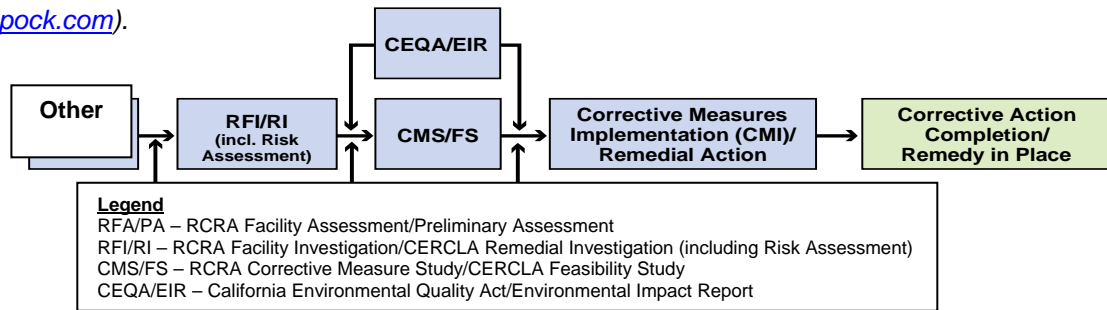


Topock Project Executive Abstract

<p>Document Title:</p> <p>Topock IM3 WDR First Quarter 2011 Monitoring Report</p> <p>Submitting Agency/Authorred by: Regional Water Quality Control Board</p> <p>Final Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Date of Document: April 15, 2011</p> <p>Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)</p> <p>PG&E</p> <p>Document ID: PGE20110415A</p>
<p>Priority Status: <input type="checkbox"/> HIGH <input type="checkbox"/> MED <input checked="" type="checkbox"/> LOW</p> <p>Is this time critical? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Action Required:</p> <p><input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Review & Comment</p> <p>Return to: _____</p> <p>By Date: _____</p> <p><input type="checkbox"/> Other / Explain:</p>
<p>Type of Document:</p> <p><input type="checkbox"/> Draft <input checked="" type="checkbox"/> Report <input type="checkbox"/> Letter <input type="checkbox"/> Memo</p> <p><input type="checkbox"/> Other / Explain:</p>	<p>What does this information pertain to?</p> <p><input type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)</p> <p><input type="checkbox"/> RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)</p> <p><input type="checkbox"/> Corrective Measures Study (CMS)/Feasibility Study (FS)</p> <p><input type="checkbox"/> Corrective Measures Implementation (CMI)/Remedial Action</p> <p><input type="checkbox"/> California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)</p> <p><input checked="" type="checkbox"/> Interim Measures</p> <p><input type="checkbox"/> Other / Explain:</p>
<p>What is the consequence of NOT doing this item? What is the consequence of DOING this item?</p> <p>Submittal of this report is a compliance requirement of Regional Water Board Waste Discharge Requirements/Order No. R7-2006-0060</p>	<p>Is this a Regulatory Requirement?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If no, why is the document needed?</p>
<p>Other Justification/s:</p> <p><input type="checkbox"/> Permit <input type="checkbox"/> Other / Explain:</p>	
<p>Brief Summary of attached document:</p> <p>This report covers the Interim Measure No. 3 (IM3) groundwater treatment system monitoring activities during the First Quarter 2011 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.</p> <p>Written by: PG&E</p>	
<p>Recommendations:</p> <p>This report is for your information only.</p>	
<p>How is this information related to the Final Remedy or Regulatory Requirements:</p> <p>The IM3 WDR First Quarter 2011 Monitoring Report is related to the Interim Measure, and is designed to monitor compliance with Regional Water Board Waste Discharge Requirements/Order No. R7-2006-0060.</p>	
<p>Other requirements of this information?</p> <p>None.</p>	

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).



Version 9



**Pacific Gas and
Electric Company**

Curt Russell
Topock Site Manager
GT&D Remediation

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April 15, 2011

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 2011 Monitoring Report – Board Order No. R7-2006-0060
PG&E Topock Compressor Station, Needles, California
Interim Measure No. 3 Groundwater Treatment System
(Document ID: PGE20110415A)**

Dear Mr. Perdue:

Enclosed is the First Quarter 2011 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 (Regional 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 IM3 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 2011 Monitoring Report for the IM3 Groundwater Treatment System

cc: Jose Cortez, Regional Water Board
Tom Vandenberg, State Water Resources Control Board
Aaron Yue, DTSC

First Quarter 2011 Monitoring Report

Interim Measure No. 3 Groundwater Treatment System

Document ID: PGE20110415A

**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, 2011

CH2MHILL
155 Grand Avenue, Suite 800
Oakland, CA 94612

**First Quarter 2011 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**

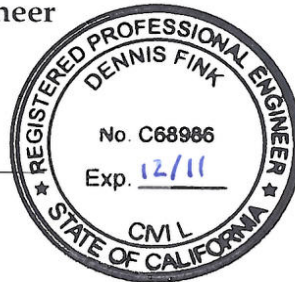
Prepared for
Pacific Gas and Electric Company

April 15, 2011

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

Dennis Fink

Dennis Fink, P.E.
Project Engineer



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Appendix

A	First Quarter 2011 Laboratory Analytical Reports
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Acronyms and Abbreviations

gpm	gallons per minute
IM	Interim Measure
IW	injection well
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
PST	Pacific Standard Time
Regional Water Board	California Regional Water Quality Control Board, Colorado River Basin Region
RO	reverse osmosis
Truesdail	Truesdail Laboratories, Inc.
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 IM3. 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 (Regional 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 IM3 groundwater treatment system during the First Quarter 2011. 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, PR-10-03, PR-10-04 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 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gallons per minute (gpm), excluding periods of planned and unplanned downtime. Extraction wells TW-2D and TW-2S were not operated during First Quarter 2011. The operational run time for the IM groundwater extraction system (combined or individual pumping), by month, was approximately:

- 97.8 percent during January 2011
- 98.9 percent during February 2011
- 98.4 percent during March 2011

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

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

Activities during the First Quarter 2011 included planned shutdowns in January, February, and March as detailed in Section 4.

4.0 Groundwater Treatment System Flow Rates

The First Quarter 2011 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 RO concentrate flow rate was measured by a flow meter at the piping carrying water from RO concentrate tank T-701 to the truck load-out station (Figure PR-10-03 and PR-10-04).

The IM3 facility treated approximately 17,100,068 gallons of extracted groundwater during the First Quarter 2011. The IM3 facility also treated approximately 5,400 gallons of water generated from the groundwater monitoring program and 32,400 gallons of injection well backwashing/re-development water.

Three containers of solids (sludge) were transported offsite from the IM3 facility during First Quarter 2011.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 1.6 percent of downtime during First Quarter 2011) are summarized below. The times shown are in Pacific Standard Time (PST) to be consistent with other data collected (e.g., water level data) at the site.

4.1 January 2011

During January 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during January 2011. The operational run time for the IM3 groundwater extraction system (combined or individual pumping) was 97.8 percent during the January 2011 reporting period.

The IM3 facility treated approximately 5,834,413 gallons of extracted groundwater during January 2011. The facility treated 1,285 gallons of water generated from the groundwater monitoring program and 11,700 gallons of injection well backwashing/redevelopment water. One container of solids from the IM3 facility was transported offsite during January 2011.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 2.2 percent of downtime during January 2011) are summarized below.

