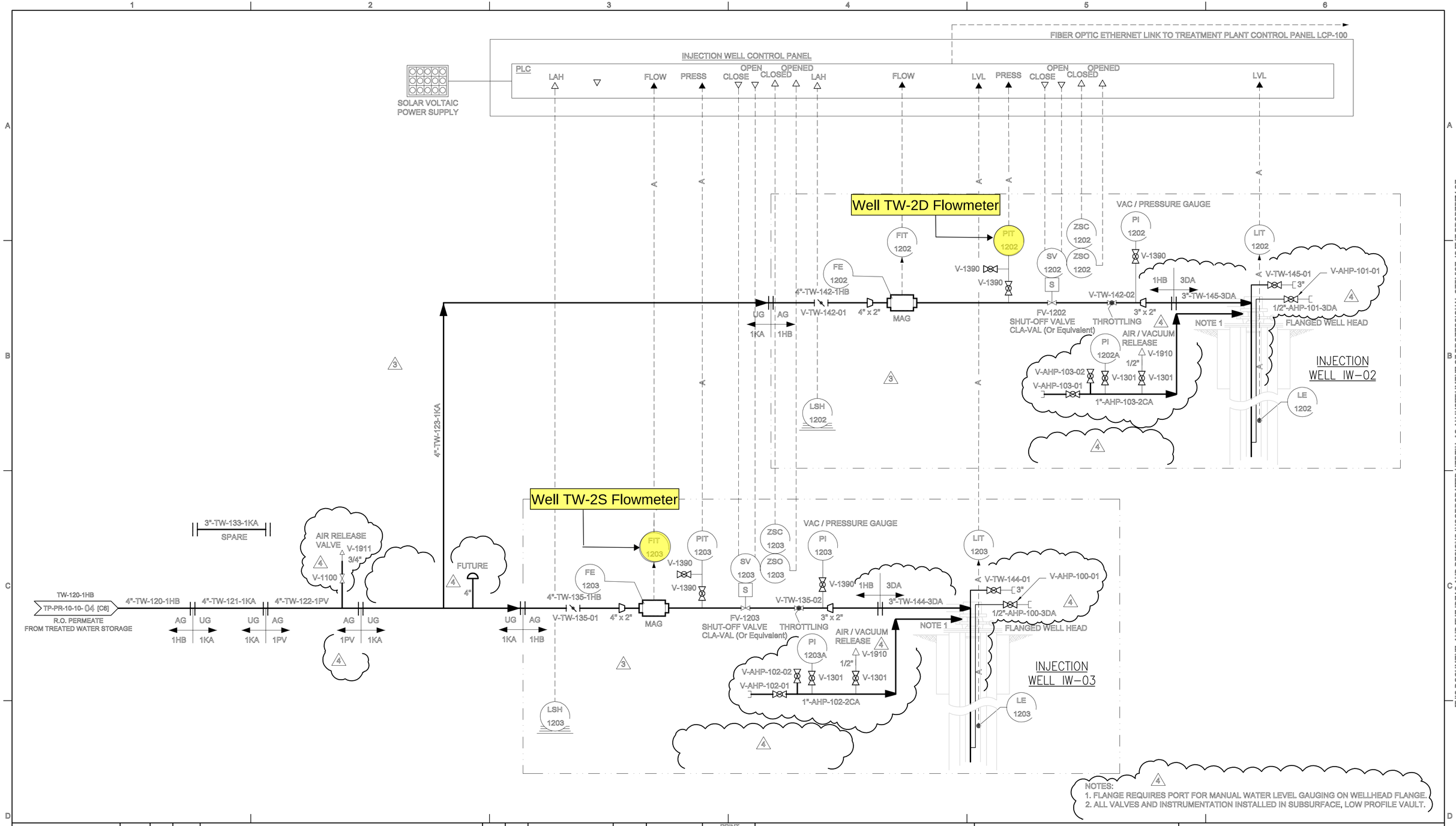
CH2MHILL

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

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

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

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



NO.	DATE	REVISION	BY	CHK
A	07/28/04	FOR INTERNAL REVIEW	EFC	AJ
0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
3	02/14/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ
4	03/10/05	REMOVED HOLD AND APPROVED FOR CONSTRUCTION	EFC	AJ

REVISION APPROVAL		REV 4	DATE 03/10/05	PRINT DISTRIBUTION	
DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE	
CIVIL		ELECTRICAL		STATUS	
STRUCTURAL		INST & CONTROL		REV.	
MECHANICAL		ARCHITECTURAL		CLIENT	
PROCESS		ENVIRONMENTAL		FIELD	
PIPING		GEN. ARRANG.		INTRA CO.	

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

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

SCALE NONE

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

CH2MHILL

PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 11
INJECTION WELLS

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

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

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

Appendix A
First Quarter 2010 Laboratory Analytical Reports

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

Established 1931

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

January 19, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-238 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 987112

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-238 project groundwater monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on January 6, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-238 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Revision 1

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Tina Acquiat
EPA 200.7	Metals by ICP	Kris Collins
EPA 200.8	Metals by ICP/MS	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING
Established 1931
14201 FRANKLIN AVENUE · TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date Received: January 6, 2010
Revision 1

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 120.1 EC	SM 2540C TDS	SM 2130B Turbidity	EPA 218.6 Hexavalent Chromium	SM 4500-NH3 D Ammonia
			µmhos/cm	mg/L	NTU	µg/L	mg/L
987112-1	SC-700B-WDR-238	08:40	7200	4790	0.178	ND	ND
987112-2	SC-100B-WDR-238	08:40	7720	5690	ND	1090	ND

Lab I.D.	Sample I.D.	Sample Time	EPA 300.0 Fluoride	EPA 300.0 Sulfate	EPA 300.0 Nitrate as N	SM 4500-NO2 B Nitrite as N
			mg/L	mg/L	mg/L	mg/L
987112-1	SC-700B-WDR-238	08:40	2.38	509	3.09	ND
987112-2	SC-100B-WDR-238	08:40	2.83	573	3.59	ND

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001ppm will have two (2) significant figures.
Result above or equal to 0.001ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

05

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

14201 FRANKLIN AVENUE · TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date Received: January 6, 2010
Revision 1

Analytical Results Summary

METALS ANALYSIS: **Total Metal Analyses as Requested**

Lab I.D.	Sample ID	Date of Analysis: / Time Coll.	Aluminum EPA 200.8 01/12/10 µg/L	Antimony EPA 200.8 01/12/10 µg/L	Arsenic EPA 200.8 01/12/10 µg/L	Barium EPA 200.8 01/12/10 µg/L	Chromium EPA 200.8 12/19/08 µg/L	Copper EPA 200.8 01/12/10 µg/L	Lead EPA 200.8 01/12/10 µg/L
987112-1	SC-700B-WDR-238	08:40	ND	ND	ND	16.7	1.31	ND	ND
987112-2	SC-100B-WDR-238	08:40	ND	ND	3.81	25.7	1050	ND	ND

Lab I.D.	Sample ID	Date of Analysis: / Time Coll.	Manganese EPA 200.8 01/12/10 µg/L	Molybdenum EPA 200.8 01/12/10 µg/L	Nickel EPA 200.8 01/12/10 µg/L	Zinc EPA 200.7 01/12/10 µg/L
987112-1	SC-700B-WDR-238	08:40	42.3	18.6	ND	ND
987112-2	SC-100B-WDR-238	08:40	ND	24.6	ND	ND

Lab I.D.	Sample ID	Date of Analysis: / Time Coll.	Boron EPA 200.7 01/12/10 µg/L	Iron EPA 200.7 01/12/10 µg/L
987112-1	SC-700B-WDR-238	08:40	1030	20.0
987112-2	SC-100B-WDR-238	08:40	1070	ND

NOTES:

ND: Not detected, or below limit of detection

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987112

Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 8, 2010
Analytical Batch: 01EC10B
Revision 1

Inveetigation: **Specific Conductivity by EPA 120.1**

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
987112-1	SC-700B-WDR-238	µmhos/cm	EPA 120.1	1.00	2.00	7200
987112-2	SC-100B-WDR-238	µmhos/cm	EPA 120.1	1.00	2.00	7720

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987112-2	7720	7730	0.13%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	996	998	99.8%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 8, 2010
Analytical Batch: 01TDS10C
Revision 1

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
987112-1	SC-700B-WDR-238	mg/L	SM 2540C	250	4790
987112-2	SC-100B-WDR-238	mg/L	SM 2540C	250	5690

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987111-1	3110	3200	1.43%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 7, 2010
Analytical Batch: 01TUC10E
Revision 1

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987112-1	SC-700B-WDR-238	08:40	NTU	1.00	0.100	0.178
987112-2	SC-100B-WDR-238	08:40	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987112-2	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.70	8.00	96.3%	90% - 110%	Yes
LCS	7.75	8.00	96.9%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 01CrH10C

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 7, 2010
Analytical Batch: 01CrH10C
Revision 1

Investigation: **Hexavalent Chromium by IC Using Method EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987112-1	SC-700B-WDR-238	08:40	08:21	µg/L	1.05	0.20	ND
987112-2	SC-100B-WDR-238	08:40	08:42	µg/L	52.5	10.5	1090

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987111-1	20.0	20.2	1.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987112-1	0.00	1.06	1.00	1.06	0.993	1.06	93.7%	90-110%	Yes
MS	987112-2	1090	52.5	25.0	1313	2320	2403	93.7%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.01	5.00	100%	90% - 110%	Yes
MRCVS#1	10.0	10.0	100%	95% - 105%	Yes
MRCVS#2	10.2	10.0	102%	95% - 105%	Yes
LCS	5.16	5.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 12, 2010
Analytical Batch: 01NH3-E10B
Revision 1

Investigation: **Ammonia as N by Method SM 4500-NH3 D**

Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
987112-1	SC-700B-WDR-238	08:40	SM 4500-NH3 D	mg/L	1.00	0.500	ND
987112-2	SC-100B-WDR-238	08:40	SM 4500-NH3 D	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987112-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987112-2	0.00	1.00	6.00	6.00	5.93	6.00	98.8%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	5.88	6.00	98.0%	90% - 110%	Yes
MRCVS#1	5.75	6.00	95.8%	90% - 110%	Yes
LCS	10.4	10.0	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 7, 2010
Analytical Batch: 01AN10E
Revision 1

Investigation: **Fluoride by Ion Chromatography using EPA 300.0**

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987112-1	SC-700B-WDR-238	08:40	12:39	mg/L	5.00	0.500	2.38
987112-2	SC-100B-WDR-238	08:40	12:51	mg/L	5.00	0.500	2.83

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987112-1	2.38	2.33	2.12%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987112-1	2.38	5.00	4.00	20.0	23.2	22.4	104%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.15	4.00	104%	90% - 110%	Yes
MRCVS#1	3.14	3.00	105%	90% - 110%	Yes
MRCVS#2	3.15	3.00	105%	90% - 110%	Yes
LCS	4.15	4.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 7, 2010
Analytical Batch: 01AN10E
Revision 1

Investigation: **Sulfate by Method EPA 300.0**

Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987112-1	SC-700B-WDR-238	08:40	15:08	mg/L	25.0	12.5	509
987112-2	SC-100B-WDR-238	08:40	15:19	mg/L	25.0	12.5	573

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987104	283	282	0.35%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987104	283	50.0	10.0	500	797	783	103%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	20.1	20.0	101%	90% - 110%	Yes
MRCVS#1	15.1	15.0	101%	90% - 110%	Yes
MRCVS#2	15.0	15.0	100%	90% - 110%	Yes
LCS	20.1	20.0	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 7, 2010
Analytical Batch: 01AN10E
Revision 1

Investigation: **Nitrate as N by Ion Chromatography using EPA 300.0**

Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987112-1	SC-700B-WDR-238	08:40	12:39	mg/L	5.00	1.00	3.09
987112-2	SC-100B-WDR-238	08:40	12:51	mg/L	5.00	1.00	3.59

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987112-1	3.09	3.05	1.30%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987112-1	3.09	5.00	4.00	20.0	24.0	23.1	105%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.00	4.00	100%	90% - 110%	Yes
MRCVS#1	2.98	3.00	99.3%	90% - 110%	Yes
MRCVS#2	2.99	3.00	99.7%	90% - 110%	Yes
LCS	4.01	4.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Date: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Prep/ Analyzed: January 7, 2010
Analytical Batch: 01NO210C
Revision 1

Investigation: **Nitrite as N by Method SM 4500-NO2-B**

Analytical Results for Nitrite as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987112-1	SC-700B-WDR-238	08:40	15:58	mg/L	1.00	0.0050	ND
987112-2	SC-100B-WDR-238	08:40	15:59	mg/L	1.00	0.0050	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987112-2	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987112-2	0.00	1.00	0.0200	0.0200	0.0195	0.0200	97.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.0050	---	<0.0050	Yes
MRCCS	0.0279	0.0270	103%	90% - 110%	Yes
MRCVS#1	0.0193	0.0200	96.5%	90% - 110%	Yes
LCS	0.0462	0.0450	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Samples: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Investigation: Total Metal Analyses as Requested

Laboratory No.: 987112
Reported: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Analyzed: See Below
Revision 1

Analytical Results

SAMPLE ID: SC-700B-WDR-238 **Time Collected:** 08:40 **LAB ID:** 987112-1

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	011210A	01/12/10	15:27
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	011210A	01/12/10	15:27
Arsenic	EPA 200.8	ND	5.00	µg/L	1.00	011210A	01/12/10	15:27
Barium	EPA 200.8	16.7	5.00	µg/L	10.0	011210A	01/12/10	15:27
Chromium	EPA 200.8	1.31	5.00	µg/L	1.00	011210A	01/12/10	15:27
Copper	EPA 200.8	ND	5.00	µg/L	5.00	011210A	01/12/10	15:27
Lead	EPA 200.8	ND	5.00	µg/L	10.0	011210A	01/12/10	15:27
Manganese	EPA 200.8	42.3	5.00	µg/L	10.0	011210A	01/12/10	15:27
Molybdenum	EPA 200.8	18.6	5.00	µg/L	10.0	011210A	01/12/10	15:27
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	011210A	01/12/10	15:27
Zinc	EPA 200.7	ND	1.00	µg/L	10.0	011210A-Th	01/12/10	09:54
Boron	EPA 200.7	1030	1.00	µg/L	200	011210A-Th	01/12/10	09:54
Iron	EPA 200.7	20.0	1.00	µg/L	20.0	011210A-Th	01/12/10	09:54

SAMPLE ID: SC-100B-WDR-238 **Time Collected:** 08:40 **LAB ID:** 987112-2

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	011210A	01/12/10	15:54
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	011210A	01/12/10	15:54
Arsenic	EPA 200.8	3.81	5.00	µg/L	1.00	011210A	01/12/10	15:54
Barium	EPA 200.8	25.7	5.00	µg/L	10.0	011210A	01/12/10	15:54
Chromium	EPA 200.8	1050	5.00	µg/L	1.00	011210A	01/12/10	15:54
Copper	EPA 200.8	ND	5.00	µg/L	5.00	011210A	01/12/10	15:54
Lead	EPA 200.8	ND	5.00	µg/L	10.0	011210A	01/12/10	15:54
Manganese	EPA 200.8	ND	5.00	µg/L	10.0	011210A	01/12/10	15:54
Molybdenum	EPA 200.8	24.6	5.00	µg/L	10.0	011210A	01/12/10	15:54
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	011210A	01/12/10	15:54
Zinc	EPA 200.7	ND	1.00	µg/L	10.0	011210A-Th	01/12/10	10:17
Boron	EPA 200.7	1070	1.00	µg/L	200	011210A-Th	01/12/10	10:17
Iron	EPA 200.7	ND	1.00	µg/L	20.0	011210A-Th	01/12/10	10:17

ND: Not detected,or below limit of detection.
DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Samples: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987112
Reported: February 9, 2010
Collected: January 6, 2010
Received: January 6, 2010
Revision 1

Quality Control/Quality Assurance Report

				BLANK		MRCCS				MRCVS			
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Aluminum	EPA 200.8	011210A	µg/L	ND	50.0	52.6	50.0	105%	90-110%	52.5	50.0	105%	90-110%
Antimony	EPA 200.8	011210A	µg/L	ND	10.0	50.6	50.0	101%	90-110%	49.3	50.0	98.6%	90-110%
Arsenic	EPA 200.8	011210A	µg/L	ND	0.200	50.7	50.0	101%	90-110%	49.9	50.0	99.8%	90-110%
Barium	EPA 200.8	011210A	µg/L	ND	10.0	50.1	50.0	100%	90-110%	50.5	50.0	101%	90-110%
Chromium	EPA 200.8	011210A	µg/L	ND	1.00	49.0	50.0	98.0%	90-110%	48.6	50.0	97.2%	90-110%
Copper	EPA 200.8	011210A	µg/L	ND	5.00	52.7	50.0	105%	90-110%	52.1	50.0	104%	90-110%
Lead	EPA 200.8	011210A	µg/L	ND	10.0	50.4	50.0	101%	90-110%	50.0	50.0	100%	90-110%
Manganese	EPA 200.8	011210A	µg/L	ND	10.0	52.5	50.0	105%	90-110%	52.9	50.0	106%	90-110%
Molybdenum	EPA 200.8	011210A	µg/L	ND	10.0	49.5	50.0	99.0%	90-110%	47.9	50.0	95.8%	90-110%
Nickel	EPA 200.8	011210A	µg/L	ND	10.0	51.9	50.0	104%	90-110%	51.4	50.0	103%	90-110%
Zinc	EPA 200.7	011210A-Th	µg/L	ND	10.0	5200	5000	104%	95-105%	5100	5000	102%	90-110%
Boron	EPA 200.7	011210A-Th	µg/L	ND	200	5060	5000	101%	95-105%	4970	5000	99.4%	90-110%
Iron	EPA 200.7	011210A-Th	µg/L	ND	20.0	4970	5000	99.4%	95-105%	5090	5000	102%	90-110%

INTERFERENCE CHECK STANDARD

Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Aluminum	EPA 200.8	µg/L	51.7	50.0	103%	80-120%
Arsenic	EPA 200.8	µg/L	50.4	50.0	101%	80-120%
Chromium	EPA 200.8	µg/L	49.0	50.0	98.0%	80-120%
Copper	EPA 200.8	µg/L	50.6	50.0	101%	80-120%
Manganese	EPA 200.8	µg/L	52.7	50.0	105%	80-120%
Nickel	EPA 200.8	µg/L	51.0	50.0	102%	80-120%
Zinc	EPA 200.7	µg/L	2080	2000	104%	80-120%
Iron	EPA 200.7	µg/L	2020	2000	101%	80-120%

LABORATORY CONTROL SAMPLES / SAMPLE DUPLICATES

Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Aluminum	EPA 200.8	µg/L	52.8	50.0	106%	90-110%	987112-1	ND	ND	0.00%	≤20
Antimony	EPA 200.8	µg/L	50.2	50.0	100%	90-110%	987112-1	ND	ND	0.00%	≤20
Arsenic	EPA 200.8	µg/L	50.1	50.0	100%	90-110%	987112-1	ND	ND	0.00%	≤20
Barium	EPA 200.8	µg/L	50.2	50.0	100%	90-110%	987112-1	16.7	16.2	3.04%	≤20
Chromium	EPA 200.8	µg/L	48.7	50.0	97.4%	90-110%	987112-1	1.31	1.30	0.77%	≤20
Copper	EPA 200.8	µg/L	52.6	50.0	105%	90-110%	987112-1	ND	ND	0.00%	≤20
Lead	EPA 200.8	µg/L	50.4	50.0	101%	90-110%	987112-1	ND	ND	0.00%	≤20
Manganese	EPA 200.8	µg/L	52.9	50.0	106%	90-110%	987112-1	42.3	41.2	2.63%	≤20
Molybdenum	EPA 200.8	µg/L	48.8	50.0	97.6%	90-110%	987112-1	18.6	17.6	5.52%	≤20
Nickel	EPA 200.8	µg/L	51.6	50.0	103%	90-110%	987112-1	ND	ND	0.00%	≤20
Zinc	EPA 200.7	µg/L	5150	5000	103%	90-110%	987112-1	ND	ND	0.00%	≤20
Boron	EPA 200.7	µg/L	5000	5000	100%	90-110%	987112-1	1030	1010	1.96%	≤20
Iron	EPA 200.7	µg/L	4940	5000	98.8%	90-110%	987112-1	20.0	19.3	3.56%	≤20

020

MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
987112-1	Aluminum	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	215	86.0%	75-125%
987112-1	Antimony	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	233	93.2%	75-125%
987112-1	Arsenic	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	248	99.2%	75-125%
987112-1	Barium	EPA 200.8	µg/L	16.7	5.00	50.0	250	267	252	94.1%	75-125%
987112-1	Chromium	EPA 200.8	µg/L	1.31	5.00	50.0	250	251	234	93.1%	75-125%
987112-1	Copper	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	221	88.4%	75-125%
987112-1	Lead	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	221	88.4%	75-125%
987112-1	Manganese	EPA 200.8	µg/L	42.3	5.00	50.0	250	292	289	98.7%	75-125%
987112-1	Molybdenum	EPA 200.8	µg/L	18.6	5.00	50.0	250	269	276	103%	75-125%
987112-1	Nickel	EPA 200.8	µg/L	3.41	5.00	50.0	250	253	230	90.6%	75-125%
987112-1	Zinc	EPA 200.7	µg/L	0.00	1.00	2000	2000	2000	2010	101%	75-125%
987112-1	Boron	EPA 200.7	µg/L	1030	1.00	2000	2000	3030	2970	97.0%	75-125%
987112-1	Iron	EPA 200.7	µg/L	20.0	1.00	2000	2000	2020	1870	92.5%	75-125%

ND: Not detected, or below limit of detection.

DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

021

Rec'd 01/06/10

987112

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-238]

COC Number 987112
TURNAROUND TIME 10 Days
DATE 01/06/10 PAGE 1 OF 1

COMPANY: CH2M HILL /E2
PROJECT NAME: PG&E Topock IM3
PHONE: 530-229-3303 FAX: 530-339-3303
ADDRESS: 155 Grand Ave Ste 1000, Oakland, CA 94612
P.O. NUMBER: 392895.AA.DM
SAMPLERS (SIGNATURE):

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Title 22 Metals List (200.7, 200.8, 245.1)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, NO2, SO4	TOC (5310 C)	Total Metals (200.7) Cr	NUMBER OF CONTAINERS	COMMENTS
-1 SC-700B-WDR-238	01/06/10	0840		X		X	X	X	X	X		X			4	PH-2
-2 SC-100B-WDR-238	01/06/10	0840		X		X	X	X	X	X		X			4	PH-2
															8	TOTAL NUMBER OF CONTAINERS

ALERT !!
Level III QC

For Sample Condition See Form Attached

SAMPLE	TIME	ANALYSIS	pH	EC	Cr6	TOTAL	TEMP
SC-700B	0840	0849	6.9	7.69	.001	.003	75.5
SC-100B	0840	0845	7.2	8.45	1.12	—	77.0

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	JAIDE	OMI	1-6-10 1510
Signature (Received) Bonifacio Dayag	B. DAYAG	TLI	1-6-10 1510
Signature (Relinquished) Bonifacio Dayag	B. DAYAG	TLI	1-6-10 2000
Signature (Received) Rafael Davila	Rafael	T.L.I	1-6-10 20:00
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☐ WARM ☐ °F
CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:
The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn

070

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL **Lab #** 987112

Date Delivered: 01/06/10 **Time:** 20:00 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes ☐No ☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes ☐No ☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes ☐No ☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes ☐No ☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes ☐No ☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4 °C	☑Yes ☐No ☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes ☐No ☐N/A
8.	Were sample custody seals intact?	☐Yes ☐No ☐N/A
9.	Does the number of samples received agree with COC?	☑Yes ☐No ☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes ☐No ☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☑Truesdail ☐Client	☑Yes ☐No ☐N/A
12.	Were samples pH checked? pH = See C.O.C	☑Yes ☐No ☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes ☐No ☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ RUSH ☑ Std	☑Yes ☐No ☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

\\MATRIX\env\Discrp.FormBlank.doc

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January 25, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-239 PROJECT, GROUNDWATER MONITORING, TLI NO.: 987246

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-239 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on January 13, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

f.o. Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 987246
Date: January 25, 2010
Collected: January 13, 2010
Received: January 13, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987246
Date Received: January 13, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
987246	SC-700B-WDR-239	08:15	1.37	ND	0.170	7290	4310

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987246

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 011510A

Date: January 25, 2010
Collected: January 13, 2010
Received: January 13, 2010
Prep/ Analyzed: January 15, 2010
Analytical Batch: 011510A

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
987246	SC-700B-WDR-239	µg/L	EPA 200.8	13:39	5.00	1.00	1.37

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987246	1.37	1.37	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987246	1.37	5.00	50.0	250	238	251	94.7%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	50.3	50.0	101%	90% - 110%	Yes
MRCVS#1	49.8	50.0	99.6%	90% - 110%	Yes
MRCVS#2	48.6	50.0	97.2%	90% - 110%	Yes
ICS	50.3	50.0	101%	80% - 120%	Yes
LCS	51.9	50.0	104%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987246

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: January 25, 2010
Collected: January 13, 2010
Received: January 13, 2010
Prep/ Analyzed: January 15, 2010
Analytical Batch: 01CrH10E

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987246	SC-700B-WDR-239	08:15	05:58	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987247-1	797	803	0.75%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987246	0.176	1.06	1.00	1.06	1.23	1.24	99.4%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	4.91	5.00	98.2%	90% - 110%	Yes
MRCVS#1	10.3	10.0	103%	95% - 105%	Yes
MRCVS#2	10.4	10.0	104%	95% - 105%	Yes
MRCVS#3	10.4	10.0	104%	95% - 105%	Yes
LCS	4.95	5.00	99.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987246
Date: January 25, 2010
Collected: January 13, 2010
Received: January 13, 2010
Prep/ Analyzed: January 14, 2010
Analytical Batch: 01TUC10J

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987246	SC-700B-WDR-239	08:15	NTU	1.00	0.100	0.170

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987245-27	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.93	8.00	99.1%	90% - 110%	Yes
LCS	7.70	8.00	96.3%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987246
Date: January 25, 2010
Collected: January 13, 2010
Received: January 13, 2010
Prep/ Analyzed: January 14, 2010
Analytical Batch: 01EC10D

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Reeults
987246	SC-700B-WDR-239	µmhos/cm	EPA 120.1	1.00	2.00	7290

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987246	7290	7300	0.14%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	704	706	99.7%	90% - 110%	Yes
CVS#1	998	998	100%	90% - 110%	Yes
LCS	706	706	100%	90% - 110%	Yes
LCSD	706	706	100%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987246
Date: January 25, 2010
Collected: January 13, 2010
Received: January 13, 2010
Prep/ Analyzed: January 15, 2010
Analytical Batch: 01TDS10F

Inveetigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Resulte
987246	SC-700B-WDR-239	mg/L	SM 2540C	250	4310

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987246	4310	4220	1.06%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

Rec'd 01/13/10

987246

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14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-239] 987246

COC Number

TURNAROUND TIME 10 Days

DATE 01/13/10 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	392895.AA.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-239	01/13/10	0815	Water	x	x	x	x		x							3	pH=6
																3	TOTAL NUMBER OF CONTAINERS

	PH	EC	TOTAL	CR6	TEMP	Time	Analysis
700B-	6.8	7.69	.004	.001	76.2	0815	0820

ALERT !!
Level III QC

For Sample Condition See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

1-13-10

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	JAIDE	OMI	1520
Signature (Received)	Rafael Davila	T.L.I	1-13-10 15:30
Signature (Relinquished)	Rafael Davila	T.L.I	1-13-10
Signature (Received)	Shakuntla	TLI	JAN 13 2010 21:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 987246

Date Delivered: 01 / 13/10 **Time:** 21:30 **By:** ☐Mail ☒Field Service ☐Client

1. Was a Chain of Custody received and signed? ☒Yes ☐No ☐N/A
2. Does Customer require an acknowledgement of the COC? ☐Yes ☐No ☒N/A
3. Are there any special requirements or notes on the COC? ☐Yes ☐No ☒N/A
4. If a letter was sent with the COC, does it match the COC? ☐Yes ☐No ☒N/A
5. Were all requested analyses understood and acceptable? ☒Yes ☐No ☐N/A
6. Were samples received in a chilled condition? ☒Yes ☐No ☐N/A
   Temperature (if yes)? 4.3 °C
7. Were samples received intact ☒Yes ☐No ☐N/A
   (i.e. broken bottles, leaks, air bubbles, etc..)?
8. Were sample custody seals intact? ☐Yes ☐No ☒N/A
9. Does the number of samples received agree with COC? ☒Yes ☐No ☐N/A
10. Did sample labels correspond with the client ID's? ☒Yes ☐No ☐N/A
11. Did sample labels indicate proper preservation? ☒Yes ☐No ☐N/A
    Preserved (if yes) by: ☒**Truesdail** ☐Client
12. Were samples pH checked? pH = See C.O.C. ☒Yes ☐No ☐N/A
13. Were all analyses within holding time at time of receipt? ☒Yes ☐No ☐N/A
    If not, notify Project Manager.
14. Have Project due dates been checked and accepted? ☒Yes ☐No ☐N/A
    Turn Around Time (TAT): ☐ **RUSH** ☒ Std
15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water
16. Comments:
17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Skabuning

\\MATRIX\...\Discrp.FormBlank.doc

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February 2, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-240 PROJECT, GROUNDWATER MONITORING, TLI NO.: 987349

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-240 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on January 19, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

Due to an error during sample log-in, turbidity by SM 2130 B was analyzed past the method specified holding time.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 987349
Date: February 2, 2010
Collected: January 19, 2010
Received: January 19, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

CORRECTIVE ACTION NOTE

Wet Chemistry Group

1.Description:

Date	Analyst	Batch #	TLI #	Client
1/25/10	G. Savani	01TUC10 0	987349	EQ Consulting Engineers

2.Condition Requiring Corrective Action:

a) Turbidity was not analyzed within the required holding time of 48 hrs
date received : 1/19/10
date analyzed : 1/25/10
b) The Wet Chem Lab was not given/missed giving the samples chain of custody, hence the analyst did not know that there was sample requiring turbidity analysis

3. Action Requested/Recommended:

Proj. Manager requested the analysis of the sample although it passed the holding time.

Requested by S. Condon Date 1/25/10

4. Action taken:

- Analyzed the sample
- Informed the log-in personnel to always give chain of custody to Wet Chemistry or double check if all C/C were given to Wet Chemistry

Action taken by G. Savani / P. Trinidad Date 1/25/10

Supervisor/Reviewer: P. Trinidad

QA/QC Officer: K. R. P.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987349
Date Received: January 19, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
987349	SC-700B-WDR-240	08:00	ND	ND	ND J	7070	4140

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 012110A

Laboratory No.: 987349
Date: February 2, 2010
Collected: January 19, 2010
Received: January 19, 2010
Prep/ Analyzed: January 21, 2010
Analytical Batch: 012110A

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
987349	SC-700B-WDR-240	µg/L	EPA 200.8	10:31	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987349	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987349	0.00	5.00	50.0	250	249	250	99.6%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	48.2	50.0	96.4%	90% - 110%	Yes
MRCVS#1	48.3	50.0	96.6%	90% - 110%	Yes
ICS	48.8	50.0	97.6%	80% - 120%	Yes
LCS	49.3	50.0	98.6%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987349

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: February 2, 2010
Collected: January 19, 2010
Received: January 19, 2010
Prep/ Analyzed: January 26, 2010
Analytical Batch: 01CrH10H

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987349	SC-700B-WDR-240	08:00	09:11	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987348-4	2.80	3.21	13.6%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987349	0.00	1.06	1.00	1.06	1.13	1.06	107%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.21	5.00	104%	90% - 110%	Yes
MRCVS#1	10.2	10.0	102%	95% - 105%	Yes
MRCVS#2	9.83	10.0	98.3%	95% - 105%	Yes
MRCVS#3	9.79	10.0	97.9%	95% - 105%	Yes
LCS	5.21	5.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987349
Date: February 2, 2010
Collected: January 19, 2010
Received: January 19, 2010
Prep/ Analyzed: January 25, 2010
Analytical Batch: 01TUC10O

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987349	SC-700B-WDR-240	08:00	NTU	1.00	0.100	ND J

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987415-16	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.73	8.00	96.6%	90% - 110%	Yes
LCS	7.81	8.00	97.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987349
Date: February 2, 2010
Collected: January 19, 2010
Received: January 19, 2010
Prep/ Analyzed: January 25, 2010
Analytical Batch: 01EC10H

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
987349	SC-700B-WDR-240	µmhos/cm	EPA 120.1	1.00	2.00	7070

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987349	7070	7070	0.00%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	704	706	99.7%	90% - 110%	Yes
CVS#1	996	998	99.8%	90% - 110%	Yes
LCS	706	706	100%	90% - 110%	Yes
LCSD	706	706	100%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987349
Date: February 2, 2010
Collected: January 19, 2010
Received: January 19, 2010
Prep/ Analyzed: January 25, 2010
Analytical Batch: 01TDS10K

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
987349	SC-700B-WDR-240	mg/L	SM 2540C	250	4140

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987246	4140	4140	0.00%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	496	500	99.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

Rec'd 01/19/10

987349

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-240]

COC Number 987349

TURNAROUND TIME 10 Days

DATE 01/19/10 PAGE 1 OF 1

987349

COMPANY E2

PROJECT NAME PG&E Topock

PHONE (530) 229-3303 FAX (530) 339-3303

ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612

P.O. NUMBER 392895.AA.DM TEAM 1

SAMPLERS (SIGNATURE

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-240	01/19/10	800	Water	x	x	x	x		x							3	PH-7
																3	TOTAL NUMBER OF CONTAINERS

TEMP - 76.2 - 804
pH - 7.0 - 806
EC - 7.52 - 806
TDX - .001 - 815
TAL - .003 - 822

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Ron Pierce	OMI	1-19-10 15:45
Signature (Received)	Hipolito	TLI	1-19-10 3:45 pm
Signature (Relinquished)	Hipolito	TLI	01-19-10 20:00
Signature (Received)	Rafael	T.L.I	1-19-10 21:00
Signature (Relinquished)			Date/ Time
Signature (Received)			Date/ Time

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL **Lab #** 987349

Date Delivered: 01/19/10 **Time:** 2130 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4 °C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☐N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample tabets correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☑N/A
12.	Were samples pH checked? pH = _____	☐Yes	☐No	☑N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☐ Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

\\MATRIX\em\Diswp\FormBlank.doc

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www.truesdail.com

February 3, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-241 PROJECT, GROUNDWATER MONITORING, TLI NO.: 987492

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-241 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on January 27, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 987492
Date: February 3, 2010
Collected: January 27, 2010
Received: January 27, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987492
Date Received: January 27, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
987492	SC-700B-WDR-241	08:25	ND	ND	0.102	7250	4310

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 013110A

Laboratory No.: 987492

Date: February 3, 2010
Collected: January 27, 2010
Received: January 27, 2010
Prep/ Analyzed: January 31, 2010
Analytical Batch: 013110A

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
987492	SC-700B-WDR-241	µg/L	EPA 200.8	21:57	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987492	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987492	0.00	5.00	50.0	250	233	250	93.2%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	48.4	50.0	96.8%	90% - 110%	Yes
MRCVS#1	47.2	50.0	94.4%	90% - 110%	Yes
MRCVS#2	47.2	50.0	94.4%	90% - 110%	Yes
MRCVS#3	48.6	50.0	97.2%	90% - 110%	Yes
ICS	47.5	50.0	95.0%	80% - 120%	Yes
LCS	48.3	50.0	96.6%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987492

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: February 3, 2010
Collected: January 27, 2010
Received: January 27, 2010
Prep/ Analyzed: January 29, 2010
Analytical Batch: 01CrH10I

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987492	SC-700B-WDR-241	08:25	09:38	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987348-4	1.50	1.60	6.5%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987492	0.00	1.06	1.00	1.06	0.984	1.06	92.8%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.12	5.00	102%	90% - 110%	Yes
MRCVS#1	9.77	10.0	97.7%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
LCS	5.15	5.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987492
Date: February 3, 2010
Collected: January 27, 2010
Received: January 27, 2010
Prep/ Analyzed: January 28, 2010
Analytical Batch: 01TUC10Q

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987492	SC-700B-WDR-241	08:25	NTU	1.00	0.100	0.102

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptence limits	QC Within Control
Duplicate	987492	0.102	0.103	0.98%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	—	<0.100	Yes
LCS	7.70	8.00	96.3%	90% - 110%	Yes
LCS	7.83	8.00	97.9%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
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for Mona Nassimi, Manager
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987492
Date: February 3, 2010
Collected: January 27, 2010
Received: January 27, 2010
Prep/ Analyzed: January 28, 2010
Analytical Batch: 01EC10M

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
987492	SC-700B-WDR-241	µmhos/cm	EPA 120.1	1.00	2.00	7250

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987492	7250	7270	0.28%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	995	998	99.7%	90% - 110%	Yes
CVS#2	994	998	99.6%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for - Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987492
Date: February 3, 2010
Collected: January 27, 2010
Received: January 27, 2010
Prep/ Analyzed: January 28, 2010
Analytical Batch: 01TDS10M

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
987492	SC-700B-WDR-241	mg/L	SM 2540C	250	4310

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987492	4310	4400	1.03%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

Rec'd 01/27/10

987492

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(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-241] 987492

COC Number

TURNAROUND TIME 10 Days

DATE 01/27/10 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	392695.AA.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-241	01/27/10	0825	Water	x	x	x	x		x							3	pH = 7
																3	TOTAL NUMBER OF CONTAINERS

	DATE	SAMPLE	ANALYSIS	pH	EC	Cr6	TOTAL	TEMP
SC-700B	1/27/10	0825	0831	7.0	7.77	.001	.004	76.8

76.8 T

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	Aide	CH2M	1-27-10 1530
Signature (Received)	Rafael	T.K.I	1-27-10 15:30
Signature (Relinquished)	Rafael	T.K.I	1-27-10 21:00
Signature (Received)	Lucia	TLI	JAN 27 2010
Signature (Relinquished)			21:00
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

031

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 98749 2

Date Delivered: 01 / 27 /10 **Time:** 21:00 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No ☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No ☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No ☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No ☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No ☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4 °C	☒Yes	☐No ☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)?	☒Yes	☐No ☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No ☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No ☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No ☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No ☒N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No ☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No ☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒Std	☒Yes	☐No ☐N/A

ALERT !!
Level III QC

15. ***Sample Matrix:*** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Shabunina

\\MATRIX\qa\Discp.FormBlank.doc

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www.truesdail.com

February 17, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-242 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 987628

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-242 project groundwater monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on February 3, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Mr. Shawn Duffy of CH2M Hill cancelled the analysis for TOC on sample SC-100B-WDR-242.