- **January 5, 2011 (planned):** The extraction well system was offline from 11:26 a.m. to 11:32 a.m., 11:36 a.m. to 11:38 a.m., 11:44 a.m. to 11:48 a.m., 11:52 a.m. to 11:56 a.m., and 2:08 p.m. to 2:12 p.m. due to critical alarm and leak detection system testing. Extraction system downtime was 20 minutes.

- **January 10, 2011 (unplanned):** The extraction well system was offline from 2:32 p.m. to 5:50 p.m. due to cleaning of blockage in T301 pipeline. Extraction system downtime was 3 hours and 18 minutes.
- **January 17, 2011 (unplanned):** The extraction well system was offline from 8:12 p.m. to 9:48 p.m. due to cleaning of blockages in the oxidation system. Extraction system downtime was 1 hour and 36 minutes.
- **January 18, 2011 (planned):** The extraction well system was offline from 6:22 a.m. to 3:58 p.m. and 5:34 p.m. to 6:56 p.m. due to monthly scheduled plant maintenance. Extraction system downtime was 10 hours and 58 minutes.
- **January 26, 2011 (unplanned):** The extraction well system was offline from 9:38 a.m. to 9:42 a.m. due to City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 4 minutes.

4.2 February 2011

During February 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during February 2011. The operational run time for the IM3 groundwater extraction system (combined or individual pumping) was 98.9 percent during the February 2011 reporting period.

The IM3 facility treated approximately 5,356,854 gallons of extracted groundwater during February 2011. The facility treated 3,685 gallons of water generated from the groundwater monitoring program and 10,800 gallons of injection well backwashing/redevelopment water. One container of solids from the IM3 facility was transported offsite during February 2011.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 1.1 percent of downtime during February 2011) are summarized below.

- **February 4, 2011 (planned):** The extraction well system was offline from 10:56 a.m. to 11:14 a.m., 11:16 a.m. to 11:18 a.m., 12:04 p.m. to 12:06 p.m., 12:12 p.m. to 12:14 p.m. and 12:38 p.m. to 12:42 p.m. due to critical alarm and leak detection system testing. Extraction system downtime was 28 minutes.
- **February 9, 2011 (planned):** The extraction well system was offline from 10:38 a.m. to 12:58 p.m. due to monthly scheduled maintenance. Extraction system downtime was 2 hours and 20 minutes.
- **February 11, 2011 (unplanned):** The extraction well system was offline from 2:26 p.m. to 2:28 p.m. due replacement of meter AIT 201. Extraction system downtime was 2 minutes.
- **February 15, 2011 (planned):** The extraction well system was offline from 12:58 p.m. to 1:04 p.m. due to shut-off of the circuitbreaker to vault alarms during infrared testing. Extraction system downtime was 6 minutes.

- **February 23, 2011 (unplanned):** The extraction well system was offline from 2:36 a.m. to 7:02 a.m. due to polymer pump repair. Extraction system downtime was 4 hours and 26 minutes.

4.3 March 2011

During March 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during March 2011. The operational run time for the IM3 groundwater extraction system (combined or individual pumping) was 98.4 percent during the March 2011 reporting period.

The IM3 facility treated approximately 5,908,801 gallons of extracted groundwater during March 2011. The facility treated 430 gallons of water generated from the groundwater monitoring program and 9,900 gallons of injection well backwashing/redevelopment water. One container of solids from the IM3 facility was transported offsite during March 2011.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 1.6 percent of downtime during March 2011) are summarized below.

- **March 2, 2011 (planned):** The extraction well system was offline from 12:58 p.m. to 1:32 p.m. and 2:00 p.m. to 3:06 p.m. due to microfilter maintenance. Extraction system downtime was 1 hour and 40 minutes.
- **March 7, 2011 (planned):** The extraction well system was offline from 7:56 a.m. to 7:58 a.m., 8:06 a.m. to 8:08 a.m., 8:12 a.m. to 8:18 a.m., 8:20 a.m. 8:22 a.m. and 8:24 a.m. to 8:26 a.m. due to critical alarm and leak detection system testing. Extraction system downtime was 14 minutes.
- **March 30, 2011 (planned):** The extraction well system was offline from 7:16 a.m. to 2:50 p.m. due to monthly scheduled maintenance. Extraction system downtime was 7 hours and 34 minutes.
- **March 31, 2011 (planned):** The extraction well system was offline from 10:22 a.m. to 11:56 a.m. due to blower and microfilter maintenance. Extraction system downtime was 1 hour and 34 minutes.
- **March 31, 2011 (planned):** The extraction well system was offline from 12:14 p.m. to 12:56 p.m. due to start up compliance sampling. Extraction system downtime was 42 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 2011, analysis of pH was conducted by field method pursuant to the Regional Water Board letter dated October 16, 2007 (subject: Clarification of Monitoring and Reporting Program Requirements), authorizing pH measurements to be conducted in the field. The field method pH samples were collected at the designated sampling locations and field tested within 15 minutes of sampling.

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

Influent, effluent, RO concentrate, and sludge sampling frequency 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 Regional 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 2011 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 RO concentrate sampling analytical results are presented in Table 6. The sludge sampling analytical results are presented in Table 7.

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

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

7.0 Conclusions

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

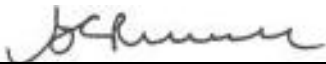
In addition, no incidents of non-compliance were identified during the reporting period. No events that caused an immediate or potential threat to human health or the environment, or new releases of hazardous waste or hazardous waste constituents, or new solid waste management units were identified during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

8.0 Certification

On August 12, 2005, PG&E submitted a signature delegation letter to the Regional 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, 2011

Tables

TABLE 1
Sampling Station Descriptions
First Quarter 2011 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

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

Note:

= Sequential sample identification number at each sample station.

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

TABLE 2
 Flow Monitoring Results
First Quarter 2011 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	System Influent^{a,b} (gpm)	System Effluent^b (gpm)	Reverse Osmosis Concentrate^b (gpm)
January 2011 Average Monthly Flowrate	130.7	126.5	1.9
February 2011 Average Monthly Flowrate	132.9	129.2	2.5
March 2011 Average Monthly Flowrate	132.4	128.8	2.2

Notes:

gpm: gallons per minute

^a Extraction wells TW-3D and PE-1 were operated during the First Quarter 2011. Extraction wells TW-2D and TW-2S were not operated during the First Quarter 2011.

^b The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the First Quarter 2011 is approximately 1.23 percent.

TABLE 3
Sample Collection Dates
First Quarter 2011 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	Sample Collection Dates	Results
Influent ^a	January 4, 2011	See Table 4
	February 1, 2011	
	March 1, 2011	
Effluent ^b	January 4, 2011	See Table 5
	January 11, 2011	
	January 18, 2011	
	January 25, 2011	
	February 1, 2011	
	February 8, 2011	
	February 15, 2011	
	February 22, 2011	
	March 1, 2011	
	March 8, 2011	
	March 15, 2011	
	March 22, 2011	
	March 29, 2011	
Reverse Osmosis Concentrate ^c	January 4, 2011	See Table 6
Sludge ^d	January 4, 2011	See Table 7

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 2011 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																								
<div>Sample ID</div>	<div>Date</div>	<div>Analytes Units ^b MDL</div>	TDS	Turbidity	Specific Conductance	Field ^c pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc	
			mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
			0.434	0.0140	0.0380	---	0.0950	2.20	1.00	0.0020	0.190	0.260	0.185	0.0050	0.305	0.0250	0.0950	0.210	0.300	0.240	0.0550	0.00020	1.00	3.00	1.32	
SC-100B-WDR-290	1/4/2011		5470	ND (0.100)	8060	7.3	992	1120	ND (50.0)	ND (0.500)	ND (10.0)	3.50	27.0	1.07	ND (5.00)	2.06	ND (10.0)	10.0	19.5	ND (10.0)	3.51	ND (0.0050)	556	ND (20.0)	13.2	
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	1.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0	
SC-100B-WDR-294	2/1/2011	^d 4820 J	ND (0.100)	8070	7.4	1060	1060	ND (50.0)	ND (0.500)	ND (10.0)	3.20	28.8	1.00	ND (5.00)	2.28	ND (10.0)	10.5	21.5	ND (10.0)	3.44	ND (0.0050)	622	ND (20.0)	ND (10.0)		
RL			125	0.100	2.00	---	2.00	21.0	50.0	0.500	10.0	2.00	10.0	0.200	5.00	0.500	10.0	2.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0	
SC-100B-WDR-298	3/1/2011		4760	ND (0.100)	8120	7.3	1050	991	ND (50.0)	ND (0.500)	ND (10.0)	3.20	27.2	1.04	ND (5.00)	2.31	ND (10.0)	9.90	18.4	ND (10.0)	3.22	ND (0.0050)	558	ND (20.0)	ND (10.0)	
RL			250	0.100	2.00	---	2.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	25.0	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.
^d Result is flagged J because sample was analyzed outside the EPA recommended holding time of 7 days. TDS were positively identified; however, quantitation is considered an estimate. The results are considered valid for decision making purposes.

TABLE 5
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results^a
First Quarter 2011 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

WDRs Effluent Limits ^b	Ave. Monthly Max Daily	NA	NA	NA	6.5-8.4	6.5-8.4	25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		NA	NA	NA	6.5-8.4	6.5-8.4	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Required Sampling Frequency		Weekly							Monthly																	
<div><div></div></div>	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	0.434	0.0140	0.0380	---	0.0950	0.0220	1.00	0.0020	0.190	0.260	0.185	0.0050	0.305	0.0250	0.0950	0.210	0.300	0.240	0.0550	0.00020	1.00	3.00	1.32		
Sample ID	Date																									
SC-700B-WDR-290	1/4/2011	4410	ND (0.100)	7190	6.90	ND (1.00)	0.320	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	11.3	1.06	ND (5.00)	1.75	ND (10.0)	1.50	14.5	ND (10.0)	2.95	ND (0.0050)	505	ND (20.0)	13.8		
	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	1.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0		
SC-700B-WDR-291	1/11/2011	4290	ND (0.100)	7460	7.10	ND (1.00)	0.430	---	---	---	---	---	---	---	---	---	2.60	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-292	1/18/2011	4150	ND (0.100)	7090	7.10	ND (1.00)	0.530	---	---	---	---	---	---	---	---	---	1.50	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-293	1/25/2011	4140	ND (0.100)	7290	7.10	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	ND (1.00)	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-294	2/1/2011	3890	ND (0.100)	7240	7.20	ND (1.00)	0.210	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	11.8	1.02	ND (5.00)	1.69	ND (10.0)	3.00	16.1	ND (10.0)	3.19	ND (0.0050)	492	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	1.00	10.0	10.0	1.00	0.0050	12.5	20.0	10.0		
SC-700B-WDR-295	2/8/2011	4040	ND (0.100)	7200	7.00	ND (1.00)	0.250	---	---	---	---	---	---	---	---	---	4.30	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-296	2/15/2011	4080	0.112	7150	7.00	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	3.70	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-297	2/22/2011	4320	ND (0.100)	7430	7.00	ND (1.00)	0.260	---	---	---	---	---	---	---	---	---	3.00	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-298	3/1/2011	4350	ND (0.100)	7450	7.00	2.20	ND (0.200)	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	13.9	0.999	ND (5.00)	1.77	ND (10.0)	2.50	16.7	ND (10.0)	3.02	ND (0.0050)	503	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	1.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0		
SC-700B-WDR-299	3/8/2011	4230	ND (0.100)	7480	7.00	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	4.20	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-300	3/15/2011	^f 4540 J	ND (0.100)	7490	6.90	ND (1.00)	0.230	---	---	---	---	---	---	---	---	---	1.60	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-301	3/22/2011	^f 4520 J	ND (0.100)	7380	7.00	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	1.10	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		
SC-700B-WDR-302	3/29/2011	4800	ND (0.100)	7630	7.10	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	14.4	---	---	---	---	---	---	---		
	RL	250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---		

TABLE 5
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Effluent Monitoring Results^a
First Quarter 2011 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.
- ^f Results are flagged J because samples were analyzed outside the EPA recommended holding time of 7 days. TDS were positively identified; however, quantitation is considered an estimate. The results are considered valid for decision making purposes.

TABLE 6
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Reverse Osmosis Concentrate Monitoring Results ^a
First Quarter 2011 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																							
<div>Sample ID</div>	<div>Date</div>	<div>Analytes Units^b MDL</div>	TDS	Specific Conductance	Field ^c pH	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
			mg/L	µmhos/cm	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.434	0.0380	---	0.000095	0.00022	0.00019	0.00026	0.00019	0.00011	0.00013	0.000075	0.00031	0.0250	0.000095	0.00066	0.00020	0.00024	0.0020	0.00020	0.00018	0.00010	0.0013	
SC-701-WDR-290	1/4/2011		41200	48800	6.8	0.00460	0.00250	ND (0.0100)	0.00230	0.107	ND (0.0010)	ND (0.0030)	ND (0.0100)	ND (0.0050)	14.4	ND (0.0100)	0.139	ND (0.0010)	ND (0.0100)	0.0319	ND (0.0050)	ND (0.0010)	0.00790	0.0188	
RL			1250	2.00	---	0.0010	0.0021	0.0100	0.0010	0.0100	0.0010	0.0030	0.0100	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 2011 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																		
<div></div>	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	0.0300	0.115	0.0020	0.0020	0.0020	0.00060	0.00020	0.00020	0.0020	0.0050	0.0020	0.00060	0.00040	0.00060	0.0040	0.0040	0.0020	0.00060	0.0040
Sample ID	Date																			
SC-Sludge-WDR-290	1/4/2011	4540	44.0	ND (2.07)	ND (2.07)	67.4	ND (2.07)	ND (2.07)	4.61	21.7	11.8	4.15	ND (2.07)	ND (0.207)	20.1	11.8	ND (2.07)	4.80	62.5	14.4
RL		10.4	4.17	2.07	2.07	2.07	2.07	2.07	2.07	2.07	4.17	2.07	2.07	0.207	2.07	2.07	2.07	2.07	2.07	2.07