The straight run for the matrix spike for sample SC-700B-WDR-242 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.
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February 17, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: PG&E TOPOCK 1M3PLANT-WDR-242 PROJECT, GROUNDWATER MONITORING, SAMPLE SC-501-WDR-242,

TLI NO.: 987628

Mr. Shawn Duffy of CH2M Hill requested that sodium hydroxide be added to an aliquot of sample SC-501-WDR-242. Granular sodium hydroxide was added to 50 mL of sample, while stirring, until a pH of 10 was achieved. A dark red precipitate formed and was allowed to settle overnight. Before sodium hydroxide addition, the sample was yellow in color. After sodium hydroxide addition and settling, the supernatant was clear and colorless. A portion of the supernatant was then pipetted off and analyzed for Total Iron (349 ug/L) and Total Manganese (14.6 ug/L) by EPA 200.7. Before sodium hydroxide was added, the results for Total Iron and Total Manganese were 515,000 ug/L and 21,000 ug/L, respectively.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Tina Acquiat
EPA 200.7	Metals by ICP	Kris Collins
EPA 200.8	Metals by ICP/MS	Romuel Chavez / Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Laboratory No.: 987628
Date Received: February 3, 2010

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 120.1 *EC*	SM 2540C *TDS*	SM 2130B *Turbidity*	EPA 218.6 *Hexavalent Chromium*	SM 4500-NH3 D *Ammonia*
			µmhos/cm	*mg/L*	*NTU*	µg/L	*mg/L*
987628-1	SC-700B-WDR-242	08:10	7210	4510	ND	ND	ND
987628-2	SC-100B-WDR-242	08:10	7690	5430	ND	1200	ND

Lab I.D.	Sample I.D.	Sample Time	EPA 300.0 *Fluoride*	EPA 300.0 *Sulfate*	EPA 300.0 *Nitrate as N*	SM 4500-NO2 B *Nitrite as N*
			mg/L	*mg/L*	*mg/L*	*mg/L*
987628-1	SC-700B-WDR-242	08:10	2.23	524	3.14	ND
987628-2	SC-100B-WDR-242	08:10	2.48	571	3.38	ND

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001ppm will have two (2) significant figures.
Result above or equal to 0.001ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date Received: February 3, 2010

Analytical Results Summary

METALS ANALYSIS: **Total Metal Analyses as Requested**

Lab I.D.	Sample ID	Date of Analysis: / Time Coll.	Aluminum EPA 200.8 02/09/10 µg/L	Antimony EPA 200.8 02/05/10 µg/L	Arsenic EPA 200.8 02/05/10 µg/L	Barium EPA 200.8 02/05/10 µg/L	Chromium EPA 200.8 12/19/08 µg/L	Copper EPA 200.8 02/05/10 µg/L	Lead EPA 200.8 02/05/10 µg/L
987628-1	SC-700B-WDR-242	08:10	ND	ND	ND	14.3	ND	ND	ND
987628-2	SC-100B-WDR-242	08:10	ND	ND	3.58	24.2	1020	ND	ND

Lab I.D.	Sample ID	Date of Analysis: / Time Coll.	Manganese EPA 200.7 02/08/10 µg/L	Molybdenum EPA 200.8 02/05/10 µg/L	Nickel EPA 200.8 02/05/10 µg/L	Zinc EPA 200.8 02/09/10 µg/L
987628-1	SC-700B-WDR-242	08:10	35.9	17.4	ND	ND
987628-2	SC-100B-WDR-242	08:10	ND	24.4	ND	13.1
987628-3	SC-501-WDR-242	13:30	21000	---	---	---

Lab I.D.	Sample ID	Date of Analysis: / Time Coll.	Boron EPA 200.7 02/08/10 µg/L	Iron EPA 200.7 02/08/10 µg/L
987628-1	SC-700B-WDR-242	08:10	987	ND
987628-2	SC-100B-WDR-242	08:10	1030	ND
987628-3	SC-501-WDR-242	13:30	---	515000

NOTES:

ND: Not detected, or below limit of detection

007

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987628

Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02EC10D

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
987628-1	SC-700B-WDR-242	µmhos/cm	EPA 120.1	1.00	2.00	7210
987628-2	SC-100B-WDR-242	µmhos/cm	EPA 120.1	1.00	2.00	7690

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987628-2	7690	7700	0.13%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	704	706	99.7%	90% - 110%	Yes
CVS#1	995	998	99.7%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02TDS10B

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
987628-1	SC-700B-WDR-242	mg/L	SM 2540C	250	4510
987628-2	SC-100B-WDR-242	mg/L	SM 2540C	250	5430

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987628-1	4510	4430	0.89%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	501	500	100%	90% - 110%	Yes
LCS 2	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

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Mona Nassimi, Manager
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REPORT

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Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02TUC10E

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987628-1	SC-700B-WDR-242	08:10	NTU	1.00	0.100	ND
987628-2	SC-100B-WDR-242	08:10	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987628-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.90	8.00	98.8%	90% - 110%	Yes
LCS	7.73	8.00	96.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 02CrH10D

Laboratory No.: 987628
Date: Februery 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02CrH10D

Investigation: **Hexavalent Chromium by IC Using Method EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987628-1	SC-700B-WDR-242	08:10	10:28	µg/L	1.05	0.20	ND
987628-2	SC-100B-WDR-242	08:10	10:38	µg/L	52.5	10.5	1200

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987600-5	861	867	0.69%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987628-1	0.00	1.06	1.00	1.06	1.04	1.06	98.1%	90-110%	Yes
MS	987628-2	1200	52.5	25.0	1313	2550	2513	103%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.17	5.00	103%	90% - 110%	Yes
MRCVS#1	10.5	10.0	105%	95% - 105%	Yes
MRCVS#2	10.2	10.0	102%	95% - 105%	Yes
MRCVS#3	9.83	10.0	98.3%	95% - 105%	Yes
LCS	5.19	5.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 9, 2010
Analytical Batch: 02NH3-E10B

Investigation: **Ammonia as N by Method SM 4500-NH3 D**

Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
987628-1	SC-700B-WDR-242	08:10	SM 4500-NH3 D	mg/L	1.00	0.500	ND
987628-2	SC-100B-WDR-242	08:10	SM 4500-NH3 D	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987628-1	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987628-1	0.00	1.00	6.00	6.00	5.77	6.00	96.2%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	5.77	6.00	96.2%	90% - 110%	Yes
MRCVS#1	5.74	6.00	95.7%	90% - 110%	Yes
LCS	10.5	10.0	105%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02AN10C

Investigation: **Fluoride by Ion Chromatography using EPA 300.0**

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987628-1	SC-700B-WDR-242	08:10	12:43	mg/L	5.00	0.500	2.23
987628-2	SC-100B-WDR-242	08:10	12:55	mg/L	5.00	0.500	2.48

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987621-1	0.881	0.872	1.03%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987621-1	0.881	1.00	2.00	2.00	2.88	2.88	100%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.16	4.00	104%	90% - 110%	Yes
MRCVS#1	3.14	3.00	105%	90% - 110%	Yes
MRCVS#2	3.13	3.00	104%	90% - 110%	Yes
MRCVS#3	3.14	3.00	105%	90% - 110%	Yes
LCS	4.07	4.00	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02AN10C

Investigation: **Sulfate by Method EPA 300.0**

Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987628-1	SC-700B-WDR-242	08:10	17:28	mg/L	25.0	12.5	524
987628-2	SC-100B-WDR-242	08:10	17:40	mg/L	25.0	12.5	571

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987621-3	21.1	21.4	1.41%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987621-3	21.1	10.0	4.00	40.0	61.5	61.1	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	20.0	20.0	100%	90% - 110%	Yes
MRCVS#1	15.1	15.0	101%	90% - 110%	Yes
MRCVS#2	15.0	15.0	100%	90% - 110%	Yes
MRCVS#3	15.0	15.0	100%	90% - 110%	Yes
MRCVS#4	15.1	15.0	101%	90% - 110%	Yes
LCS	20.1	20.0	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02AN10C

Investigation: **Nitrate as N by Ion Chromatography using EPA 300.0**

Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987628-1	SC-700B-WDR-242	08:10	12:43	mg/L	5.00	1.00	3.14
987628-2	SC-100B-WDR-242	08:10	12:55	mg/L	5.00	1.00	3.38

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987623-6	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987623-6	0.232	1.00	2.00	2.00	2.28	2.23	102%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.01	4.00	100%	90% - 110%	Yes
MRCVS#1	2.98	3.00	99.3%	90% - 110%	Yes
MRCVS#2	2.99	3.00	99.7%	90% - 110%	Yes
LCS	4.01	4.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Date: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Prep/ Analyzed: February 4, 2010
Analytical Batch: 02NO210C

Investigation: **Nitrite as N by Method SM 4500-NO2-B**

Analytical Results for Nitrite as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Reeults
987628-1	SC-700B-WDR-242	08:10	10:07	mg/L	1.00	0.500	ND
987628-2	SC-100B-WDR-242	08:10	10:08	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987628-1	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987628-1	0.00	1.00	0.0200	0.0200	0.0195	0.0200	97.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	0.0266	0.0270	98.5%	90% - 110%	Yes
MRCVS#1	0.0195	0.0200	97.5%	90% - 110%	Yes
LCS	0.0464	0.0450	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
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for Mona Nassimi, Maneger
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Samples: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Investigation: Total Metal Analyses as Requested

Laboratory No.: 987628
Reported: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-700B-WDR-242 **Time Collected:** 08:10 **LAB ID:** 987628-1

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	020910B	02/09/10	15:19
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	020510A	02/05/10	14:39
Arsenic	EPA 200.8	ND	5.00	µg/L	1.00	020510A	02/05/10	14:39
Barium	EPA 200.8	14.3	5.00	µg/L	10.0	020510A	02/05/10	14:39
Chromium	EPA 200.8	ND	5.00	µg/L	1.00	020510A	02/05/10	14:39
Copper	EPA 200.8	ND	5.00	µg/L	5.00	020510A	02/05/10	14:39
Lead	EPA 200.8	ND	5.00	µg/L	10.0	020510A	02/05/10	14:39
Manganese	EPA 200.7	35.9	1.00	µg/L	10.0	020810A-Th	02/08/10	10:52
Molybdenum	EPA 200.8	17.4	5.00	µg/L	10.0	020510A	02/05/10	14:39
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	020510A	02/05/10	14:39
Zinc	EPA 200.8	ND	5.00	µg/L	10.0	020910B	02/09/10	15:19
Boron	EPA 200.7	987	1.00	µg/L	200	020810A-Th	02/08/10	10:52
Iron	EPA 200.7	ND	1.00	µg/L	20.0	020810A-Th	02/08/10	10:52

SAMPLE ID: SC-100B-WDR-242 **Time Collected:** 08:10 **LAB ID:** 987628-2

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	5.00	µg/L	50.0	020910B	02/09/10	15:45
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	020510A	02/05/10	15:05
Arsenic	EPA 200.8	3.58	5.00	µg/L	1.00	020510A	02/05/10	15:05
Barium	EPA 200.8	24.2	5.00	µg/L	10.0	020510A	02/05/10	15:05
Chromium	EPA 200.8	1020	5.00	µg/L	1.00	020510A	02/05/10	15:05
Copper	EPA 200.8	ND	5.00	µg/L	5.00	020510A	02/05/10	15:05
Lead	EPA 200.8	ND	5.00	µg/L	10.0	020510A	02/05/10	15:05
Manganese	EPA 200.7	ND	1.00	µg/L	10.0	020810A-Th	02/08/10	11:14
Molybdenum	EPA 200.8	24.4	5.00	µg/L	10.0	020510A	02/05/10	15:05
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	020510A	02/05/10	15:05
Zinc	EPA 200.8	13.1	5.00	µg/L	10.0	020910B	02/09/10	15:45
Boron	EPA 200.7	1030	1.00	µg/L	200	020810A-Th	02/08/10	11:14
Iron	EPA 200.7	ND	1.00	µg/L	20.0	020810A-Th	02/08/10	11:14

SAMPLE ID: SC-501-WDR-242 **Time Collected:** 13:30 **LAB ID:** 987628-3

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Manganese	EPA 200.7	21000	11.1	µg/L	111	020510B-Th	02/05/10	16:16
Iron	EPA 200.7	515000	111	µg/L	1110	020510B-Th	02/05/10	17:40

ND: Not detected,or below limit of detection.
DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
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Attention: Shawn Duffy
Samples: Three (3) Groundwater Samples
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987628
Reported: February 17, 2010
Collected: February 3, 2010
Received: February 3, 2010

Quality Control/Quality Assurance Report

				BLANK		MRCCS				MRCVS			
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Aluminum	EPA 200.8	020910B	µg/L	ND	50.0	49.1	50.0	98.2%	90-110%	53.5	50.0	107%	90-110%
Antimony	EPA 200.8	020510A	µg/L	ND	10.0	48.2	50.0	96.4%	90-110%	46.6	50.0	93.2%	90-110%
Arsenic	EPA 200.8	020510A	µg/L	ND	0.200	48.8	50.0	97.6%	90-110%	48.8	50.0	97.6%	90-110%
Barium	EPA 200.8	020510A	µg/L	ND	10.0	46.3	50.0	92.6%	90-110%	45.9	50.0	91.8%	90-110%
Chromium	EPA 200.8	020510A	µg/L	ND	1.00	47.9	50.0	95.8%	90-110%	47.5	50.0	95.0%	90-110%
Copper	EPA 200.8	020510A	µg/L	ND	5.00	48.0	50.0	96.0%	90-110%	47.4	50.0	94.8%	90-110%
Lead	EPA 200.8	020510A	µg/L	ND	10.0	48.7	50.0	97.4%	90-110%	47.4	50.0	94.8%	90-110%
Manganese	EPA 200.7	020810A-Th	µg/L	ND	10.0	5010	5000	100%	95-105%	5010	5000	100%	90-110%
Manganese	EPA 200.7	020510B-Th	µg/L	ND	10.0	5020	5000	100%	95-105%	5000	5000	100%	90-110%
Molybdenum	EPA 200.8	020510A	µg/L	ND	10.0	48.6	50.0	97.2%	90-110%	46.3	50.0	92.6%	90-110%
Nickel	EPA 200.8	020510A	µg/L	ND	10.0	47.0	50.0	94.0%	90-110%	47.2	50.0	94.4%	90-110%
Zinc	EPA 200.8	020910B	µg/L	ND	10.0	52.3	50.0	105%	90-110%	50.6	50.0	101%	90-110%
Boron	EPA 200.7	020810A-Th	µg/L	ND	200	4870	5000	97.4%	95-105%	4900	5000	98.0%	90-110%
Iron	EPA 200.7	020810A-Th	µg/L	ND	20.0	4900	5000	98.0%	95-105%	5000	5000	100%	90-110%
Iron	EPA 200.7	020510B-Th	µg/L	ND	20.0	5000	5000	100%	95-105%	5020	5000	100%	90-110%

020

INTERFERENCE CHECK STANDARD

Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Aluminum	EPA 200.8	µg/L	54.3	50.0	109%	80-120%
Arsenic	EPA 200.8	µg/L	48.0	50.0	96.0%	80-120%
Chromium	EPA 200.8	µg/L	47.2	50.0	94.4%	80-120%
Copper	EPA 200.8	µg/L	47.8	50.0	95.6%	80-120%
Manganese	EPA 200.7	µg/L	2010	2000	101%	80-120%
Manganese	EPA 200.7	µg/L	2020	2000	101%	80-120%
Nickel	EPA 200.8	µg/L	46.6	50.0	93.2%	80-120%
Zinc	EPA 200.8	µg/L	49.8	50.0	99.6%	80-120%
Iron	EPA 200.7	µg/L	1990	2000	99.5%	80-120%
Iron	EPA 200.7	µg/L	2010	2000	101%	80-120%

LABORATORY CONTROL SAMPLES / SAMPLE DUPLICATES

Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Aluminum	EPA 200.8	µg/L	51.3	50.0	103%	90-110%	987628-1	ND	ND	0.00%	≤20
Antimony	EPA 200.8	µg/L	46.8	50.0	93.6%	90-110%	987628-1	ND	ND	0.00%	≤20
Arsenic	EPA 200.8	µg/L	47.9	50.0	95.8%	90-110%	987628-1	ND	ND	0.00%	≤20
Barium	EPA 200.8	µg/L	45.9	50.0	91.8%	90-110%	987628-1	14.3	13.8	3.56%	≤20
Chromium	EPA 200.8	µg/L	47.8	50.0	95.6%	90-110%	987628-1	ND	ND	0.00%	≤20
Copper	EPA 200.8	µg/L	48.2	50.0	96.4%	90-110%	987628-1	ND	ND	0.00%	≤20
Lead	EPA 200.8	µg/L	48.7	50.0	97.4%	90-110%	987628-1	ND	ND	0.00%	≤20
Manganese	EPA 200.7	µg/L	4840	5000	96.8%	90-110%	987628-1	35.9	35.2	1.97%	≤20
Manganese	EPA 200.7	µg/L	2010	2000	101%	90-110%	987628-3	21000	21200	0.95%	≤20
Molybdenum	EPA 200.8	µg/L	46.8	50.0	93.6%	90-110%	987628-1	17.4	17.1	1.74%	≤20
Nickel	EPA 200.8	µg/L	47.1	50.0	94.2%	90-110%	987628-1	ND	ND	0.00%	≤20
Zinc	EPA 200.8	µg/L	47.9	50.0	95.8%	90-110%	987628-1	ND	ND	0.00%	≤20
Boron	EPA 200.7	µg/L	4860	5000	97.2%	90-110%	987628-1	987	1010	2.30%	≤20
Iron	EPA 200.7	µg/L	4850	5000	97.0%	90-110%	987628-1	ND	ND	0.00%	≤20
Iron	EPA 200.7	µg/L	2030	2000	102%	90-110%	987628-1	515000	516000	0.19%	≤20

MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
987628-1	Aluminum	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	240	96.0%	75-125%
987628-1	Antimony	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	232	92.8%	75-125%
987628-1	Arsenic	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	244	97.6%	75-125%
987628-1	Barium	EPA 200.8	µg/L	14.3	5.00	50.0	250	264	236	88.7%	75-125%
987628-1	Chromium	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	224	89.6%	75-125%
987628-1	Copper	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	209	83.6%	75-125%
987628-1	Lead	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	210	84.0%	75-125%
987628-1	Manganese	EPA 200.7	µg/L	35.9	1.00	2000	2000	2036	1950	95.7%	75-125%
987628-3	Manganese	EPA 200.7	µg/L	21000	11.1	2000	22200	43200	40300	86.9%	75-125%
987628-1	Molybdenum	EPA 200.8	µg/L	17.4	5.00	50.0	250	267	260	97.0%	75-125%
987628-1	Nickel	EPA 200.8	µg/L	2.90	5.00	50.0	250	253	211	83.2%	75-125%
987628-1	Zinc	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	235	94.0%	75-125%
987628-1	Boron	EPA 200.7	µg/L	987	1.00	2000	2000	2987	2900	95.7%	75-125%
987628-1	Iron	EPA 200.7	µg/L	0.00	1.00	2000	2000	2000	1880	94.0%	75-125%
987628-1	Iron	EPA 200.7	µg/L	515000	111	2000	222000	737000	738000	100%	75-125%

ND: Not detected, or below limit of detection.

DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

987628

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-242]

COC Number

TURNAROUND TIME 10 Days

DATE 02/03/10 PAGE 1 OF 1

COMPANY CH2M HILL /E2

PROJECT NAME PG&E Topock IM3

PHONE 530-229-3303 FAX 530-339-3303

ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612

P.O. NUMBER 392895.AA.DM

SAMPLERS (SIGNATURE)

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Title 22 Metals List (200.7, 200.8, 245.1)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, NO2, SO4	TOC (5310 C)	Total Metals (200.7) Fe, Mn	NUMBER OF CONTAINERS	COMMENTS
1 SC-700B-WDR-242	02/03/10	0810		X		X	X	X	X	X		X			4	pH=2
2 SC-100B-WDR-242	02/03/10	0810		X		X	X	X	X	X		X	X		4	pH=2
3 SC-501-WDR-242	02/03/10	1330												X	1	pH=2

ALERT !! Level III QC

SAMPLE	DATE	TIME	ANALYSIS	pH	EC	CR6	TOTAL	TEMP
SC-700B	2/3/10	0810	0815	6.9	7.13	.001	.005	75.9
SC-100B	2/3/10	0810	0819	7.2	8.42	1.355		75.2

9 TOTAL NUMBER OF CONTAINERS

CHAIN OF CUSTODY SIGNATURE RECORD

2-3-10

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	JAIDE	OMI	1530
Signature (Received)	Rafael	T.L.I	2-3-10 15:30
Signature (Relinquished)	Rafael	T.L.I	2-3-10 21:00
Signature (Received)	Linda	I.L.I	FEB 03 2010 21:00
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn

For Sample Conditions
See Form Attached

075

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL **Lab #** 98 76 28

Date Delivered: 2/3/10 **Time:** 21:00 **By:** ☐Mail ☐Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☐Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4 °C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☑Yes	☐No	☐N/A
9.	Does the number of samples received agree with COC?	☐Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☑Client	☑Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C.O.C	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☐ Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

\\MATRIX\ew\Discrp.FormBlank.doc

TRUESDAIL LABORATORIES, INC.
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Established 1931

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www.truesdail.com

February 24, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-243 PROJECT, GROUNDWATER MONITORING, TLI NO.: 987789

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-243 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on February 10, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.
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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 987789
Date: February 24, 2010
Collected: February 10, 2010
Received: February 10, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987789
Date Received: February 10, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
987789	SC-700B-WDR-243	12:00	ND	ND	ND	7340	4300

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 021810A

Laboratory No.: 987789
Date: February 24, 2010
Collected: February 10, 2010
Received: February 10, 2010
Prep/ Analyzed: February 18, 2010
Analytical Batch: 021810A

Investigation: Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
987789	SC-700B-WDR-243	µg/L	EPA 200.8	11:01	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987789	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987789	0.00	5.00	50.0	250	231	250	92.4%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	49.2	50.0	98.4%	90% - 110%	Yes
MRCVS#1	48.2	50.0	96.4%	90% - 110%	Yes
MRCVS#2	48.9	50.0	97.8%	90% - 110%	Yes
MRCVS#3	48.3	50.0	96.6%	90% - 110%	Yes
ICS	48.6	50.0	97.2%	80% - 120%	Yes
LCS	49.3	50.0	98.6%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987789

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: February 24, 2010
Collected: February 10, 2010
Received: February 10, 2010
Prep/ Analyzed: February 12, 2010
Analytical Batch: 02CrH10K

Investigation: Hexavalent Chromium by EPA 218.6

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987789	SC-700B-WDR-243	12:00	14:11	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987792-1	10.4	10.3	0.97%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987789	0.00	1.06	1.00	1.06	1.12	1.06	106%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.18	5.00	104%	90% - 110%	Yes
MRCVS#1	10.2	10.0	102%	95% - 105%	Yes
MRCVS#2	9.56	10.0	95.6%	95% - 105%	Yes
MRCVS#3	9.68	10.0	96.8%	95% - 105%	Yes
LCS	5.31	5.00	106%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987789
Date: February 24, 2010
Collected: February 10, 2010
Received: February 10, 2010
Prep/ Analyzed: February 11, 2010
Analytical Batch: 02TUC10N

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987789	SC-700B-WDR-243	12:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987780-5	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.73	8.00	96.6%	90% - 110%	Yes
LCS	7.80	8.00	97.5%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987789
Date: February 24, 2010
Collected: February 10, 2010
Received: February 10, 2010
Prep/ Analyzed: February 11, 2010
Analytical Batch: 02EC10I

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
987789	SC-700B-WDR-243	µmhos/cm	EPA 120.1	1.00	2.00	7340

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987789	7340	7350	0.14%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	995	998	99.7%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987789
Date: February 24, 2010
Collected: February 10, 2010
Received: February 10, 2010
Prep/ Analyzed: February 11, 2010
Analytical Batch: 02TDS10F

Investigation: Total Dissolved Solids by SM 2540C

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
987789	SC-700B-WDR-243	mg/L	SM 2540C	250	4300

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987789	4300	4370	0.81%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	500	500	100%	90% - 110%	Yes
LCSD	496	500	99.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-243] 987789

COC Number
TURNAROUND TIME 10 Days
DATE 02/10/10 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	392895.AA.DM TEAM 1
SAMPLERS (SIGNATURE	

Rec'd 02/10/10
slod 987789

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-243	02/10/10	1200	Water	x	x	x	x		x							3	DH=6

		TIME	ANALYZED	pH	EC	Cr6	TDT		
SC-700B-	2/10/10	1200	1207	6.9	7.91	.001	.003	3	TOTAL NUMBER OF CONTAINERS

TEMP. 75.1

ALERT !!
Level III QC

For Sample Conditions See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	JADE	OMF	2/10/10 1515
Signature (Received)	Fabian R	TLE	2/10/10 15:19
Signature (Relinquished)	Fabian R	TLE	2-10-10 21:00
Signature (Received) Shakeenina	Linda	TLI	2/10/10 21:00
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☐ WARM ☐ °F
CUSTODY SEALED YES ☐ NO ☐
SPECIAL REQUIREMENTS:

031

75.1 6.9 7.91

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: Chevron Lab # 987789

Date Delivered: 2/10/10 **Time:** 21:00 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4 °C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☐N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☑Truesdail ☐Client	☑Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C.O.C	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ RUSH ☑Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

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March 2, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-244 PROJECT, GROUNDWATER MONITORING, TLI NO.: 987923

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-244 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on February 18, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 987923
Date: March 2, 2010
Collected: February 18, 2010
Received: February 18, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 987923
Date Received: February 18, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
987923	SC-700B-WDR-244	08:00	ND	ND	ND	7210	4260

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 022310A

Laboratory No.: 987923
Date: March 2, 2010
Collected: February 18, 2010
Received: February 18, 2010
Prep/ Analyzed: February 23, 2010
Analytical Batch: 022310A

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
987923	SC-700B-WDR-244	µg/L	EPA 200.8	10:55	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987923	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987923	0.00	5.00	50.0	250	241	250	96.4%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	47.8	50.0	95.6%	90% - 110%	Yes
MRCVS#1	48.6	50.0	97.2%	90% - 110%	Yes
MRCVS#2	48.4	50.0	96.8%	90% - 110%	Yes
ICS	47.3	50.0	94.6%	80% - 120%	Yes
LCS	47.9	50.0	95.8%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987923

Date: March 2, 2010
Collected: February 18, 2010
Received: February 18, 2010
Prep/ Analyzed: February 19, 2010
Analytical Batch: 02CrH10Q

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987923	SC-700B-WDR-244	08:00	13:02	µg/L	5.25	1.05	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987819-2	13.6	13.7	0.73%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987923	0.00	5.25	1.00	5.25	5.76	5.25	110%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	4.85	5.00	97.0%	90% - 110%	Yes
MRCVS#1	9.82	10.0	98.2%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
MRCVS#3	10.0	10.0	100%	95% - 105%	Yes
LCS	5.00	5.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987923
Date: March 2, 2010
Collected: February 18, 2010
Received: February 18, 2010
Prep/ Analyzed: February 19, 2010
Analytical Batch: 02TUC10P

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987923	SC-700B-WDR-244	08:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987923	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.80	8.00	97.5%	90% - 110%	Yes
LCS	7.75	8.00	96.9%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987923
Date: March 2, 2010
Collected: February 18, 2010
Received: February 18, 2010
Prep/ Analyzed: February 19, 2010
Analytical Batch: 02EC10L

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
987923	SC-700B-WDR-244	µmhos/cm	EPA 120.1	1.00	2.00	7210

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987923	7210	7230	0.28%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	995	998	99.7%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 987923
Date: March 2, 2010
Collected: February 18, 2010
Received: February 18, 2010
Prep/ Analyzed: February 23, 2010
Analytical Batch: 02TDS10O

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
987923	SC-700B-WDR-244	mg/L	SM 2540C	250	4260

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987938-5	384	378	0.79%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
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www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-244]

987923

COC Number

TURNAROUND TIME 10 Days

DATE 02/18/10 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	392895.AA.DM TEAM 1
SAMPLERS (SIGNATURE	C. Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-244	02/18/10	0600	Water	x	x	x	x	x	3	pH = 6
									3	TOTAL NUMBER OF CONTAINERS

Temp° — 0807 - 76.9°
pH — 0807 - 7.86.9 (JV)
EC — 0807 - 7.69
Hex Chrom — 0815 - .001
Total — 0817 - .003

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished) C Knight	C. KNIGHT	OMI	Date 2-18-10 Time 15:17
Signature (Received) Bonifacio Dayag	B. DAYAG	TLI	Date 2-18-10 Time 1517
Signature (Relinquished) Bonifacio Dayag	B. DAYAG	TLI	Date 2-18-10 Time 2000
Signature (Received) L. Shabunina	Luda	TLI	Date FEB 18 2010 Time 20:00
Signature (Relinquished)			Date Time
Signature (Received)			Date Time

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2 **Lab #** 987923

Date Delivered: 02/18/10 **Time:** 20:00 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.2° C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☒N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

ALERT !! Level III QC

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Stuebning

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www.truesdail.com

March 2, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-245 PROJECT, GROUNDWATER MONITORING, TLI NO.: 988013

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-245 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on February 24, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 988013
Date: March 2, 2010
Collected: February 24, 2010
Received: February 24, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat / Gautam Savani
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988013
Date Received: February 24, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
988013	SC-700B-WDR-245	08:00	ND	ND	ND	7030	4470

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 030110A

Laboratory No.: 988013

Date: March 2, 2010
Collected: February 24, 2010
Received: February 24, 2010
Prep/ Analyzed: March 1, 2010
Analytical Batch: 030110A

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
988013	SC-700B-WDR-245	µg/L	EPA 200.8	10:59	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988013	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988013	0.00	5.00	50.0	250	239	250	95.6%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	48.9	50.0	97.8%	90% - 110%	Yes
MRCVS#1	47.6	50.0	95.2%	90% - 110%	Yes
MRCVS#2	49.4	50.0	98.8%	90% - 110%	Yes
MRCVS#3	48.6	50.0	97.2%	90% - 110%	Yes
ICS	48.4	50.0	96.8%	80% - 120%	Yes
LCS	48.2	50.0	96.4%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988013

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: March 2, 2010
Collected: February 24, 2010
Received: February 24, 2010
Prep/ Analyzed: February 26, 2010
Analytical Batch: 02CrH10W

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988013	SC-700B-WDR-245	08:00	15:20	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987819-4	11.4	11.4	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988013	0.164	1.06	1.00	1.06	1.32	1.22	109%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.26	5.00	105%	90% - 110%	Yes
MRCVS#1	10.1	10.0	101%	95% - 105%	Yes
MRCVS#2	10.4	10.0	104%	95% - 105%	Yes
MRCVS#3	9.75	10.0	97.5%	95% - 105%	Yes
MRCVS#4	10.2	10.0	102%	95% - 105%	Yes
MRCVS#5	10.1	10.0	101%	95% - 105%	Yes
LCS	5.24	5.00	105%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
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for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988013
Date: March 2, 2010
Collected: February 24, 2010
Received: February 24, 2010
Prep/ Analyzed: February 25, 2010
Analytical Batch: 02TUC10S

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
988013	SC-700B-WDR-245	08:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988013	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.95	8.00	99.4%	90% - 110%	Yes
LCS	7.73	8.00	96.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
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for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988013
Date: March 2, 2010
Collected: February 24, 2010
Received: February 24, 2010
Prep/ Analyzed: February 25, 2010
Analytical Batch: 02EC10O

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
988013	SC-700B-WDR-245	µmhos/cm	EPA 120.1	1.00	2.00	7030

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988013	7030	7050	0.28%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	994	998	99.6%	90% - 110%	Yes
CVS#2	994	998	99.6%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
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for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988013
Date: March 2, 2010
Collected: February 24, 2010
Received: February 24, 2010
Prep/ Analyzed: February 25, 2010
Analytical Batch: 02TDS10R

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
988013	SC-700B-WDR-245	mg/L	SM 2540C	250	4470

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988013	4470	4360	1.25%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	496	500	99.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-245]

988013

COC Number

TURNAROUND TIME 10 Days

DATE 02/24/10 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	392895.AA.DM TEAM 1
SAMPLERS (SIGNATURE	

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-245	02/24/10	0800	Water	X	X	X	X	X	3	pH = 7
									3	TOTAL NUMBER OF CONTAINERS

	TIME	ANALYSIS	pH	EC	TEMP	Cr 6	C-TOTAL
SC-700B	0800	0807	6.9	7.41	76.4	.001	.004

ALERT !!
Level III QC

For Sample Condition
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

2-24-10

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	[illegible]	OMI	15:30
Signature (Received)	[illegible]	FLI	2-24-10 15:39
Signature (Relinquished)	[illegible]	FLI	2-24-10 20:30
Signature (Received) Shalamina	Linda	FLI	2/24/10 20:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 988013

Date Delivered: 02/24/10 **Time:** 20:30 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4 °C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐Truesdail ☐Client	☐Yes	☐No	☒N/A
12.	Were samples pH checked? pH = see c.o.c.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ RUSH ☒ Std	☒Yes	☐No	☐N/A

ALERT!! Level III QC

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Shakespeare

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March 17, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-246 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 988154

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-246 project groundwater monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on March 3, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The run at a 10x dilution on the matrix spike for sample SC-701-WDR-246 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 10x dilution agree with those from the 25x dilution, the data from the run at 10x is reported.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Tina Acquiat
EPA 200.7	Metals by ICP	Kris Collins
EPA 200.8	Metals by ICP/MS	Daniel Kang / Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Laboratory No.: 988154
Date Received: March 3, 2010

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 120.1 EC	SM 2540C TDS	SM 2130B Turbidity	EPA 218.6 Hexavalent Chromium	SM 4500-NH3 D Ammonia
			µmhos/cm	mg/L	NTU	µg/L	mg/L
988154-1	SC-700B-WDR-246	08:00	7170	4230	ND	ND	ND
988154-2	SC-100B-WDR-246	08:00	7950	4840	ND	1180	ND
988154-3	SC-701-WDR-246	08:00	45100	32800	---	ND	---

Lab I.D.	Sample I.D.	Sample Time	EPA 300.0 Fluoride	EPA 300.0 Sulfate	EPA 300.0 Nitrate as N	SM 4500-NO2 B Nitrite as N
			mg/L	mg/L	mg/L	mg/L
988154-1	SC-700B-WDR-246	08:00	2.06	510	3.08	ND
988154-2	SC-100B-WDR-246	08:00	2.33	581	3.44	ND
988154-3	SC-701-WDR-246	08:00	17.6	---	---	---

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001ppm will have two (2) significant figures.
Result above or equal to 0.001ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date Received: March 3, 2010

Analytical Results Summary

METALS ANALYSIS: **Total Metal Analyses as Requested**

Lab I.D.	Sample ID	*Date of Analysis:* Time Coll.	Aluminum EPA 200.7 03/09/10 µg/L	Antimony EPA 200.8 03/05/10 µg/L	Arsenic EPA 200.8 03/05/10 µg/L	Barium EPA 200.8 03/05/10 µg/L	Chromium EPA 200.8 03/05/10 µg/L	Copper EPA 200.8 03/05/10 µg/L	Lead EPA 200.8 03/05/10 µg/L	Beryllium EPA 200.8 03/05/10 µg/L	Cadmium EPA 200.8 03/05/10 µg/L	Cobalt EPA 200.8 03/05/10 µg/L
988154-1	SC-700B-WDR-246	08:00	ND	ND	ND	16.6	ND	ND	ND	---	---	---
988154-2	SC-100B-WDR-246	08:00	ND	ND	3.70	25.0	1070	ND	ND	---	---	---
988154-3	SC-701-WDR-246	08:00	---	ND	ND	147	2.63	5.71	ND	ND	ND	5.52

Lab I.D.	Sample ID	*Date of Analysis:* Time Coll.	Manganese EPA 200.8 03/05/10 µg/L	Molybdenum EPA 200.8 03/05/10 µg/L	Nickel EPA 200.8 03/05/10 µg/L	Zinc EPA 200.7 03/09/10 µg/L	Mercury EPA 200.8 030810A-Hg µg/L	Selenium EPA 200.8 030510A µg/L	Silver EPA 200.8 031510A µg/L	Thallium EPA 200.8 030510A µg/L	Vanadium EPA 200.8 030510A µg/L
988154-1	SC-700B-WDR-246	08:00	55.9	17.2	ND	ND	---	---	---	---	---
988154-2	SC-100B-WDR-246	08:00	ND	25.1	ND	ND	---	---	---	---	---
988154-3	SC-701-WDR-246	08:00	---	170	31.2	ND	ND	25.5	ND	ND	ND

Lab I.D.	Sample ID	*Date of Analysis:* Time Coll.	Boron EPA 200.7 03/09/10 µg/L	Iron EPA 200.7 03/09/10 µg/L
988154-1	SC-700B-WDR-246	08:00	1020	ND
988154-2	SC-100B-WDR-246	08:00	1060	ND
988154-3	SC-701-WDR-246	08:00	---	---

NOTES:
ND: Not detected, or below limit of detection

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988154

Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 03EC10D

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
988154-1	SC-700B-WDR-246	µmhos/cm	EPA 120.1	1.00	2.00	7170
988154-2	SC-100B-WDR-246	µmhos/cm	EPA 120.1	1.00	2.00	7950

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988155-2	8560	8560	0.00%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	—	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	995	999	99.6%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988154

Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 8, 2010
Analytical Batch: 03EC10F

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
988154-3	SC-701-WDR-246	µmhos/cm	EPA 120.1	1.00	2.00	45100

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988154-3	45100	45200	0.22%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	994	999	99.5%	90% - 110%	Yes
LCS	706	706	100%	90% - 110%	Yes
LCSD	706	706	100%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 10TDS10C

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
988154-1	SC-700B-WDR-246	mg/L	SM 2540C	250	4230
988154-2	SC-100B-WDR-246	mg/L	SM 2540C	250	4840

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988150-5	612	612	0.00%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	496	500	99.2%	90% - 110%	Yes
LCSD	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

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REPORT

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Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 8, 2010
Analytical Batch: 03TDS10E

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
988154-3	SC-701-WDR-246	mg/L	SM 2540C	1250	32800

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988154-3	32600	32600	0.31%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	501	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 03TUC10E

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
988154-1	SC-700B-WDR-246	08:00	NTU	1.00	0.100	ND
988154-2	SC-100B-WDR-246	08:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988154-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.93	8.00	99.1%	90% - 110%	Yes
LCS	7.88	8.00	98.5%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 03CrH10C

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 10, 2010
Analytical Batch: 03CrH10C