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 2011 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-290	Ron Phelps	1/4/2011	1:30:00 PM	TLI	EPA 120.1	SC	1/12/2011	Iordan Stavrev
					TLI	EPA 200.7	AL	1/25/2011	Ethel Suico
					TLI	EPA 200.7	B	2/10/2011	Ethel Suico
					TLI	EPA 200.7	FE	1/25/2011	Ethel Suico
					TLI	EPA 200.8	AS	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	1/25/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/5/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	1/5/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/5/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	1/5/2011	Giawad Ghenniwa
					FIELD	HACH	PH	1/4/2011	Ron Phelps
					TLI	SM2130B	TRB	1/5/2011	Gautam Savani
					TLI	SM2540C	TDS	1/6/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	1/6/2011	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	1/5/2011	Jenny Tankunakorn
SC-100B	SC-100B-WDR-294	Ron Phelps	2/1/2011	10:30:00 AM	TLI	EPA 120.1	SC	2/9/2011	Iordan Stavrev
					TLI	EPA 200.7	AL	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	B	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	FE	2/17/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	FETD	2/17/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	MO	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	ZN	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.8	AS	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MND	2/4/2011	Katia Kiarashpoor

TABLE 8

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)

Monitoring Information

First Quarter 2011 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-294	Ron Phelps	2/1/2011	10:30:00 AM	TLI	EPA 200.8	NI	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	2/4/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	2/2/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	2/2/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	2/2/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	2/2/2011	Giawad Ghenniwa
					FIELD	HACH	PH	2/1/2011	Ron Phelps
					TLI	SM 2320B	ALKB	2/2/2011	Iordan Stavrev
					TLI	SM 2320B	ALKC	2/2/2011	Iordan Stavrev
					TLI	SM2130B	TRB	2/2/2011	Gautam Savani
					TLI	SM2540C	TDS	4/8/2011	Jenny Tankunakorn
					TLI	SM4500NH3B	NH3N	2/4/2011	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	2/3/2011	Jenny Tankunakorn
SC-100B	SC-100B-WDR-298	Scott O'Donnell	3/1/2011	1:00:00 PM	TLI	EPA 120.1	SC	3/3/2011	Gautam Savani/Nathan Atthawimol
					TLI	EPA 200.7	AL	4/6/2011	Ethel Suico
					TLI	EPA 200.7	B	4/6/2011	Ethel Suico
					TLI	EPA 200.7	BA	4/6/2011	Ethel Suico
					TLI	EPA 200.7	FE	3/9/2011	Ethel Suico
					TLI	EPA 200.7	FETD	3/9/2011	Ethel Suico
					TLI	EPA 200.8	AS	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	3/28/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	3/28/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MND	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	3/28/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	3/28/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	3/28/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	3/29/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/2/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	3/3/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	3/2/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	3/2/2011	Giawad Ghenniwa
					FIELD	HACH	PH	3/1/2011	Ron Phelps
					TLI	SM 2320B	ALKB	3/2/2011	Iordan Stavrev

TABLE 8

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)

Monitoring Information

First Quarter 2011 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-298	Scott O'Donnell	3/1/2011	1:00:00 PM	TLI	SM 2320B	ALKC	3/2/2011	Iordan Stavrev
					TLI	SM2130B	TRB	3/2/2011	Gautam Savani
					TLI	SM2540C	TDS	3/3/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	3/2/2011	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	3/3/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-290	Ron Phelps	1/4/2011	1:30:00 PM	TLI	EPA 120.1	SC	1/12/2011	Iordan Stavrev
					TLI	EPA 200.7	AL	1/25/2011	Ethel Suico
					TLI	EPA 200.7	B	2/10/2011	Ethel Suico
					TLI	EPA 200.7	FE	1/25/2011	Ethel Suico
					TLI	EPA 200.8	AS	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	1/25/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/5/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	1/5/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/5/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	1/5/2011	Giawad Ghenniwa
					FIELD	HACH	PH	1/4/2011	Ron Phelps
					TLI	SM2130B	TRB	1/5/2011	Gautam Savani
					TLI	SM2540C	TDS	1/6/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	1/6/2011	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	1/5/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-291	Ron Phelps	1/11/2011	2:15:00 PM	TLI	EPA 120.1	SC	1/12/2011	Iordan Stavrev
					TLI	EPA 200.8	CR	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/25/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/12/2011	Sonya Bersudsky
					FIELD	HACH	PH	1/11/2011	Ron Phelps
					TLI	SM2130B	TRB	1/12/2011	Gautam Savani
					TLI	SM2540C	TDS	1/12/2011	Jenny Tankunakorn

TABLE 8

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)

Monitoring Information

First Quarter 2011 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-292	Ron Phelps	1/18/2011	7:30:00 AM	TLI	EPA 120.1	SC	1/19/2011	Iordan Stavrev
					TLI	EPA 200.8	CR	1/28/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/28/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/21/2011	Sonya Bersudsky
					FIELD	HACH	PH	1/18/2011	Ron Phelps
					TLI	SM2130B	TRB	1/19/2011	Gautam Savani
					TLI	SM2540C	TDS	1/19/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-293	Ron Phelps	1/25/2011	2:00:00 PM	TLI	EPA 120.1	SC	1/27/2011	Iordan Stavrev
					TLI	EPA 200.8	CR	1/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/29/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/26/2011	Sonya Bersudsky
					FIELD	HACH	PH	1/25/2011	Ron Phelps
					TLI	SM2130B	TRB	1/26/2011	Gautam Savani
					TLI	SM2540C	TDS	1/28/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-294	Ron Phelps	2/1/2011	10:30:00 AM	TLI	EPA 120.1	SC	2/9/2011	Iordan Stavrev
					TLI	EPA 200.7	AL	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	B	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	FE	2/17/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	MO	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.7	ZN	3/1/2011	Ethel Suico/Mark Kotani
					TLI	EPA 200.8	AS	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	2/4/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	2/4/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	2/2/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	2/2/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	2/2/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	2/2/2011	Giawad Ghenniwa
					FIELD	HACH	PH	2/1/2011	Ron Phelps
					TLI	SM2130B	TRB	2/2/2011	Gautam Savani
					TLI	SM2540C	TDS	2/7/2011	Jenny Tankunakorn
					TLI	SM4500NH3B	NH3N	2/4/2011	Iordan Stavrev

TABLE 8

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)

Monitoring Information

First Quarter 2011 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-294	Ron Phelps	2/1/2011	10:30:00 AM	TLI	SM4500NO2B	NO2N	2/3/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-295	Chris Lentz	2/8/2011	3:15:00 PM	TLI	EPA 120.1	SC	2/9/2011	Iordan Stavrev
					TLI	EPA 200.8	CR	3/12/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/12/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	2/10/2011	Sonya Bersudsky
					FIELD	HACH	PH	2/8/2011	C.Knight
					TLI	SM2130B	TRB	2/9/2011	Gautam Savani
					TLI	SM2540C	TDS	2/10/2011	Kim Luck
SC-700B	SC-700B-WDR-296	C. Knight	2/15/2011	1:19:00 PM	TLI	EPA 120.1	SC	2/22/2011	Iordan Stavrev
					TLI	EPA 200.8	CR	3/12/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/12/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	2/16/2011	Sonya Bersudsky
					FIELD	HACH	PH	2/15/2011	C.Knight
					TLI	SM2130B	TRB	2/16/2011	Gautam Savani
					TLI	SM2540C	TDS	2/17/2011	Kim Luck
SC-700B	SC-700B-WDR-297	Ron Phelps	2/22/2011	1:00:00 PM	TLI	EPA 120.1	SC	2/28/2011	Nathan Atthawimol
					TLI	EPA 200.8	CR	3/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/12/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	2/23/2011	Sonya Bersudsky
					FIELD	HACH	PH	2/22/2011	Ron Phelps
					TLI	SM2130B	TRB	2/23/2011	Gautam Savani
					TLI	SM2540C	TDS	2/22/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-298	Scott O'Donnell	3/1/2011	1:00:00 PM	TLI	EPA 120.1	SC	3/3/2011	Gautam Savani/Nathan Atthawimol
					TLI	EPA 200.7	AL	3/30/2011	Ethel Suico
					TLI	EPA 200.7	B	3/30/2011	Ethel Suico
					TLI	EPA 200.7	BA	3/30/2011	Ethel Suico
					TLI	EPA 200.7	FE	3/9/2011	Ethel Suico
					TLI	EPA 200.8	AS	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	4/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	4/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	4/5/2011	Katia Kiarashpoor

TABLE 8

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)

Monitoring Information

First Quarter 2011 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-298	Scott O'Donnell	3/1/2011	1:00:00 PM	TLI	EPA 200.8	ZN	3/29/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/2/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	3/3/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	3/2/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	3/2/2011	Giawad Ghenniwa
					FIELD	HACH	PH	3/1/2011	Ron Phelps
					TLI	SM2130B	TRB	3/2/2011	Gautam Savani
					TLI	SM2540C	TDS	3/3/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	3/2/2011	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	3/3/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-299	Ron Phelps	3/8/2011	1:30:00 PM	TLI	EPA 120.1	SC	3/11/2011	Gautam Savani
					TLI	EPA 200.8	CR	4/1/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	4/1/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/9/2011	Sonya Bersudsky
					FIELD	HACH	PH	3/8/2011	Ron Phelps
					TLI	SM2130B	TRB	3/9/2011	Gautam Savani
					TLI	SM2540C	TDS	3/10/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-300	Ron Phelps	3/15/2011	2:30:00 PM	TLI	EPA 120.1	SC	3/16/2011	Iordan Stavrev
					TLI	EPA 200.8	CR	3/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/29/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/17/2011	Sonya Bersudsky
					FIELD	HACH	PH	3/15/2011	Ron Phelps
					TLI	SM2130B	TRB	3/16/2011	Gautam Savani
					TLI	SM2540C	TDS	4/8/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-301	C.Knight	3/22/2011	2:00:00 PM	TLI	EPA 120.1	SC	3/31/2011	Maria Mangarova
					TLI	EPA 200.8	CR	3/27/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/27/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/23/2011	Sonya Bersudsky
					FIELD	HACH	PH	3/22/2011	Ron Phelps
					TLI	SM2130B	TRB	3/23/2011	Gautam Savani
					TLI	SM2540C	TDS	4/8/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-302	C.Knight	3/29/2011	8:00:00 AM	TLI	EPA 120.1	SC	3/30/2011	Maria Mangarova
					TLI	EPA 200.8	CR	4/6/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	4/6/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/30/2011	Sonya Bersudsky

TABLE 8

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)

Monitoring Information

First Quarter 2011 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-302	C.Knight	3/29/2011	8:00:00 AM	FIELD	HACH	PH	3/29/2011	Ron Phelps
					TLI	SM2130B	TRB	3/30/2011	Gautam Savani
					TLI	SM2540C	TDS	4/1/2011	Jenny Tankunakorn
SC-701	SC-701-WDR-290	Ron Phelps	1/4/2011	1:30:00 PM	TLI	EPA 120.1	SC	1/12/2011	Iordan Stavrev
					TLI	EPA 200.7	SE	1/25/2011	Ethel Suico
					TLI	EPA 200.8	AG	1/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	AS	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BE	1/29/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CD	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CO	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	HG	1/27/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	TL	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	V	1/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	1/25/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/5/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	1/5/2011	Giawad Ghenniwa
Phase Separator	SC-Sludge-WDR-290	C.Knight	1/4/2011	12:09:00 PM	FIELD	HACH	PH	1/4/2011	Ron Phelps
					TLI	SM2540C	TDS	1/6/2011	Jenny Tankunakorn
					TLI	EPA 300.0	FL	1/10/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/10/2011	Giawad Ghenniwa
					TLI	EPA 6010B	AG	1/26/2011	Ethel Suico
					TLI	EPA 6010B	AS	1/26/2011	Ethel Suico
					TLI	EPA 6010B	BA	1/26/2011	Ethel Suico
					TLI	EPA 6010B	BE	1/26/2011	Ethel Suico
					TLI	EPA 6010B	CD	1/26/2011	Ethel Suico
					TLI	EPA 6010B	CO	1/26/2011	Ethel Suico
					TLI	EPA 6010B	CR	1/26/2011	Ethel Suico
					TLI	EPA 6010B	CU	1/26/2011	Ethel Suico

TABLE 8

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)

Monitoring Information

First Quarter 2011 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Separator	SC-Sludge-WDR-290	C.Knight	1/4/2011	12:09:00 PM	TLI	EPA 6010B	MN	1/26/2011	Ethel Suico
					TLI	EPA 6010B	MO	1/26/2011	Ethel Suico
					TLI	EPA 6010B	NI	1/26/2011	Ethel Suico
					TLI	EPA 6010B	PB	1/26/2011	Ethel Suico
					TLI	EPA 6010B	SB	1/26/2011	Ethel Suico
					TLI	EPA 6010B	SE	1/26/2011	Ethel Suico
					TLI	EPA 6010B	TL	1/26/2011	Ethel Suico
					TLI	EPA 6010B	V	1/26/2011	Ethel Suico
					TLI	EPA 6010B	ZN	1/26/2011	Ethel Suico
					TLI	SM2540B	MOIST	1/11/2011	Gautam Savani
					TLI	SW 6020A	HG	1/27/2011	Katia Kiarashpoor
					TLI	SW 7199	CR6	1/27/2011	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).