Investigation: **Hexavalent Chromium by IC Using Method EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988154-1	SC-700B-WDR-246	08:00	11:30	µg/L	5.25	1.05	ND
988154-2	SC-100B-WDR-246	08:00	08:50	µg/L	105	21.0	1180
988154-3	SC-701-WDR-246	08:00	14:17	µg/L	10.5	2.10	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988154-2	1180	1240	4.96%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988154-1	0.249	5.25	1.00	5.25	5.99	5.50	109%	90-110%	Yes
MS	988154-2	1180	105	15.0	1575	2880	2755	108%	90-110%	Yes
MS	988154-3	0.918	10.5	1.00	10.5	12.3	11.4	108%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.06	5.00	101%	90% - 110%	Yes
MRCVS#1	9.6	10.0	95.6%	95% - 105%	Yes
MRCVS#2	10.5	10.0	105%	95% - 105%	Yes
MRCVS#3	10.20	10.0	102%	95% - 105%	Yes
MRCVS#4	10.10	10.0	101%	95% - 105%	Yes
LCS	5.19	5.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 8, 2010
Analytical Batch: 03NH3-E10A

Inveatigation: **Ammonia as N by Method SM 4500-NH3 D**

Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
988154-1	SC-700B-WDR-246	08:00	SM 4500-NH3 D	mg/L	1.00	0.500	ND
988154-2	SC-100B-WDR-246	08:00	SM 4500-NH3 D	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988154-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	983651-2	0.00	1.00	6.00	6.00	5.69	6.00	94.8%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	5.67	6.00	94.5%	90% - 110%	Yes
MRCVS#1	5.71	6.00	95.2%	90% - 110%	Yes
LCS	10.6	10.0	106%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 03AN10D

Investigation: **Fluoride by Ion Chromatography using EPA 300.0**

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988154-1	SC-700B-WDR-246	08:00	12:41	mg/L	5.00	0.500	2.06
988154-2	SC-100B-WDR-246	08:00	13:50	mg/L	5.00	0.500	2.33
988154-3	SC-701-WDR-246	08:00	14:01	mg/L	5.00	0.500	17.6

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988109	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988109	0.00	1.00	2.00	2.00	2.12	2.00	106%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.08	4.00	102%	90% - 110%	Yes
MRCVS#1	3.14	3.00	105%	90% - 110%	Yes
MRCVS#2	3.15	3.00	105%	90% - 110%	Yes
LCS	4.10	4.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shewn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 03AN10D

Inveetigation: **Sulfate by Method EPA 300.0**

Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988154-1	SC-700B-WDR-246	08:00	14:58	mg/L	25.0	12.5	510
988154-2	SC-100B-WDR-246	08:00	15:10	mg/L	25.0	12.5	581

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988109	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988109	0.00	1.00	2.00	2.00	2.01	2.00	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	20.2	20.0	101%	90% - 110%	Yes
MRCVS#1	15.1	15.0	101%	90% - 110%	Yes
MRCVS#2	15.2	15.0	101%	90% - 110%	Yes
LCS	20.3	20.0	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 03AN10D

Investigation: **Nitrate as N by Ion Chromatography using EPA 300.0**

Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988154-1	SC-700B-WDR-246	08:00	12:41	mg/L	5.00	1.00	3.08
988154-2	SC-100B-WDR-246	08:00	13:50	mg/L	5.00	1.00	3.44

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988109	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988109	0.00	1.00	2.00	2.00	2.04	2.00	102%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.02	4.00	101%	90% - 110%	Yes
MRCVS#1	2.98	3.00	99.3%	90% - 110%	Yes
MRCVS#2	3.00	3.00	100%	90% - 110%	Yes
LCS	4.02	4.00	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

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Attention: Shawn Duffy
Sample: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Date: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 03NO210C

Investigation: **Nitrite as N by Method SM 4500-NO2-B**

Analytical Results for Nitrite as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988154-1	SC-700B-WDR-246	08:00	15:57	mg/L	1.00	0.0050	ND
988154-2	SC-100B-WDR-246	08:00	15:58	mg/L	1.00	0.0050	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988154-1	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988154-1	0.00	1.00	0.0200	0.0200	0.0197	0.0200	98.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.0050	---	<0.0050	Yes
MRCCS	0.0261	0.0270	96.7%	90% - 110%	Yes
MRCVS#1	0.0201	0.0200	101%	90% - 110%	Yes
LCS	0.0462	0.0450	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Samples: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Investigation: Total Metal Analyses as Requested

Laboratory No.: 988154
Reported: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-700B-WDR-246 **Time Collected:** 08:00 **LAB ID:** 988154-1

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.7	ND	1.00	µg/L	50.0	030910B-Th	03/09/10	15:13
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:11
Arsenic	EPA 200.8	ND	5.00	µg/L	1.00	030510A	03/05/10	15:11
Barium	EPA 200.8	16.6	5.00	µg/L	10.0	030510A	03/05/10	15:11
Chromium	EPA 200.8	ND	5.00	µg/L	1.00	030510A	03/05/10	15:11
Copper	EPA 200.8	ND	5.00	µg/L	5.00	030510A	03/05/10	15:11
Lead	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:11
Manganese	EPA 200.8	55.9	5.00	µg/L	10.0	030510A	03/05/10	15:11
Molybdenum	EPA 200.8	17.2	5.00	µg/L	10.0	030510A	03/05/10	15:11
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:11
Zinc	EPA 200.7	ND	1.00	µg/L	10.0	030910B-Th	03/09/10	15:13
Boron	EPA 200.7	1020	1.00	µg/L	200	030910B-Th	03/09/10	15:13
Iron	EPA 200.7	ND	1.00	µg/L	20.0	030910A-Th	03/09/10	10:50

SAMPLE ID: SC-100B-WDR-248 **Time Collected:** 08:00 **LAB ID:** 988154-2

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.7	ND	1.00	µg/L	50.0	030910B-Th	03/09/10	15:36
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:37
Arsenic	EPA 200.8	3.70	5.00	µg/L	1.00	030510A	03/05/10	15:37
Barium	EPA 200.8	25.0	5.00	µg/L	10.0	030510A	03/05/10	15:37
Chromium	EPA 200.8	1070	5.00	µg/L	1.00	030510A	03/05/10	15:37
Copper	EPA 200.8	ND	5.00	µg/L	5.00	030510A	03/05/10	15:37
Lead	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:37
Manganese	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:37
Molybdenum	EPA 200.8	25.1	5.00	µg/L	10.0	030510A	03/05/10	15:37
Nickel	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:37
Zinc	EPA 200.7	ND	1.00	µg/L	10.0	030910B-Th	03/09/10	15:36
Boron	EPA 200.7	1060	1.00	µg/L	200	030910B-Th	03/09/10	15:36
Iron	EPA 200.7	ND	1.00	µg/L	20.0	030910A-Th	03/09/10	11:39

SAMPLE ID: SC-701-WDR-246		Time Collected: 08:00				LAB ID: 988154-3		
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:44
Arsenic	EPA 200.8	ND	5.00	µg/L	1.00	030510A	03/05/10	15:44
Barium	EPA 200.8	147	5.00	µg/L	10.0	030510A	03/05/10	15:44
Beryllium	EPA 200.8	ND	10.0	µg/L	2.00	030510A	03/05/10	16:37
Cadmium	EPA 200.8	ND	5.00	µg/L	3.00	030510A	03/05/10	15:44
Chromium	EPA 200.8	2.63	5.00	µg/L	1.00	030510A	03/05/10	15:44
Cobalt	EPA 200.8	5.52	5.00	µg/L	5.00	030510A	03/05/10	15:44
Copper	EPA 200.8	5.71	5.00	µg/L	5.00	030510A	03/05/10	15:44
Lead	EPA 200.8	ND	5.00	µg/L	10.0	030510A	03/05/10	15:44
Mercury	EPA 200.8	ND	5.00	µg/L	1.00	030810A-Hg	03/08/10	11:53
Molybdenum	EPA 200.8	170	5.00	µg/L	10.0	030510A	03/05/10	15:44
Nickel	EPA 200.8	31.2	5.00	µg/L	10.0	030510A	03/05/10	15:44
Selenium	EPA 200.8	25.5	5.00	µg/L	10.0	030510A	03/05/10	15:44
Silver	EPA 200.8	ND	10.0	µg/L	5.00	031510A	03/15/10	18:27
Thallium	EPA 200.8	ND	5.00	µg/L	1.00	030510A	03/05/10	15:44
Vanadium	EPA 200.8	ND	5.00	µg/L	5.00	030510A	03/05/10	15:44
Zinc	EPA 200.7	ND	1.00	µg/L	10.0	030910B-Th	03/09/10	15:41

ND: Not detected,or below limit of detection.

DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

14201 FRANKLIN AVENUE · TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Samples: Three (3) Groundwaters
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988154
Reported: March 17, 2010
Collected: March 3, 2010
Received: March 3, 2010

Quality Control/Quality Assurance Report

				BLANK		MRCCS				MRCVS			
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Aluminum	EPA 200.7	030910B-Th	µg/L	ND	50.0	4770	5000	95.4%	95-105%	4790	5000	95.8%	90-110%
Antimony	EPA 200.8	030510A	µg/L	ND	10.0	46.6	50.0	93.2%	90-110%	51.0	50.0	102%	90-110%
Arsenic	EPA 200.8	030510A	µg/L	ND	0.20	51.0	50.0	102%	90-110%	50.4	50.0	101%	90-110%
Barium	EPA 200.8	030510A	µg/L	ND	10.0	46.1	50.0	92.2%	90-110%	54.8	50.0	110%	90-110%
Beryllium	EPA 200.8	030510A	µg/L	ND	1.00	47.1	50.0	94.2%	90-110%	49.4	50.0	98.8%	90-110%
Cadmium	EPA 200.8	030510A	µg/L	ND	3.00	45.1	50.0	90.2%	90-110%	52.0	50.0	104%	90-110%
Chromium	EPA 200.8	030510A	µg/L	ND	1.00	48.2	50.0	96.4%	90-110%	46.4	50.0	92.8%	90-110%
Cobalt	EPA 200.8	030510A	µg/L	ND	5.00	49.5	50.0	99.0%	90-110%	51.6	50.0	103%	90-110%
Copper	EPA 200.8	030510A	µg/L	ND	5.00	48.0	50.0	96.0%	90-110%	47.5	50.0	95.0%	90-110%
Lead	EPA 200.8	030510A	µg/L	ND	10.0	47.6	50.0	95.2%	90-110%	49.9	50.0	99.8%	90-110%
Manganese	EPA 200.8	030510A	µg/L	ND	10.0	49.2	50.0	98.4%	90-110%	50.5	50.0	101%	90-110%
Mercury	EPA 200.8	030810A-Hg	µg/L	ND	0.20	1.99	2.00	99.5%	90-110%	1.95	2.00	97.5%	90-110%
Molybdenum	EPA 200.8	030510A	µg/L	ND	10.0	50.4	50.0	101%	90-110%	52.3	50.0	105%	90-110%
Nickel	EPA 200.8	030510A	µg/L	ND	10.0	47.3	50.0	94.6%	90-110%	46.8	50.0	93.6%	90-110%
Selenium	EPA 200.8	030510A	µg/L	ND	10.0	50.5	50.0	101%	90-110%	48.8	50.0	97.6%	90-110%
Silver	EPA 200.8	031510A	µg/L	ND	5.00	47.9	50.0	95.8%	90-110%	46.8	50.0	93.6%	90-110%
Thallium	EPA 200.8	030510A	µg/L	ND	1.00	49.5	50.0	99.0%	90-110%	51.5	50.0	103%	90-110%
Vanadium	EPA 200.8	030510A	µg/L	ND	5.00	48.7	50.0	97.4%	90-110%	47.2	50.0	94.4%	90-110%
Zinc	EPA 200.7	030910B-Th	µg/L	ND	10.0	4870	5000	97.4%	95-105%	4850	5000	97.0%	90-110%
Boron	EPA 200.7	030910B-Th	µg/L	ND	200	4870	5000	97.4%	95-105%	4920	5000	98.4%	90-110%
Iron	EPA 200.7	030910A-Th	µg/L	ND	20.0	4900	5000	98.0%	95-105%	5030	5000	101%	90-110%

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INTERFERENCE CHECK STANDARD

Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Aluminum	EPA 200.7	µg/L	1830	2000	91.5%	80-120%
Arsenic	EPA 200.8	µg/L	49.4	50.0	98.8%	80-120%
Cadmium	EPA 200.8	µg/L	49.8	50.0	99.6%	80-120%
Chromium	EPA 200.8	µg/L	46.4	50.0	92.8%	80-120%
Cobalt	EPA 200.8	µg/L	47.1	50.0	94.2%	80-120%
Copper	EPA 200.8	µg/L	46.8	50.0	93.6%	80-120%
Manganese	EPA 200.8	µg/L	47.7	50.0	95.4%	80-120%
Mercury	EPA 200.8	µg/L	2.02	2.00	101%	80-120%
Nickel	EPA 200.8	µg/L	45.8	50.0	91.6%	80-120%
Silver	EPA 200.8	µg/L	42.9	50.0	85.8%	80-120%
Zinc	EPA 200.7	µg/L	1960	2000	98.0%	80-120%
Iron	EPA 200.7	µg/L	1940	2000	97.0%	80-120%

			LABORATORY CONTROL SAMPLES				SAMPLE DUPLICATES				
Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Aluminum	EPA 200.7	µg/L	4990	5000	99.8%	90-110%	988154-1	ND	ND	0.00%	≤20
Antimony	EPA 200.8	µg/L	49.2	50.0	98.4%	90-110%	988154-1	ND	ND	0.00%	≤20
Arsenic	EPA 200.8	µg/L	50.3	50.0	101%	90-110%	988154-1	ND	ND	0.00%	≤20
Barium	EPA 200.8	µg/L	51.6	50.0	103%	90-110%	988154-1	16.6	16.9	1.79%	≤20
Beryllium	EPA 200.8	µg/L	48.0	50.0	96.0%	90-110%	988154-1	ND	ND	0.00%	≤20
Cadmium	EPA 200.8	µg/L	51.4	50.0	103%	90-110%	988154-1	ND	ND	0.00%	≤20
Chromium	EPA 200.8	µg/L	48.3	50.0	96.6%	90-110%	988154-1	ND	ND	0.00%	≤20
Cobalt	EPA 200.8	µg/L	49.0	50.0	98.0%	90-110%	988154-1	ND	ND	0.00%	≤20
Copper	EPA 200.8	µg/L	48.6	50.0	97.2%	90-110%	988154-1	ND	ND	0.00%	≤20
Lead	EPA 200.8	µg/L	48.3	50.0	96.6%	90-110%	988154-1	ND	ND	0.00%	≤20
Manganese	EPA 200.8	µg/L	49.2	50.0	98.4%	90-110%	988154-1	ND	ND	0.00%	≤20
Mercury	EPA 200.8	µg/L	2.02	2.00	101%	90-110%	988154-1	55.9	55.9	0.00%	≤20
Molybdenum	EPA 200.8	µg/L	50.9	50.0	102%	90-110%	988154-3	ND	ND	0.00%	≤20
Nickel	EPA 200.8	µg/L	48.0	50.0	96.0%	90-110%	988154-1	17.2	17.5	1.73%	≤20
Selenium	EPA 200.8	µg/L	50.3	50.0	101%	90-110%	988154-1	ND	ND	0.00%	≤20
Silver	EPA 200.8	µg/L	46.9	50.0	93.8%	90-110%	988154-1	ND	ND	0.00%	≤20
Thallium	EPA 200.8	µg/L	49.8	50.0	99.6%	90-110%	988250-1	ND	ND	0.00%	≤20
Vanadium	EPA 200.8	µg/L	48.7	50.0	97.4%	90-110%	988154-1	ND	ND	0.00%	≤20
Zinc	EPA 200.7	µg/L	4990	5000	99.8%	90-110%	988154-1	ND	ND	0.00%	≤20
Boron	EPA 200.7	µg/L	5010	5000	100%	90-110%	988154-1	ND	ND	0.00%	≤20
Iron	EPA 200.7	µg/L	4980	5000	99.6%	90-110%	988154-1	1020	1020	0.00%	≤20
							988154-1	ND	ND	0.00%	≤20

MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
988154-1	Aluminum	EPA 200.7	µg/L	0.00	1.00	2000	2000	2000	1850	92.5%	75-125%
988154-1	Antimony	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	226	90.4%	75-125%
988154-1	Arsenic	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	244	97.6%	75-125%
988154-1	Barium	EPA 200.8	µg/L	16.6	5.00	50.0	250	267	252	94.2%	75-125%
988154-1	Beryllium	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	233	93.2%	75-125%
988154-1	Cadmium	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	236	94.4%	75-125%
988154-1	Chromium	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	227	90.8%	75-125%
988154-1	Cobalt	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	226	90.4%	75-125%
988154-1	Copper	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	212	84.8%	75-125%
988154-1	Lead	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	197	78.8%	75-125%
988154-1	Manganese	EPA 200.8	µg/L	55.9	5.00	50.0	250	306	288	92.8%	75-125%
988154-3	Mercury	EPA 200.8	µg/L	0.00	5.00	2.00	10.0	10.0	8.34	83.4%	75-125%
988154-1	Molybdenum	EPA 200.8	µg/L	17.2	5.00	50.0	250	267	282	106%	75-125%
988154-1	Nickel	EPA 200.8	µg/L	4.06	5.00	50.0	250	254	214	84.0%	75-125%
988154-1	Selenium	EPA 200.8	µg/L	3.04	5.00	50.0	250	253	236	93.2%	75-125%
988250-1	Silver	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	229	91.6%	75-125%
988154-1	Thallium	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	212	84.8%	75-125%
988154-1	Vanadium	EPA 200.8	µg/L	0.00	5.00	50.0	250	250	242	96.8%	75-125%
988154-1	Zinc	EPA 200.7	µg/L	0.00	1.00	2000	2000	2000	1780	89.0%	75-125%
988154-1	Boron	EPA 200.7	µg/L	1020	1.00	2000	2000	3020	2940	96.0%	75-125%
988154-1	Iron	EPA 200.7	µg/L	0.00	1.00	2000	2000	2000	1870	93.5%	75-125%

ND: Not detected, or below limit of detection.

DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

024

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-246]

988154

COC Number: IM3Plant-WDR-246
TURNAROUND TIME: 10 Days
DATE: 03/03/10
PAGE 1 OF 1

COMPANY: CH2M HILL /E2
PROJECT NAME: PG&E Topock IM3
PHONE: 530-229-3303 FAX: 530-339-3303
ADDRESS: 155 Grand Ave Ste 1000, Oakland, CA 94612
P.O. NUMBER: 392895.AA.DM
SAMPLERS (SIGNATURE): [signature]

	SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr(VI) (218.6) Lab Filtered	Title 22 Metals List (200.7, 200.8, 245.1)	EC (120.1)	TDS (2540 C)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, NO2, SO4	TOC (5310 C)	Total Metals (200.7) Cr	NUMBER OF CONTAINERS	COMMENTS
-1	SC-700B-WDR-246	03/03/10	0800		X		X	X	X	X	X		X			4	pH=2
-2	SC-100B-WDR-246	03/03/10	0800		X		X	X	X	X	X		X			4	pH=7
-3	SC-701-WDR-246	03/03/10	0800		X	X	X	X				X				4	pH=7

TOTAL NUMBER OF CONTAINERS: 12

For Sample Conditions See Form Attached

ALERT !! Level III QC

	Time	Analysis	pH	EC	Cr6	Total	Temp
SC-700B	0800	0807	7.1	7.69	.001	.002	81.6
SC-100B	0800	0809	7.4	8.44	1.265		78.0
SC-701	0800	0814	7.4	18.03	.001	.003	79.5

CHAIN OF CUSTODY SIGNATURE RECORD

3-3-10

Signature	Printed Name	Company/Agency	Date/Time
Signature (Relinquished) [signature]	J Aipe	OMI	1510
Signature (Received) [signature]	Al Baaro	T-L	3/3/10 15:10
Signature (Relinquished) [signature]	Al Baore	TLI	3/3/10 2065
Signature (Received) Shaluruina	Luda	TLI	MAR 03 2010 20:15
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 988154

Date Delivered: 03/03/10 **Time:** 10:15 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.2° C.	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐Truesdail ☒Client	☒Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ RUSH ☒ Std	☒Yes	☐No	☐N/A

ALERT !!
Level III QC

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Slabunina

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March 25, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-246 PROJECT, SLUDGE MONITORING,

TLI NO.: 988156

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-246 project sludge monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on March 3, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

All final results and associated dilution factors are reported on a dry weight basis.

No violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

For K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 988156
Date: March 24, 2010
Collected: March 3, 2010
Received: March 3, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Kris Collins
SW 6020	Metals by ICP/MS	Romuel Chaves / Daniel Kang
SW 7199	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988156
Date Received: March 3, 2010

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	SW 7199 *Hexavalent Chromium*	EPA 300.0 *Fluoride*	SM 2540 B *% Moisture*
			mg/kg	*mg/kg*	*%*
988156	SC-Sludge-WDR-246	08:00	153	26.2	74.7

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.01ppm will have two (2) significant figures.
Result above or equal to 0.01ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988156
Date Received: March 3, 2010

Analytical Results Summary

METALS ANALYSIS: **Total Metal Analyses as Requested**

Lab I.D.	Sample ID	*Date of Analysis:* Time Coll.	Antimony SW 6020 03/17/10 mg/kg	Arsenic SW 6020 03/17/10 mg/kg	Barium SW 6010B 03/12/10 mg/kg	Beryllium SW 6010B 03/12/10 mg/kg	Cadmium SW 6010B 03/12/10 mg/kg	Chromium SW 6010B 03/12/10 mg/kg	Cobalt SW 6010B 03/12/10 mg/kg	Copper SW 6010B 03/12/10 mg/kg	Lead SW 6010B 03/12/10 mg/kg
988156	SC-Sludge-WDR-246	08:00	ND	38.8	101	2.17	44.5	13200	24.8	149	18.3

Lab I.D.	Sample ID	*Date of Analysis:* Time Coll.	Mercury SW 6020 03/11/10 mg/kg	Molybdenum SW 6020 03/17/10 mg/kg	Nickel SW 6010B 03/12/10 mg/kg	Selenium SW 6020 03/17/10 mg/kg	Silver SW 6010B 03/18/10 mg/kg	Thallium SW 6020 03/17/10 mg/kg	Vanadium SW 6010B 03/12/10 mg/kg	Zinc SW 6010B 03/12/10 mg/kg
988156	SC-Sludge-WDR-246	08:00	0.592	35.1	32.0	ND	ND	ND	161	107

NOTES:

ND: Not detected, or below limit of detection

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 03CrH10H

Laboratory No.: 988156
Date: March 24, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 16, 2010
Analytical Batch: 03CrH10H

Investigation: **Hexavalent Chromium by IC Using Method SW 7199**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988156	SC-Sludge-WDR-246	08:00	14:54	mg/kg	5.00	7.91	153

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988156	153	157	2.89%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988156	153	10.0	31.6	316	470	469	100%	75-125%	Yes
IMS	988156	153	50.0	69.0	3448	3280	3601	90.7%	75-125%	Yes
PDMS	988156	153	25.0	25.3	633	777	785	98.8%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.400	—	<0.400	Yes
MRCCS	2.05	2.00	103%	90% - 110%	Yes
MRCVS#1	2.03	2.00	102%	90% - 110%	Yes
LCS	1.96	2.00	97.8%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected)

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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TUSTIN, CALIFORNIA 92780-7008
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988156
Date: March 24, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 8, 2010
Analytical Batch: 03SOLID10B

Investigation: **Total Solids by SM 2540 B**

Analytical Results % Moisture

TLI I.D.	Field I.D.	Sample Time	Units	Results
988156	SC-Sludge-WDR-246	08:00	%	74.7

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988156	74.7	74.6	0.13%	≤ 20%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988156
Date: March 24, 2010
Collected: March 3, 2010
Received: March 3, 2010
Prep/ Analyzed: March 4, 2010
Analytical Batch: 03AN10D

Investigation: **Fluoride by Ion Chromatography using EPA 300.0**

Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988156	SC-Sludge-WDR-246	08:00	14:24	mg/kg	1.00	15.8	26.2

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988109	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988109	0.00	2.00	1.00	2.00	2.12	2.00	106%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.08	4.00	102%	90% - 110%	Yes
MRCVS#1	3.14	3.00	105%	90% - 110%	Yes
MRCVS#2	3.15	3.00	105%	90% - 110%	Yes
LCS	4.10	4.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Samples: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Investigation: Total Metal Analyses as Requested

Laboratory No.: 988156
Reported: March 24, 2010
Collected: March 3, 2010
Received: March 3, 2010
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-Sludge-WDR-246 **Time Collected:** 08:00 **LAB ID:** 988156

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	SW 6020	ND	10.0	mg/kg	2.00	031710A	03/17/10	14:50
Arsenic	SW 6020	38.8	10.0	mg/kg	1.60	031710A	03/17/10	14:50
Barium	SW 6010B	101	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Beryllium	SW 6010B	2.17	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Cadmium	SW 6010B	44.5	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Chromium	SW 6010B	13200	20.0	mg/kg	32.0	031210B-Th	03/12/10	16:42
Cobalt	SW 6010B	24.8	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Copper	SW 6010B	149	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Lead	SW 6010B	18.3	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Mercury	SW 6020	0.592	10.0	mg/kg	0.320	031110A-Hg	03/11/10	10:33
Molybdenum	SW 6020	35.1	10.0	mg/kg	1.60	031710A	03/17/10	14:50
Nickel	SW 6010B	32.0	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Selenium	SW 6020	ND	10.0	mg/kg	1.60	031710A	03/17/10	14:50
Silver	SW 6010B	ND	1.00	mg/kg	1.60	031810B-Th	03/18/10	15:06
Thallium	SW 6020	ND	10.0	mg/kg	2.00	031710A	03/17/10	14:50
Vanadium	SW 6010B	161	1.00	mg/kg	1.60	031210A-Th	03/12/10	11:54
Zinc	SW 6010B	107	1.00	mg/kg	2.00	031210A-Th	03/12/10	11:54

NOTES:

Sample results and reporting limits reported on a dry weight basis.
ND: Not detected,or below limit of detection.
DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Samples: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988156
Reported: March 24, 2010
Collected: March 3, 2010
Received: March 3, 2010

Quality Control/Quality Assurance Report

				DIGESTED BLANK		MRCCS				MRCVS			
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Antimony	SW 6020	031710A	mg/kg	ND	2.00	0.0493	0.0500	98.6%	90-110%	0.0452	0.0500	90.4%	90-110%
Arsenic	SW 6020	031710A	mg/kg	ND	0.50	0.0508	0.0500	102%	90-110%	0.0493	0.0500	98.6%	90-110%
Barium	SW 6010B	031210A-Th	mg/kg	ND	1.00	4.83	5.00	96.6%	90-110%	4.65	5.00	93.0%	90-110%
Beryllium	SW 6010B	031210A-Th	mg/kg	ND	0.50	4.94	5.00	98.8%	90-110%	4.67	5.00	93.4%	90-110%
Cadmium	SW 6010B	031210A-Th	mg/kg	ND	0.50	5.02	5.00	100%	90-110%	4.80	5.00	96.0%	90-110%
Chromium	SW 6010B	031210B-Th	mg/kg	ND	1.00	4.86	5.00	97.2%	90-110%	4.65	5.00	93.0%	90-110%
Cobalt	SW 6010B	031210A-Th	mg/kg	ND	1.00	4.98	5.00	99.6%	90-110%	4.79	5.00	95.8%	90-110%
Copper	SW 6010B	031210A-Th	mg/kg	ND	1.00	4.89	5.00	97.8%	90-110%	4.64	5.00	92.8%	90-110%
Lead	SW 6010B	031210A-Th	mg/kg	ND	1.00	4.98	5.00	99.6%	90-110%	4.72	5.00	94.4%	90-110%
Mercury	SW 6020	031110A-Hg	mg/kg	ND	0.100	0.00185	0.00200	92.5%	90-110%	0.00202	0.00200	101%	90-110%
Molybdenum	SW 6020	031710A	mg/kg	ND	1.00	0.0491	0.0500	98.2%	90-110%	0.0466	0.0500	93.2%	90-110%
Nickel	SW 6010B	031210A-Th	mg/kg	ND	1.00	4.99	5.00	99.8%	90-110%	4.83	5.00	96.6%	90-110%
Selenium	SW 6020	031710A	mg/kg	ND	1.00	0.0494	0.0500	98.8%	90-110%	0.0488	0.0500	97.6%	90-110%
Silver	SW 6010B	031810B-Th	mg/kg	ND	1.00	5.08	5.00	102%	90-110%	4.99	5.00	99.8%	90-110%
Thallium	SW 6020	031710A	mg/kg	ND	2.00	0.0512	0.0500	102%	90-110%	0.0522	0.0500	104%	90-110%
Vanadium	SW 6010B	031210A-Th	mg/kg	ND	1.00	4.85	5.00	97.0%	90-110%	4.77	5.00	95.4%	90-110%
Zinc	SW 6010B	031210A-Th	mg/kg	ND	2.00	4.95	5.00	99.0%	90-110%	4.80	5.00	96.0%	90-110%

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INTERFERENCE CHECK STANDARD

Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Arsenic	SW 6020	mg/kg	0.0416	0.0500	83.2%	80-120%
Cadmium	SW 6010B	mg/kg	1.98	2.00	99.0%	80-120%
Chromium	SW 6010B	mg/kg	1.91	2.00	95.5%	80-120%
Cobalt	SW 6010B	mg/kg	1.95	2.00	97.5%	80-120%
Copper	SW 6010B	mg/kg	1.90	2.00	95.0%	80-120%
Mercury	SW 6020	mg/kg	0.00223	0.00200	112%	80-120%
Nickel	SW 6010B	mg/kg	1.98	2.00	99.0%	80-120%
Zinc	SW 6010B	mg/kg	1.95	2.00	97.5%	80-120%

LABORATORY CONTROL SAMPLES / SAMPLE DUPLICATES

Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Antimony	SW 6020	mg/kg	1.86	2.00	93.0%	80-120%	988156	ND	ND	0.00%	≤20
Arsenic	SW 6020	mg/kg	1.86	2.00	93.0%	80-120%	988156	38.8	38.4	0.99%	≤20
Barium	SW 6010B	mg/kg	97.8	100	97.8%	80-120%	988156	101	113	11.2%	≤20
Beryllium	SW 6010B	mg/kg	97.2	100	97.2%	80-120%	988156	2.17	2.50	13.8%	≤20
Cadmium	SW 6010B	mg/kg	97.2	100	97.2%	80-120%	988156	44.5	43.2	2.89%	≤20
Chromium	SW 6010B	mg/kg	97.9	100	97.9%	80-120%	988156	13200	15000	12.8%	≤20
Cobalt	SW 6010B	mg/kg	99.6	100	99.6%	80-120%	988156	24.8	28.3	13.2%	≤20
Copper	SW 6010B	mg/kg	97.4	100	97.4%	80-120%	988156	149	161	7.36%	≤20
Lead	SW 6010B	mg/kg	97.4	100	97.4%	80-120%	988156	18.3	20.1	9.72%	≤20
Mercury	SW 6020	mg/kg	0.00178	0.00200	89.0%	80-120%	988156	0.592	0.646	8.84%	≤20
Molybdenum	SW 6020	mg/kg	2.21	2.00	111%	80-120%	988156	35.1	35.0	0.27%	≤20
Nickel	SW 6010B	mg/kg	97.9	100	97.9%	80-120%	988156	32.0	33.8	5.73%	≤20
Selenium	SW 6020	mg/kg	1.72	2.00	86.0%	80-120%	988156	ND	ND	0.00%	≤20
Silver	SW 6010B	mg/kg	93.8	100	93.8%	80-120%	988156	ND	ND	0.00%	≤20
Thallium	SW 6020	mg/kg	2.11	2.00	106%	80-120%	988156	ND	ND	0.00%	≤20
Vanadium	SW 6010B	mg/kg	98.9	100	98.9%	80-120%	988156	161	177	9.49%	≤20
Zinc	SW 6010B	mg/kg	92.1	100	92.1%	80-120%	988156	107	124	14.7%	≤20

MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
988156	Antimony	SW 6020	mg/kg	0.00	10.0	7.99	79.9	79.9	66.6	83.3%	75-125%
988156	Arsenic	SW 6020	mg/kg	38.8	10.0	7.99	79.9	119	105	82.4%	75-125%
988156	Barium	SW 6010B	mg/kg	101	1.00	320	320	420	400	93.8%	75-125%
988156	Beryllium	SW 6010B	mg/kg	2.17	1.00	320	320	322	307	95.4%	75-125%
988156	Cadmium	SW 6010B	mg/kg	44.5	1.00	320	320	364	334	90.6%	75-125%
988156	Chromium	SW 6010B	mg/kg	13200	20.0	320	6393	19593	18400	81.3%	75-125%
988156	Cobalt	SW 6010B	mg/kg	24.8	1.00	320	320	344	304	87.5%	75-125%
988156	Copper	SW 6010B	mg/kg	149	1.00	320	320	469	440	91.0%	75-125%
988156	Lead	SW 6010B	mg/kg	18.3	1.00	320	320	338	287	84.2%	75-125%
988156	Mercury	SW 6020	mg/kg	0.592	10.0	0.0379	0.379	0.971	0.976	101%	75-125%
988156	Molybdenum	SW 6020	mg/kg	35.1	10.0	7.99	79.9	115	118	104%	75-125%
988156	Nickel	SW 6010B	mg/kg	32.0	1.00	320	320	352	301	84.3%	75-125%
988156	Selenium	SW 6020	mg/kg	0.00	10.0	7.99	79.9	79.9	67.8	84.9%	75-125%
988156	Silver	SW 6010B	mg/kg	0.00	1.00	320	320	320	282	88.3%	75-125%
988156	Thallium	SW 6020	mg/kg	0.00	10.0	7.99	79.9	79.9	76.6	95.9%	75-125%
988156	Vanadium	SW 6010B	mg/kg	161	1.00	320	320	480	449	90.1%	75-125%
988156	Zinc	SW 6010B	mg/kg	107	1.00	320	320	427	402	92.2%	75-125%

ND: Not detected, or below limit of detection.
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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TRUESDAIL LABORATORIES, INC.

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Dry Weight Calculations

Date Calculated: 3/24/10

	Sample Result Wet Weight mg/kg	Dilution Factor	% Moisture %	Sample Result Dry* Weight mg/kg	Reported Value mg/kg	Reporting Limit Wet Weight mg/kg	Reporting Limit Dry Weight mg/kg
Fluoride	6.6400	---	74.7	26.2451	26.2	4.00	15.8
Hexavalent Chromium	38.6362	---	74.7	152.712	153	2.00	7.91
Hexavalent Chromium - Dup	39.7683	---	74.7	157.187	157	2.00	7.91
Hexavalent Chromium - MS	118.9608	---	74.7	470.201	470	4.00	15.8
Hexavalent Chromium - IMS	828.867	---	74.7	3276.156	3280	20.0	79.1
Hexavalent Chromium - PDMS	196.707	---	74.7	777.499	777	10.0	39.5
Antimony	ND	10.0	74.7	ND	ND	0.404	2.00
Arsenic	9.82206	10.0	74.7	38.8224	38.8	0.404	1.60
Barium	25.46	1.00	74.7	100.632	101	0.404	1.60
Beryllium	0.5502	1.00	74.7	2.1747	2.17	0.404	1.60
Cadmium	11.25	1.00	74.7	44.4664	44.5	0.404	1.60
Chromium	3333	20.0	74.7	13174	13200	8.09	32.0
Cobalt	6.283	1.00	74.7	24.8340	24.8	0.404	1.60
Copper	37.81	1.00	74.7	149.447	149	0.404	1.60
Lead	4.622	1.00	74.7	18.2688	18.3	0.404	1.60
Mercury	0.14972	10.0	74.7	0.59178	0.592	0.0809	0.320
Molybdenum	8.88432	10.0	74.7	35.1159	35.1	0.404	1.60
Nickel	8.084	1.00	74.7	31.9526	32.0	0.404	1.60
Selenium	ND	10.0	74.7	ND	ND	0.404	1.60
Silver	ND	1.00	74.7	ND	ND	0.404	1.60
Thallium	ND	10.0	74.7	ND	ND	0.404	2.00
Vanadium	40.66	1.00	74.7	160.711	161	0.404	1.60
Zinc	27.13	1.00	74.7	107.233	107	0.404	2.00

Sample Result in Dry Weight = [$Sample_{ww}$ / (100-%Moisture)]*100

where:
$Sample_{ww}$ = Sample result in wet weight

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

(IM3plant-WDR-246)

COC Number 988156
TURNAROUND TIME 10 Days
DATE 03/03/10 PAGE 1 OF 1

COMPANY: CH2M HILL
PROJECT NAME: PG&E Topock IM3
PHONE: 530-229-3303 FAX: 530-339-3303
ADDRESS: 155 Grand Ave Ste 1000, Oakland, CA 94612
P.O. NUMBER: 392895.AA.DM
SAMPLERS (SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Anions (300.0) F	Bioassay 96hr Acute	Metals (6010B) Title 22, (includes Mercury)	Cr6 (7199)	NUMBER OF CONTAINERS	COMMENTS
SC-Sludge-WDR-246	03/03/10	0800	Sludge	X		X	X	4	

TOTAL NUMBER OF CONTAINERS: 4

For Sample Conditions See Form Attached

ALERT !! Level III QC

BINS DW-5634 DATE - 1-15-10
5631 2-18-10

CHAIN OF CUSTODY SIGNATURE RECORD

3-3-10

Signature	Printed Name	Company/Agency	Date/Time
Signature (Relinquished) [signature]	J Acde	OMI	1-5-10
Signature (Received) [signature]	A Bacex	T.L.	3/3/10 15:10
Signature (Relinquished) [signature]	A Bacex	T.L.	3/3/10 2015
Signature (Received) [signature]	Ludor	TLI	MAR 03 2010 20:15
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ ____ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: CH2 M Hill **Lab #** 988156

Date Delivered: 03/03/10 **Time:** 20:15 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.2° C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☑N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☐Yes	☐No	☑N/A
12.	Were samples pH checked? pH = _____	☐Yes	☐No	☑N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☐ Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☒Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☐Other_____

16. Comments: _____

17. Sample Check-In completed by Truesdail Log-In/Receiving: L. Shabunina

ALERT !!
Level III QC

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TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

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14201 FRANKLIN AVENUE
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www.truesdail.com

March 22, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-247 PROJECT, GROUNDWATER MONITORING, TLI NO.: 988272

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-247 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on March 10, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-247 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 988272
Date: March 22, 2010
Collected: March 10, 2010
Received: March 10, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988272
Date Received: March 10, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
988272	SC-700B-WDR-247	08:00	ND	0.21	ND	7140	4130

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 031510A

Laboratory No.: 988272

Date: March 22, 2010
Collected: March 10, 2010
Received: March 10, 2010
Prep/ Analyzed: March 15, 2010
Analytical Batch: 031510A