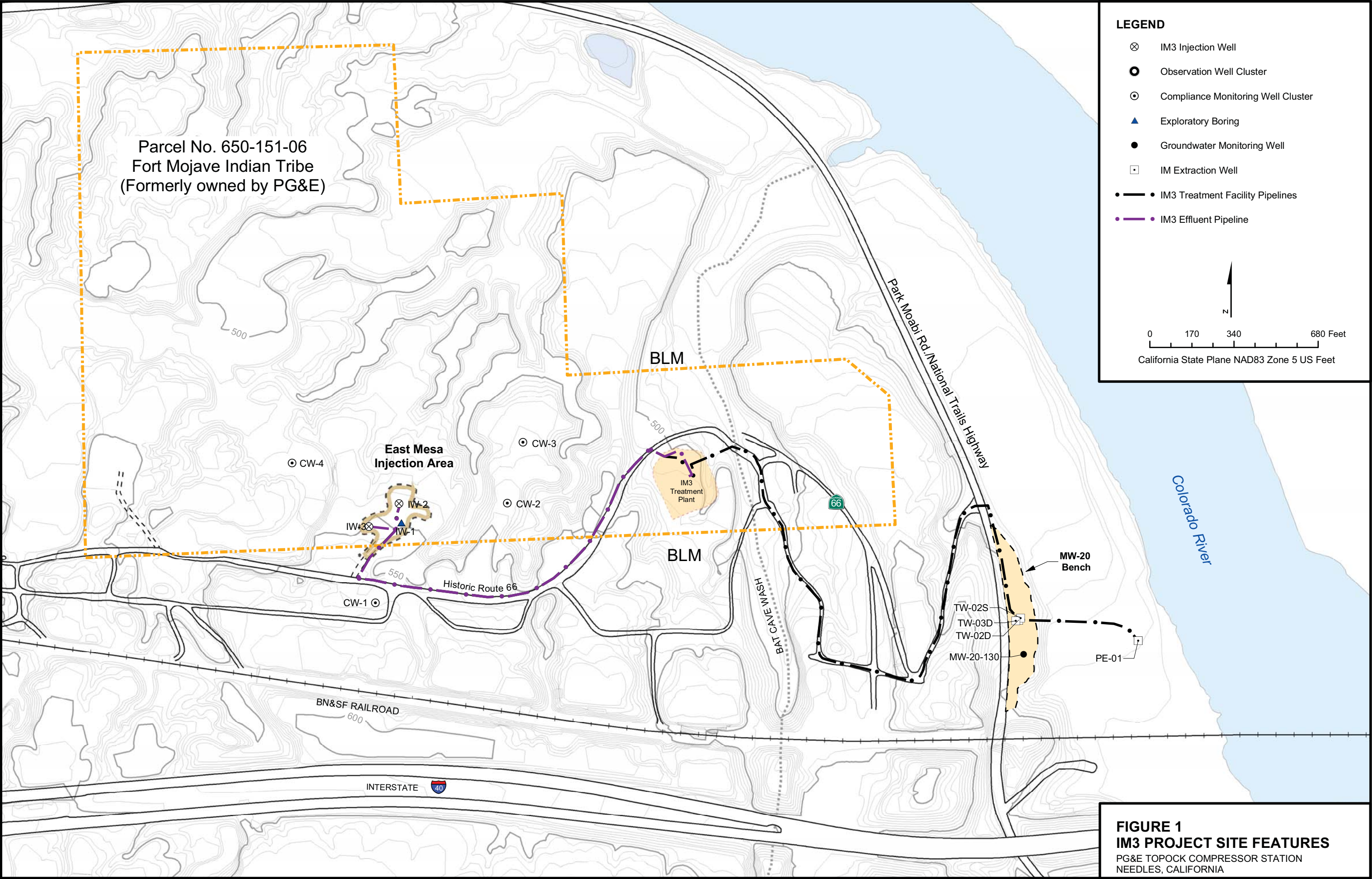
SC-100B = Sampling location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

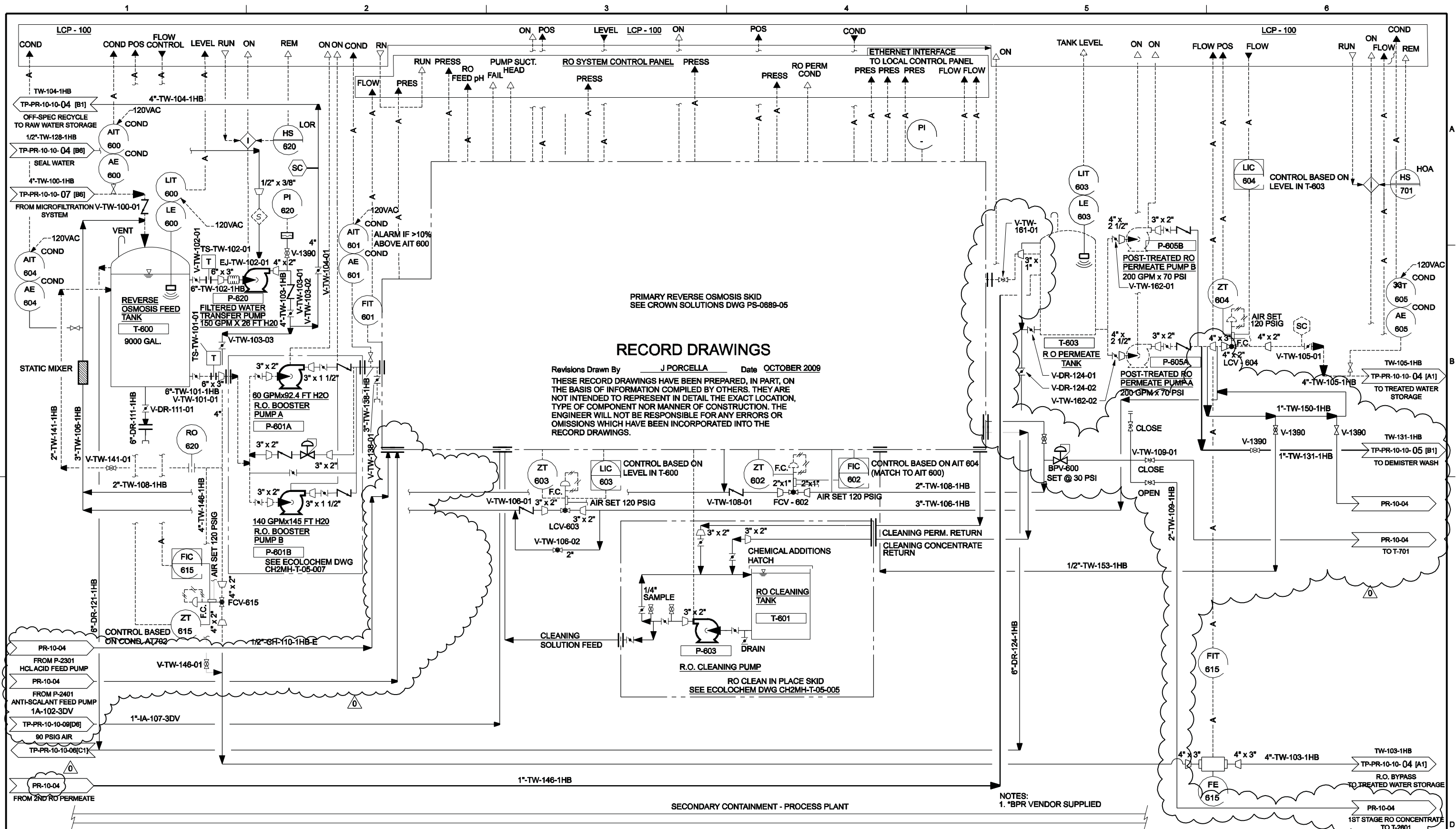
SC-701 = Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID TP-PR-10-10-08).

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





<div><div>REVISIONS</div><div><div>NO.</div><div>DATE</div><div>REVISION</div><div>BY</div><div>CHK</div><div>REVISION APPROVAL</div><div>REV 0</div><div>DATE 10/02/09</div><div>PRINT DISTRIBUTION</div></div></div>		A		2/12/09	INTERNAL REVIEW			DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE	ISSUED	REV	DATE	SDE	PEM
		B		2/12/09	CLIENT REVIEW			CIVIL	SJ	ELECTRICAL	FH	STATUS	PRELIMINARY	A	2/12/09	JP	JP
		C		4/01/09	FOR REVIEW AND APPROVAL	JR	JP	STRUCTURAL		INST & CONTROL	JG	REV.	FOR REVIEW AND APPROVAL	C	4/01/09	JP	JP
		D		11/17/09	FINAL RECORD ISSUE	JR	JP	MECHANICAL	SJ	ARCHITECTURAL		CLIENT	APPROVED FOR CONSTRUCTION				
								PROCESS	DF	ENVIRONMENTAL		FIELD	REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP
								PIPING	SJ	GEN. ARRANG.	SJ	INTRA CO.					
													SCALE	NONE		CH2MHILL	
																DWG. NO.	PR-10-03
																REV.	0

PROJECT INFORMATION

PACIFIC GAS & ELECTRIC CO.

TOPOCK COMPRESSOR STATION

INTERIM MEASURE 3

PLANT PERFORMANCE IMPROVEMENTS

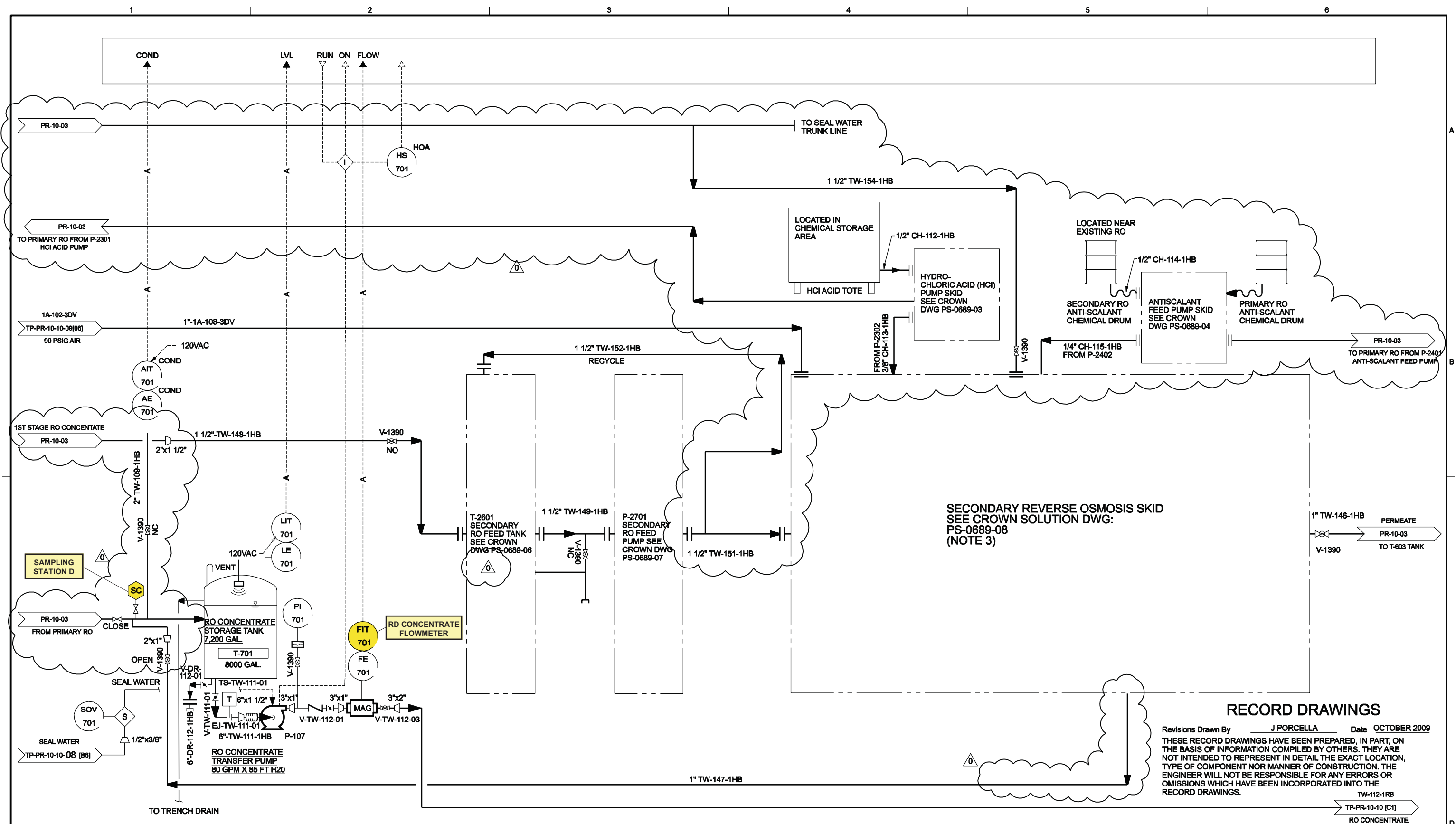
PROJ NO.

362032

PROCESS AND INSTRUMENTATION DIAGRAM

REVERSE OSMOSIS SYSTEM

SHEET ONE OF TWO



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

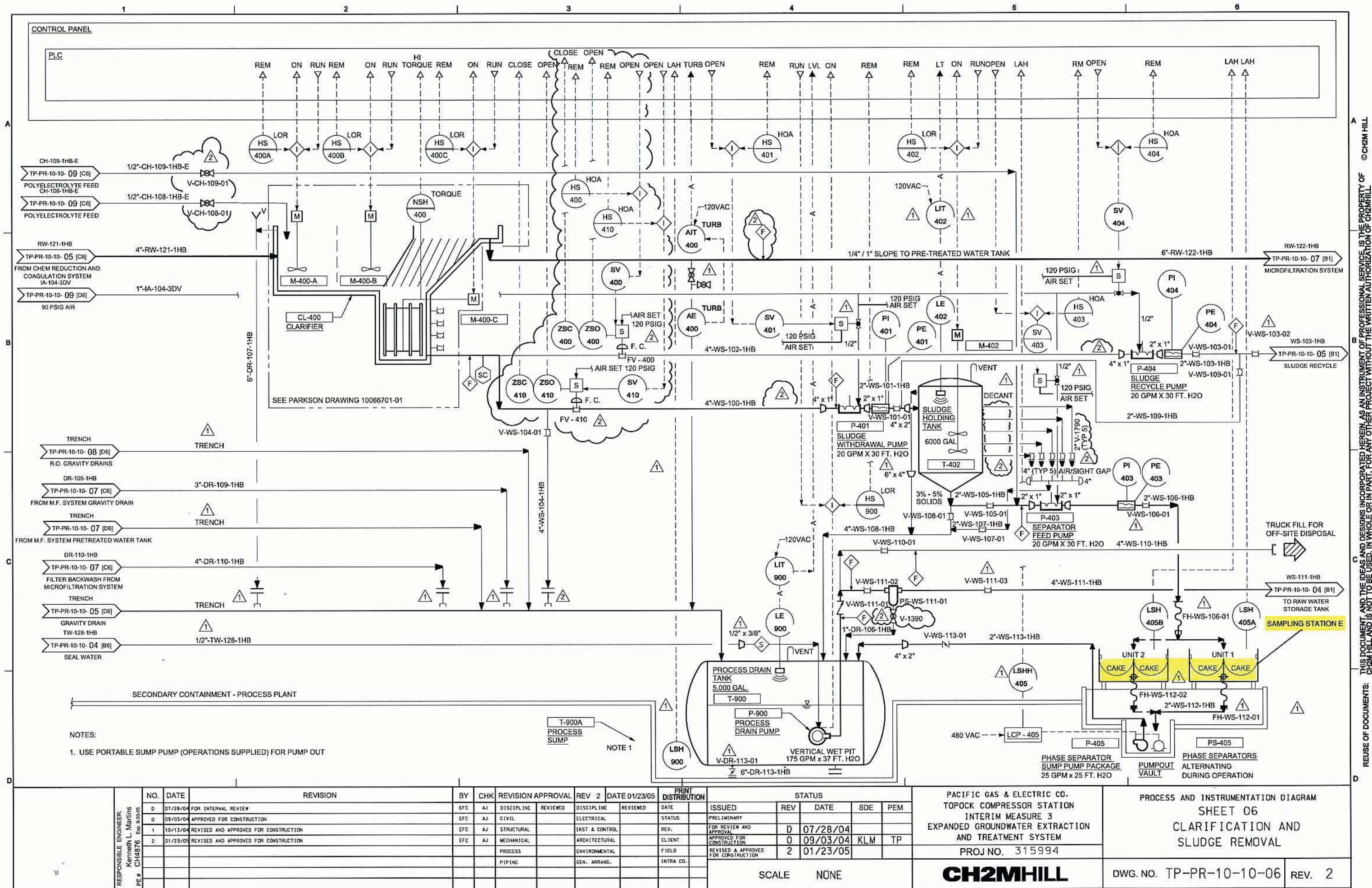
<div><div>**</div><div>ORIGINALLY STAMPED</div><div>AND SIGNED BY:</div><div>JOHN PORCELLA</div><div>CALIFORNIA PE NO. C70145</div><div>ON 04-01-2009</div><div>**</div></div>	<div>RESPONSIBLE ENGINEER</div> <div>John Porcella</div> <div>C70145</div> <div>PE#</div>	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 0	DATE 10/02/09	PRINT DISTRIBUTION	STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 PLANT PERFORMANCE IMPROVEMENTS	PROCESS AND INSTRUMENTATION DIAGRAM REVERSE OSMOSIS SYSTEM SHEET TWO OF TWO				
		A	2/12/09	INTERNAL REVIEW			DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE		ISSUED	REV	DATE					SDE	PEM
		B	2/12/09	CLIENT REVIEW			CIVIL	SJ	ELECTRICAL	FH	STATUS		PRELIMINARY	A	2/12/09					JP	JP
		C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP	STRUCTURAL		INST & CONTROL	JG	REV.		FOR REVIEW AND APPROVAL	C	4/01/09					JP	JP
		D	11/17/09	FINAL RECORD ISSUE	JR	JP	MECHANICAL	SJ	ARCHITECTURAL		CLIENT		APPROVED FOR CONSTRUCTION								
							PROCESS	DF	ENVIRONMENTAL		FIELD		REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP	PROJ NO. 362032			
							PIPING	SJ	GEN. ARRANG.	SJ	INTRA CO.										
											SCALE NONE					CH2MHILL			DWG. NO. PR-10-04	REV. 0	