Investigation: Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
988272	SC-700B-WDR-247	µg/L	EPA 200.8	16:14	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988250-1	61.8	60.8	1.63%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988250-1	61.8	5.00	50.0	250	286	312	89.7%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	47.2	50.0	94.4%	90% - 110%	Yes
MRCVS#1	47.7	50.0	95.4%	90% - 110%	Yes
MRCVS#2	45.4	50.0	90.8%	90% - 110%	Yes
MRCVS#3	48.3	50.0	96.6%	90% - 110%	Yes
ICS	42.7	50.0	85.4%	80% - 120%	Yes
LCS	48.5	50.0	97.0%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988272

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: March 22, 2010
Collected: March 10, 2010
Received: March 10, 2010
Prep/ Analyzed: March 11, 2010
Analytical Batch: 03CrH10D

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988272	SC-700B-WDR-247	08:00	08:45	µg/L	1.05	0.20	0.21

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988275-2	6.77	6.77	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988272	0.21	1.06	1.00	1.06	1.23	1.27	96.2%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.03	5.00	101%	90% - 110%	Yes
MRCVS#1	10.0	10.0	100%	95% - 105%	Yes
MRCVS#2	10.3	10.0	103%	95% - 105%	Yes
MRCVS#3	10.4	10.0	104%	95% - 105%	Yes
MRCVS#4	9.56	10.0	95.6%	95% - 105%	Yes
LCS	5.14	5.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988272
Date: March 22, 2010
Collected: March 10, 2010
Received: March 10, 2010
Prep/ Analyzed: March 11, 2010
Analytical Batch: 03TUC10J

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
988272	SC-700B-WDR-247	08:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988269-27	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.79	8.00	97.4%	90% - 110%	Yes
LCS	7.70	8.00	96.3%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988272
Date: March 22, 2010
Collected: March 10, 2010
Received: March 10, 2010
Prep/ Analyzed: March 11, 2010
Analytical Batch: 03EC10H

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
988272	SC-700B-WDR-247	µmhos/cm	EPA 120.1	1.00	2.00	7140

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988272	7140	7160	0.28%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	994	998	99.6%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988272
Date: March 22, 2010
Collected: March 10, 2010
Received: March 10, 2010
Prep/ Analyzed: March 11, 2010
Analytical Batch: 03TDS10G

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
988272	SC-700B-WDR-247	mg/L	SM 2540C	250	4130

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988272	4130	4240	1.31%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-247] 988272

COC Number
TURNAROUND TIME 10 Days
DATE 03/10/10 PAGE 1 OF 1

COMPANY: E2
PROJECT NAME: PG&E Topock
PHONE: (530) 229-3303 FAX: (530) 339-3303
ADDRESS: 155 Grand Ave Ste 1000, Oakland, CA 94612
P.O. NUMBER: 392895.AA.DM TEAM: 1
SAMPLERS (SIGNATURE: [signature]

Rec'd 03/10/10 s134 988272

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)		Turbidity (SM2130)									NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-247	03/10/10	0800	Water	x	x	x	x		x									3	pH = 6
																		3	TOTAL NUMBER OF CONTAINERS

	Time	Analysis	pH	EC	Cr6	Total	Temp
SC-700B	0800	0812	6.9	757	.001	.002	75.2

ALERT !!
Level III QC

For Sample Conditions See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

Signature	Printed Name	Company/ Agency	Date/ Time
(Relinquished) [signature]	J Aide	OMI	3-10-10 1530
(Received) [signature]	A Bocercy	T.L.	3/10/10 15:30
(Relinquished) [signature]	AL Bocercy	T.L.	3/10/10 21:05
(Received) L. Shabuniva	Luda	TLT	3/10/10 21:05
(Relinquished)			
(Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☐ WARM ☐ ____ °F
CUSTODY SEALED YES ☐ NO ☐
SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: CHEVRON - E2 **Lab #** 98827 2

Date Delivered: 3 / 10 /10 **Time:** 21:05 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4°C	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☐N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☑Truesdail ☐Client	☑Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C-O-C	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ RUSH ☑ Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

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www.truesdail.com

April 6, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-248 PROJECT, GROUNDWATER MONITORING, TLI NO.: 988362

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-248 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on March 16, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-248 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

A. Khanga

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 988362
Date: March 26, 2010
Collected: March 16, 2010
Received: March 16, 2010

ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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(714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988362
Date Received: March 16, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
988362	SC-700B-WDR-248	08:00	ND	0.44	0.134	7210	4170

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 031810B

Laboratory No.: 988362
Date: March 26, 2010
Collected: March 16, 2010
Received: March 16, 2010
Prep/ Analyzed: March 18, 2010
Analytical Batch: 031810B

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
988362	SC-700B-WDR-248	µg/L	EPA 200.8	15:22	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988362	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988362	0.00	5.00	50.0	250	241	250	96.4%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	49.0	50.0	98.0%	90% - 110%	Yes
MRCVS#1	50.2	50.0	100%	90% - 110%	Yes
MRCVS#2	47.5	50.0	95.0%	90% - 110%	Yes
MRCVS#3	49.7	50.0	99.4%	90% - 110%	Yes
ICS	48.5	50.0	97.0%	80% - 120%	Yes
LCS	48.8	50.0	97.6%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988362

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: March 26, 2010
Collected: March 16, 2010
Received: March 16, 2010
Prep/ Analyzed: March 17, 2010
Analytical Batch: 03CrH10J

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988362	SC-700B-WDR-248	08:00	12:01	µg/L	1.05	0.20	0.44

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988308-23	10.5	10.6	0.95%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988362	0.44	1.06	1.00	1.06	1.43	1.50	93.4%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.15	5.00	103%	90% - 110%	Yes
MRCVS#1	10.0	10.0	100%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
MRCVS#3	10.2	10.0	102%	95% - 105%	Yes
MRCVS#4	10.0	10.0	100%	95% - 105%	Yes
LCS	5.18	5.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988362
Date: March 26, 2010
Collected: March 16, 2010
Received: March 16, 2010
Prep/ Analyzed: March 17, 2010
Analytical Batch: 03TUC10M

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
988362	SC-700B-WDR-248	08:00	NTU	1.00	0.100	0.134

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988269-27	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.58	8.00	94.8%	90% - 110%	Yes
LCS	7.60	8.00	95.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988362
Date: March 26, 2010
Collected: March 16, 2010
Received: March 16, 2010
Prep/ Analyzed: March 17, 2010
Analytical Batch: 03EC10J

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
988362	SC-700B-WDR-248	µmhos/cm	EPA 120.1	1.00	2.00	7210

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988362	7210	7230	0.28%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	704	706	99.7%	90% - 110%	Yes
CVS#1	997	1000	99.7%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988362
Date: March 26, 2010
Collected: March 16, 2010
Received: March 16, 2010
Prep/ Analyzed: March 17, 2010
Analytical Batch: 03TDS101

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
988362	SC-700B-WDR-248	mg/L	SM 2540C	250	4170

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988362	4170	4160	0.12%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-248]

COC Number 988362

TURNAROUND TIME 10 Days

DATE 03/16/10 PAGE 1 OF 1

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	392895.AA.DM TEAM 1
SAMPLERS (SIGNATURE	

Rec'd 03/16/10
988362

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-248	03/16/10	800	Water	X	X	X	X		X							3	pH = 6
																3	TOTAL NUMBER OF CONTAINERS

804-TEMP - 76.8
808 - PH - 6.9
808-EC - 7.57
817-HEX - .001
830-TOTAL - .003

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
1	(Relinquished)	Ron Phelps	OMI	3-16-10 15:30
2	(Received)	Felipe R	TLI	3-16-10 15:30
3	(Relinquished)	Felipe R	TLI	3/16/10 20:30
4	(Received)	Linda	TLI	3/16/10 20:30
5	(Relinquished)			
6	(Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 988362

Date Delivered: 03/16/10 **Time:** 10:30 **By:** ☐Mail ☒Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☒Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☒N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☒N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☒N/A
5.	Were all requested analyses understood and acceptable?	☒Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.1° C	☒Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☒Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☒N/A
9.	Does the number of samples received agree with COC?	☒Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☒Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☐**Truesdail** ☐Client	☒Yes	☐No	☒N/A
12.	Were samples pH checked? pH = see C.O.C.	☒Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☒Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ **RUSH** ☒ Std	☒Yes	☐No	☐N/A

ALERT !! Level III QC

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Shabunina

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April 1, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATTVE PG&E TOPOCK IM3PLANT-WDR-249 PROJECT, GROUNDWATER MONITORING, TLI NO.: 988498

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-249 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on March 24, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-249 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 988498
Date: April 1, 2010
Collected: March 24, 2010
Received: March 24, 2010

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Dakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988498
Date Received: March 24, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
988498	SC-700B-WDR-249	08:00	ND	0.47	ND	7160	4060

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988498

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 032910B

Date: April 1, 2010
Collected: March 24, 2010
Received: March 24, 2010
Prep/ Analyzed: March 29, 2010
Analytical Batch: 032910B

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
988498	SC-700B-WDR-249	µg/L	EPA 200.8	17:09	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988498	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988498	0.00	5.00	50.0	250	208	250	83.2%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	—	<1.00	Yes
MRCCS	46.4	50.0	92.8%	90% - 110%	Yes
MRCVS#1	45.6	50.0	91.2%	90% - 110%	Yes
MRCVS#2	47.5	50.0	95.0%	90% - 110%	Yes
MRCVS#3	49.2	50.0	98.4%	90% - 110%	Yes
ICS	45.6	50.0	91.2%	80% - 120%	Yes
LCS	46.6	50.0	93.2%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988498

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Date: April 1, 2010
Collected: March 24, 2010
Received: March 24, 2010
Prep/ Analyzed: March 25, 2010
Analytical Batch: 03CrH10M

Inveetigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Resulte
988498	SC-700B-WDR-249	08:00	08:51	µg/L	1.05	0.20	0.47

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988467-1	38.0	37.0	2.67%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988498	0.47	1.06	1.00	1.06	1.58	1.53	105%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.35	5.00	107%	90% - 110%	Yes
MRCVS#1	9.53	10.0	95.3%	95% - 105%	Yes
MRCVS#2	10.0	10.0	100%	95% - 105%	Yes
MRCVS#3	10.1	10.0	101%	95% - 105%	Yes
LCS	5.18	5.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988498
Date: April 1, 2010
Collected: March 24, 2010
Received: March 24, 2010
Prep/ Analyzed: March 25, 2010
Analytical Batch: 03TUC10Q

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
988498	SC-700B-WDR-249	08:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988478-1	0.160	0.162	1.24%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.02	8.00	100%	90% - 110%	Yes
LCS	8.00	8.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988498

Date: April 1, 2010
Collected: March 24, 2010
Received: March 24, 2010
Prep/ Analyzed: March 25, 2010
Analytical Batch: 03EC10L

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
988498	SC-700B-WDR-249	µmhos/cm	EPA 120.1	1.00	2.00	7160

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988498	7160	7180	0.28%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	705	706	99.9%	90% - 110%	Yes
CVS#1	994	1000	99.4%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988498
Date: April 1, 2010
Collected: March 24, 2010
Received: March 24, 2010
Prep/ Analyzed: March 25, 2010
Analytical Batch: 03TDS10L

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
988498	SC-700B-WDR-249	mg/L	SM 2540C	250	4060

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988498	4060	4070	0.12%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-249] 988498

COC Number
TURNAROUND TIME 10 Days
DATE 03/24/10 PAGE 1 OF 1

COMPANY E2
PROJECT NAME PG&E Topock
PHONE (530) 229-3303 FAX (530) 339-3303
ADDRESS 155 Grand Ave Ste 1000
Oakland, CA 94612
P.O. NUMBER 392695.AA.DM TEAM 1
SAMPLERS (SIGNATURE)

Rec'd 03/24/10
LOG 988498

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)								NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-249	03/24/10	0800	Water	X	X	X	X		X							3	pH = 6
																3	TOTAL NUMBER OF CONTAINERS

TIME	Analysis	
0800	0804	pH 6.9
0800	0803	EC 7.50
0800	08.15	Cr6 .001
0800	885	TOTAL .003
0800	0802	TEMP 77.1

For Sample Condition See Form Attached

ALERT !! Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	J. Aiole	OMI	3-24-10 1530
Signature (Received) Bonifacio Dayog	B. DAYAG	TLI	3-24-10 1530
Signature (Relinquished) B. Dayog	B. DAYAG	TLI	3-24-10 2630
Signature (Received) L. Shelburne	Linda	TLI	MAR 24 2010 10:30
Signature (Relinquished)			
Signature (Received)			

SAMPLE CONDITIONS
RECEIVED COOL ☐ WARM ☐ °F
CUSTODY SEALED YES ☐ NO ☐
SPECIAL REQUIREMENTS:

031

TRUESDAIL LABORATORIES, INC.

ALERT !!
Level III QC

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 988498

Date Delivered: 3/24/10 **Time:** 20:30 **By:** ☐Mail ☑Field Service ☐Client

1.	Was a Chain of Custody received and signed?	☑Yes	☐No	☐N/A
2.	Does Customer require an acknowledgement of the COC?	☐Yes	☐No	☑N/A
3.	Are there any special requirements or notes on the COC?	☐Yes	☐No	☑N/A
4.	If a letter was sent with the COC, does it match the COC?	☐Yes	☐No	☑N/A
5.	Were all requested analyses understood and acceptable?	☑Yes	☐No	☐N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4°C.	☑Yes	☐No	☐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)?	☑Yes	☐No	☐N/A
8.	Were sample custody seals intact?	☐Yes	☐No	☐N/A
9.	Does the number of samples received agree with COC?	☑Yes	☐No	☐N/A
10.	Did sample labels correspond with the client ID's?	☑Yes	☐No	☐N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ☑Truesdail ☐Client	☑Yes	☐No	☐N/A
12.	Were samples pH checked? pH = See C.O.C	☑Yes	☐No	☐N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	☑Yes	☐No	☐N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ☐ RUSH ☑ Std	☑Yes	☐No	☐N/A

15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☑Other WATER

16. Comments: _____

17. Sample Check-In completed by **Truesdail** Log-In/Receiving: Rafael Davila

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

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14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

April 5, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-250 PROJECT, GROUNDWATER MONITORING, TLI NO.: 988581

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-250 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on March 31, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-250 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

Total Chromium was analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi
Manager, Analytical Services

K.R.P. Iyer
Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM

Laboratory No.: 988581
Date: April 5, 2010
Collected: March 31, 2010
Received: March 31, 2010

ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chavez
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Laboratory No.: 988581
Date Received: March 31, 2010

Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 200.8 *Chromium Total* µg/L	EPA 218.6 *Chromium Hexavalent* µg/L	SM 2130B *Turbidity* NTU	EPA 120.1 *EC* µmhos/cm	SM 2540C *TDS* mg/L
988581	SC-700B-WDR-250	08:00	ND	ND	ND	7290	4130

ND: Non Detected (below reporting limit)

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001 will have two (2) significant figures.
Result above or equal to 0.001 will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

005

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988581

Date: April 1, 2010
Collected: March 31, 2010
Received: March 31, 2010
Prep/ Analyzed: April 2, 2010
Analytical Batch: 04CrH10A

Investigation: **Hexavalent Chromium by EPA 218.6**

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
988581	SC-700B-WDR-250	08:00	08:08	µg/L	1.05	0.20	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988597-1	2.25	2.26	0.44%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988581	0.145	1.06	1.00	1.06	1.26	1.21	105%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.09	5.00	102%	90% - 110%	Yes
MRCVS#1	9.73	10.0	97.3%	95% - 105%	Yes
MRCVS#2	9.84	10.0	98.4%	95% - 105%	Yes
LCS	5.09	5.00	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM
Prep. Batch: 040110A

Laboratory No.: 988581
Date: April 1, 2010
Collected: March 31, 2010
Received: March 31, 2010
Prep/ Analyzed: April 1, 2010
Analytical Batch: 040110A

Investigation: **Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer using EPA 200.8**

Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
988581	SC-700B-WDR-250	µg/L	EPA 200.8	11:22	5.00	1.00	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988581	ND	ND	0.00%	≤20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	988581	0.00	5.00	50.0	250	226	250	90.4%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	—	<1.00	Yes
MRCCS	46.7	50.0	93.4%	90% - 110%	Yes
MRCVS#1	47.3	50.0	94.6%	90% - 110%	Yes
ICS	47.3	50.0	94.6%	80% - 120%	Yes
LCS	49.8	50.0	99.6%	90% - 110%	Yes

ND: Not detected at reporting limit
DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988581
Date: April 1, 2010
Collected: March 31, 2010
Received: March 31, 2010
Prep/ Analyzed: April 1, 2010
Analytical Batch: 04TUC10A

Investigation: **Turbidity by Method SM 2130B**

Analytical Results Turbidity

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
988581	SC-700B-WDR-250	08:00	NTU	1.00	0.100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988581	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.90	8.00	98.8%	90% - 110%	Yes
LCS	7.83	8.00	97.9%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988581
Date: April 1, 2010
Collected: March 31, 2010
Received: March 31, 2010
Prep/ Analyzed: April 1, 2010
Analytical Batch: 04EC10A

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
988581	SC-700B-WDR-250	µmhos/cm	EPA 120.1	1.00	2.00	7290

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	988581	7290	7300	0.14%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	704	706	99.7%	90% - 110%	Yes
CVS#1	995	1000	99.5%	90% - 110%	Yes
LCS	705	706	99.9%	90% - 110%	Yes
LCSD	705	706	99.9%	90% - 110%	Yes

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Groundwater Sample
Project Name: PG&E Topock Project
Project No.: 392895.AA.DM
P.O. No.: 392895.AA.DM

Laboratory No.: 988581
Date: April 1, 2010
Collected: March 31, 2010
Received: March 31, 2010
Prep/ Analyzed: April 1, 2010
Analytical Batch: 04TDS10A

Investigation: **Total Dissolved Solids by SM 2540C**

Analytical Results Total Dissolved Solids

TLI I.D.	Field I.D.	Units	Method	RL	Reeults
988581	SC-700B-WDR-250	mg/L	SM 2540C	250	4130

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	988581	4130	4190	0.72%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

For Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-250]

988581

COC Number

TURNAROUND TIME 5 Days

DATE 03/31/10 PAGE 1 OF 1

COMPANY E2

PROJECT NAME PG&E Topock

PHONE (530) 229-3303 FAX (530) 339-3303

ADDRESS 156 Grand Ave Ste 1000
Oakland, CA 94612

P.O. NUMBER 392896.AA.DM TEAM 1

SAMPLERS (SIGNATURE)

Rec'd 03/31/10
SDG 988581

SAMPLE I.D.	DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
SC-700B-WDR-250	03/31/10	0800	Water	X	X	X	X	X	3	pH = 7
									3	TOTAL NUMBER OF CONTAINERS

Analysis

pH	7.0	0803
EC	7.58	0803
Cr6	.001	0814
TOTAL	.002	825
TEMP	78.6	0801

RUSH

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

3-31-10

	Printed Name	Company/ Agency	Date/ Time
Signature (Relinquished)	J. Hyde	CH2M	1530
Signature (Received)	Hipolito	TLI	3-31-10 1513
Signature (Relinquished)	Hipolito	TLI	3-31-10 2045
Signature (Received)	L. Shibuminuo	TLI	MAR 31 2010
Signature (Relinquished)			2045
Signature (Received)			

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 988581

Date Delivered: 03/31/10 **Time:** 10:45 **By:** ☐Mail ☒Field Service ☐Client

1. Was a Chain of Custody received and signed? ☒Yes ☐No ☐N/A
2. Does Customer require an acknowledgement of the COC? ☐Yes ☐No ☒N/A
3. Are there any special requirements or notes on the COC? ☐Yes ☐No ☒N/A
4. If a letter was sent with the COC, does it match the COC? ☐Yes ☐No ☒N/A
5. Were all requested analyses understood and acceptable? ☒Yes ☐No ☐N/A
6. Were samples received in a chilled condition? ☒Yes ☐No ☐N/A
   Temperature (if yes)? 4.1 °C.
7. Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)? ☒Yes ☐No ☐N/A
8. Were sample custody seals intact? ☐Yes ☐No ☒N/A
9. Does the number of samples received agree with COC? ☒Yes ☐No ☐N/A
10. Did sample labels correspond with the client ID's? ☒Yes ☐No ☐N/A
11. Did sample labels indicate proper preservation? ☐Yes ☐No ☒N/A
    Preserved (if yes) by: ☐Truesdail ☐Client
12. Were samples pH checked? pH = see C.O.C. ☒Yes ☐No ☐N/A
13. Were all analyses within holding time at time of receipt? ☒Yes ☐No ☐N/A
    If not, notify Project Manager.
14. Have Project due dates been checked and accepted? ☒Yes ☐No ☐N/A
    Turn Around Time (TAT): ☒RUSH ☐Std
15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Water
16. Comments: ______
17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Shabunina

ALERT !!
Level III QC

\\MATRIX\user\Discrp.FormBlank.doc

Table of Contents
TLI Laboratory Data Package
For Laboratory Number: 987414

Section 1.0

Case Narrative

TRUESDAIL LABORATORIES, INC.
EXCELLENCE IN INDEPENDENT TESTING

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14201 FRANKLIN AVENUE
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www.truesdail.com

February 1, 2010

E2 Consulting Engineers, Inc.
Mr. Shawn Duffy
155 Grand Ave., Suite 1000
Oakland, California 94612

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-SW-002 PROJECT, STORMWATER MONITORING,

TLI NO.: 987414

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-SW-002 project stormwater monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on January 22, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Mr. Shawn Duffy of CH2MHill noted that this sample is from Location 2 of the stormwater monitoring project

The sample for pH analysis by SM 4500-H B was past the holding time upon arrival. Mr. Shawn Duffy was informed and approved the analysis.

No other violations or nonconformance actions occurred for this data package.

If you have any questions or require additional information, please contact me at (714) 730-6239 ext. 200.

Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.

Sen Cant

for Mona Nassimi
Manager, Analytical Services

K. R. P. Iyer

K.R.P. Iyer
Quality Assurance/Quality Control Officer

Section 2.0

Summary Table of Final Results

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Laboratory No.: 987414
Date Received: January 22, 2010

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Analytical Results Summary

Lab I.D.	Sample I.D.	Sample Time	EPA 218.6 *Hexavalent Chromium* µg/L	SM 4500-H B *pH* pH	SM 2540 D *TSS* mg/L	SM 5310 C *TOC* mg/L	SM 4500-NH3 D *Ammonia as N* mg/L	EPA 410.4 *COD* mg/L
987414	SC-IM3-SW-002	15:10	ND	ND	157	1.20	ND	75.1

Lab I.D.	Sample I.D.	Sample Time	EPA 120.1 *EC* µmhos/cm	SM 4500CN *Cyanide* mg/L	EPA 8015M *Diesel* µg/L
987414	SC-IM3-SW-002	15:10	117	ND	ND

ND: Non Detected (below reporting limit)
mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:
Results below 0.001ppm will have two (2) significant figures.
Result above or equal to 0.001ppm will have three (3) significant figures.
Quality Control data will always have three (3) significant figures.

004

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date Received: January 22, 2010

Analytical Results Summary

METALS ANALYSIS: **Total Metal Analyses as Requested**

Lab I.D.	Sample ID	Date of Analysis: / Time Coll.	Arsenic EPA 200.8 01/31/10 µg/L	Cadmium EPA 200.8 01/31/10 µg/L	Chromium EPA 200.8 01/31/10 µg/L	Lead EPA 200.8 01/31/10 µg/L	Magnesium EPA 200.7 01/29/10 µg/L	Mercury EPA 200.8 01/29/10 µg/L	Selenium EPA 200.8 01/31/10 µg/L	Silver EPA 200.8 01/31/10 µg/L	Iron EPA 200.7 01/29/10 µg/L
987414	SC-IM3-SW-002	15:10	6.09	3.35	12.9	10.1	5530	ND	ND	ND	9420

NOTES:
ND: Not detected, or below limit of detection

005

Section 3.0

Final Reports

TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 01CrH10G

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 25, 2010
Analytical Batch: 01CrH10G

Investigation: Hexavalent Chromium by IC Using Method EPA 218.6

Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987414	SC-IM3-SW-002	15:10	15:50	µg/L	1.05	0.200	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987389-19	ND	ND	0.00%	< 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987414	0.095	1.06	1.00	1.06	1.21	1.16	105%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.21	5.00	104%	90% - 110%	Yes
MRCVS#1	10.3	10.0	103%	95% - 105%	Yes
MRCVS#2	10.2	10.0	102%	95% - 105%	Yes
MRCVS#3	10.1	10.0	101%	95% - 105%	Yes
LCS	5.36	5.00	107%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 23, 2010
Analytical Batch: 01PH10Y

Investigation: **pH by SM 4500-H B**

Analytical Results pH

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	RL	Results
987414	SC-IM3-SW-002	15:10	10:00	pH	2.00	8.25 J

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	987414	8.25	8.25	0.00	± 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
MRCVS	7.02	7.00	0.02	± 0.100 Units	Yes
LCS	7.03	7.00	0.03	± 0.100 Units	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

Respectfully submitted,
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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 25, 2010
Analytical Batch: 01TSS10K

Investigation: Total Suspended Solids by SM 2540 D

Analytical Results Total Suspended Solids

TLI I.D.	Field I.D.	Units	Method	RL	Results
987414	SC-IM3-SW-002	mg/L	SM 2540 D	5.00	157

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	987329-3	43.2	43.4	0.23%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<10.0	---	<10.0	Yes
LCS	99.0	100	99.0%	90% - 110%	Yes
LCSD	98.0	100	98.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
RL: Reporting Limit.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 28, 2010
Analytical Batch: 01TOC10P

Investigation: Total Organic Carbon by SM 5310 C

Analytical Results for Total Organic Carbon

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987414	SC-IM3-SW-002	15:10	mg/L	1.00	0.300	1.20

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987414	1.20	1.29	7.23%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.300	---	<0.300	Yes
MRCCS	9.98	10.0	99.8%	90% - 110%	Yes
MRCVS#1	9.58	10.0	95.8%	90% - 110%	Yes
LCS	18.8	20.0	94.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 26, 2010
Analytical Batch: 01NH3-E10C

Investigation: **Ammonia as N by Method SM 4500-NH3 D**

Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
987414	SC-IM3-SW-002	15:10	SM 4500-NH3 D	mg/L	1.00	0.500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987414	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987414	0.00	1.00	6.00	6.00	6.10	6.00	102%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	6.12	6.00	102%	90% - 110%	Yes
MRCVS#1	5.95	6.00	99.2%	90% - 110%	Yes
LCS	10.3	10.0	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

Respectfully submitted,
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Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: February 1, 2010
Analytical Batch: 02COD10A

Investigation: **Chemical Oxygen Demand by EPA 410.4**

Analytical Results for Chemical Oxygen Demand

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
987414	SC-IM3-SW-002	15:10	mg/L	2.00	20.0	75.1

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987414	75.1	83.9	11.1%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987414	75.1	2.00	34.3	68.6	141	144	96.1%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<10.0	---	<10.0	Yes
MRCCS	180	172	105%	90% - 110%	Yes
MRCVS#1	108	100	108%	90% - 110%	Yes
LCS	374	343	109%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 25, 2010
Analytical Batch: 01CN10G

Investigation: Cyanide by Method SM 4500CN

Analytical Results Cyanide

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
987414	SC-IM3-SW-002	15:10	SM 4500CN	mg/L	1.00	0.0100	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987414	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.01	---	<0.01	Yes
MRCCS	0.0800	0.0800	100%	90% - 110%	Yes
MRCVS#1	0.0807	0.0800	101%	90% - 110%	Yes
LCS	0.0827	0.0800	103%	90% - 110%	Yes
LCSD	0.0832	0.0800	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy

Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 25, 2010
Analytical Batch: 01EC10H

Investigation:

Specific Conductivity by EPA 120.1

Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
987414	SC-IM3-SW-002	µmhos/cm	EPA 120.1	1.00	2.00	117

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987414	117	119	1.69%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	704	706	99.7%	90% - 110%	Yes
CVS#1	996	998	99.8%	90% - 110%	Yes
LCS	706	706	100%	90% - 110%	Yes
LCSD	706	706	100%	90% - 110%	Yes

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Sample: One (1) Stormwater Sample
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Prep. Batch: 012810

Laboratory No.: 987414
Date: February 1, 2010
Collected: January 21, 2010
Received: January 22, 2010
Prep/ Analyzed: January 28, 2010
Analytical Batch: 012810

Investigation:

Diesel by EPA 8015 (Modified)

Analytical Results Diesel

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
987414	SC-IM3-SW-002	15:10	11:56	µg/L	5.00	500	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	987414	ND	ND	0.0%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	987414	0.00	5.00	2000	10000	9750	10000	97.5%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<100	---	<100	Yes
MRCCS	885	1000	88.5%	85% - 115%	Yes
MRCVS#1	1030	1000	103%	85% - 115%	Yes
(S) MB	89.6	100	89.6%	70% - 130%	Yes
(S) LCS	106	100	106%	70% - 130%	Yes
(S) LCSD	119	100	119%	70% - 130%	Yes
(S) 987414	98	100	98.4%	70% - 130%	Yes
(S) MS	104	100	104%	70% - 130%	Yes
LCS	1880	2000	94.0%	70% - 130%	Yes
LCSD	2180	2000	109%	70% - 130%	Yes

(S): Surrogate o-Terphenyl
ND: Below the reporting limit (Not Detected).
DF: Dilution Factor.

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REPORT

Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612

Attention: Shawn Duffy

Samples: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02
Investigation: Total Metal Analyses as Requested

Laboratory No.: 987414
Reported: February 1, 2010
Collected: January 22, 2010
Received: January 22, 2010
Analyzed: See Below

Analytical Results

SAMPLE ID: SC-IM3-SW-002 **Time Collected:** 15:10 **LAB ID:** 987414

Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Arsenic	EPA 200.8	6.09	5.56	µg/L	1.11	013110A	01/31/10	21:05
Cadmium	EPA 200.8	3.35	5.56	µg/L	3.00	013110A	01/31/10	21:05
Chromium	EPA 200.8	12.9	5.56	µg/L	1.11	013110A	01/31/10	21:05
Lead	EPA 200.8	10.1	5.56	µg/L	10.0	013110A	01/31/10	21:05
Magnesium	EPA 200.7	5530	1.11	µg/L	555	012910A-Th	01/29/10	13:11
Mercury	EPA 200.8	ND	5.55	µg/L	1.11	012910-Hg	01/29/10	14:06
Selenium	EPA 200.8	ND	5.56	µg/L	10.0	013110A	01/31/10	21:05
Silver	EPA 200.8	ND	5.56	µg/L	5.00	013110A	01/31/10	21:05
Iron	EPA 200.7	9420	11.1	µg/L	111	012910A-Th	01/29/10	13:35

ND: Not detected,or below limit of detection.
DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.
155 Grand Ave. Suite 1000
Oakland, CA 94612
Attention: Shawn Duffy
Samples: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 379209.01.02
P.O. No.: 379209.01.02

Laboratory No.: 987414
Reported: February 1, 2010
Collected: January 22, 2010
Received: January 22, 2010

Quality Control/Quality Assurance Report

				BLANK		MRCCS				MRCVS			
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Arsenic	EPA 200.8	013110A	µg/L	ND	0.200	49.4	50.0	98.8%	90-110%	48.5	50.0	97.0%	90-110%
Cadmium	EPA 200.8	013110A	µg/L	ND	3.00	47.9	50.0	95.8%	90-110%	47.0	50.0	94.0%	90-110%
Chromium	EPA 200.8	013110A	µg/L	ND	1.00	48.4	50.0	96.8%	90-110%	47.2	50.0	94.4%	90-110%
Lead	EPA 200.8	013110A	µg/L	ND	10.0	50.9	50.0	102%	90-110%	51.7	50.0	103%	90-110%
Magnesium	EPA 200.7	012910A-Th	µg/L	ND	100	5030	5000	101%	95-105%	5160	5000	103%	90-110%
Mercury	EPA 200.8	012910-Hg	µg/L	ND	0.200	1.99	2.00	99.5%	90-110%	2.01	2.00	101%	90-110%
Selenium	EPA 200.8	013110A	µg/L	ND	10.0	47.5	50.0	95.0%	90-110%	46.5	50.0	93.0%	90-110%
Silver	EPA 200.8	013110A	µg/L	ND	5.00	51.6	50.0	103%	90-110%	50.6	50.0	101%	90-110%
Iron	EPA 200.7	012910A-Th	µg/L	ND	20.0	4800	5000	96.0%	95-105%	5330	5000	107%	90-110%

INTERFERENCE CHECK STANDARD

Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Arsenic	EPA 200.8	µg/L	49.2	50.0	98.4%	80-120%
Cadmium	EPA 200.8	µg/L	48.4	50.0	96.8%	80-120%
Chromium	EPA 200.8	µg/L	47.5	50.0	95.0%	80-120%
Magnesium	EPA 200.7	µg/L	2050	2000	103%	80-120%
Mercury	EPA 200.8	µg/L	1.94	2.00	97.0%	80-120%
Silver	EPA 200.8	µg/L	50.9	50.0	102%	80-120%
Iron	EPA 200.7	µg/L	1950	2000	97.5%	80-120%

LABORATORY CONTROL SAMPLES / SAMPLE DUPLICATES

Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Arsenic	EPA 200.8	µg/L	1950	2000	97.5%	90-110%	987414	6.09	6.26	2.75%	≤20
Cadmium	EPA 200.8	µg/L	1930	2000	96.5%	90-110%	987414	3.35	3.49	4.09%	≤20
Chromium	EPA 200.8	µg/L	2050	2000	103%	90-110%	987414	12.9	13.0	0.77%	≤20
Lead	EPA 200.8	µg/L	2100	2000	105%	90-110%	987414	10.1	10.4	2.93%	≤20
Magnesium	EPA 200.7	µg/L	4930	5000	98.6%	90-110%	987414	5530	5770	4.25%	≤20
Mercury	EPA 200.8	µg/L	1.83	2.00	91.5%	90-110%	987414	ND	ND	0.00%	≤20
Selenium	EPA 200.8	µg/L	1920	2000	96.0%	90-110%	987414	ND	ND	0.00%	≤20
Silver	EPA 200.8	µg/L	2040	2000	102%	90-110%	987414	ND	ND	0.00%	≤20
Iron	EPA 200.7	µg/L	4860	5000	97.2%	90-110%	987414	9420	9520	1.06%	≤20

MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
987414	Arsenic	EPA 200.8	µg/L	6.09	11.1	200	2220	2226	2180	97.9%	75-125%
987414	Cadmium	EPA 200.8	µg/L	3.35	11.1	200	2220	2223	2170	97.6%	75-125%
987414	Chromium	EPA 200.8	µg/L	12.9	11.1	200	2220	2233	2330	104%	75-125%
987414	Lead	EPA 200.8	µg/L	10.1	11.1	200	2220	2230	2340	105%	75-125%
987414	Magnesium	EPA 200.7	µg/L	5530	1.11	2000	2220	7750	8040	113%	75-125%
987414	Mercury	EPA 200.8	µg/L	0.00	5.55	2.00	11.1	11.1	10.9	98.2%	75-125%
987414	Selenium	EPA 200.8	µg/L	0.00	11.1	200	2220	2220	2160	97.3%	75-125%
987414	Silver	EPA 200.8	µg/L	0.00	11.1	200	2220	2220	2280	103%	75-125%
987414	Iron	EPA 200.7	µg/L	9420	11.1	2000	22200	31620	31700	100%	75-125%

ND: Not detected, or below limit of detection.

DF: Dilution Factor

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager
Analytical Services

Rec'd 01/22/10 987414 **RUSH**

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
(714)730-6239 FAX: (714) 730-6462
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CHAIN OF CUSTODY RECORD

987414

[IM3Plant-SW-002]

COC Number

TURNAROUND TIME 5 Days

DATE 1-22-10 PAGE 1 OF 1

COMPANY	E2 / CH2M HILL
PROJECT NAME	PG&E Topock IM3
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	379209.01.02
SAMPLERS (SIGNATURE	C. Knight

SAMPLE I.D.	DATE	TIME	DESCRIPTION	TSS (SM2540), pH (SM4500HB)	TOC (SM5310)	NH3 (SM4500-NH3), COD (410.4)	Total Metals (200.7, 245.1) See list below	Cr(VI) (EPA 218.6)	CN (335.2)	Cond (120.1)	Oil & Grease	NUMBER OF CONTAINERS	COMMENTS
SC-IM3-SW-002	1-21-10	15:10	Storm water	X	X	X	X	X	X	X	X	9	PH-2
												9	TOTAL NUMBER OF CONTAINERS

RUSH

ALERT !!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD

	Signature	Printed Name	Company/ Agency	Date/ Time
Relinquished	C. Knight	C. Knight	OMI / CH2M	1-22-10 2:23
Received	Rafael Davila	Rafael	T.L.I	1-22-10 15:00
Relinquished	Rafael Davila	Rafael	T.L.I	1-22-10 21:00
Received	Rafael Davila	Rafael	T.L.I	1-22-10 21:00
Relinquished				
Received				

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

Metals list: Mg, As, Cd, Pb, Hg, Se, Ag, Cr, and Fe

074

TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2 **Lab #** 987414

Date Delivered: 01/22/10 **Time:** 21:00 **By:** ☐Mail ☒Field Service ☐Client

1. Was a Chain of Custody received and signed? ☒Yes ☐No ☐N/A
2. Does Customer require an acknowledgement of the COC? ☐Yes ☐No ☒N/A
3. Are there any special requirements or notes on the COC? ☐Yes ☐No ☒N/A
4. If a letter was sent with the COC, does it match the COC? ☐Yes ☐No ☒N/A
5. Were all requested analyses understood and acceptable? ☒Yes ☐No ☐N/A
6. Were samples received in a chilled condition? Temperature (if yes)? 4.2° C ☒Yes ☐No ☐N/A
7. Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc..)? ☒Yes ☐No ☐N/A
8. Were sample custody seals intact? ☐Yes ☐No ☒N/A
9. Does the number of samples received agree with COC? ☒Yes ☐No ☐N/A
10. Did sample labels correspond with the client ID's? ☒Yes ☐No ☐N/A
11. Did sample labels indicate proper preservation? Preserved (if yes) by: ☒Truesdail ☐Client ☒Yes ☐No ☐N/A
12. Were samples pH checked? pH = See C.O.C. ☒Yes ☐No ☐N/A
13. Were all analyses within holding time at time of receipt? If not, notify Project Manager. ☒Yes ☐No ☐N/A
14. Have Project due dates been checked and accepted? Turn Around Time (TAT): ☒RUSH ☐Std ☒Yes ☐No ☐N/A
15. **Sample Matrix:** ☐Liquid ☐Drinking Water ☐Ground Water ☐Waste Water ☐Sludge ☐Soil ☐Wipe ☐Paint ☐Solid ☒Other Storm Water
16. Comments:
17. Sample Check-In completed by **Truesdail** Log-In/Receiving: L. Shabunina

ALERT !! Level III QC

RUSH

\MATRIX\...\DiscrepFormBlank.doc