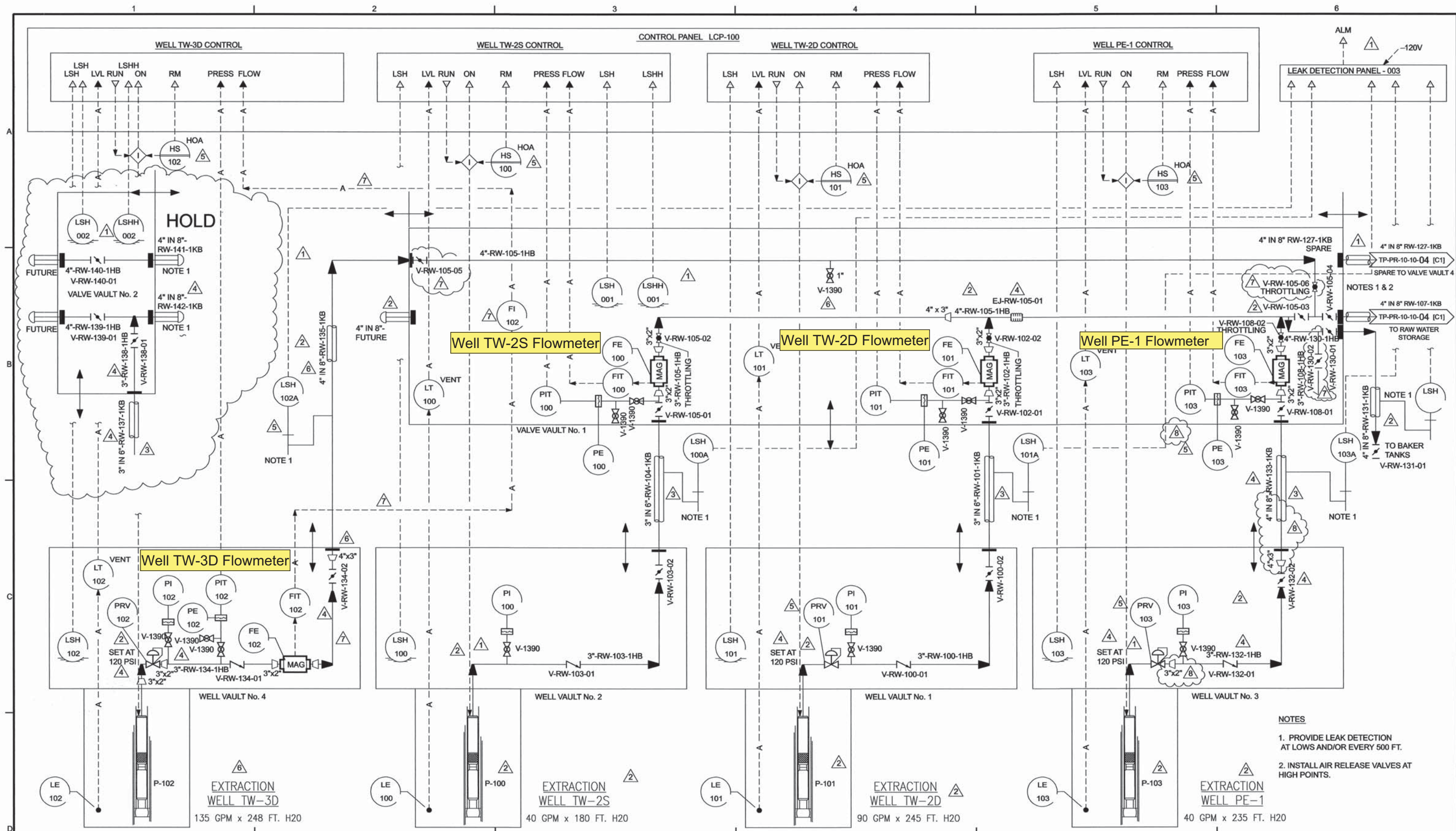
BAR IS ONE INCH ON
ORIGINAL DRAWING.

FILENAME: PR-10-04.dgn

PLOT DATE: 11/19/2009

PLOT TIME: 10:28:26 AM





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



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

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

SCALE NONE

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

CH2MHILL

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

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

FILENAME: tpr101003.dwg

PLOT DATE: 19-OCT-2005

PLOT TIME:

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Appendix A
First Quarter 2011 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

February 9, 2011

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-290 PROJECT, SLUDGE
MONITORING,
TLI NO.: 992958

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-290 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 January 4, 2011, 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.

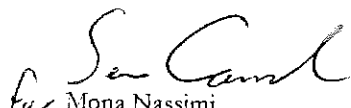
All final results and associated dilution factors are reported on a dry weight basis.

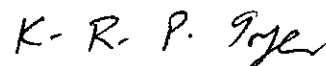
Mr. Shawn Duffy requested that Nitrate as N by EPA 300.0 be analyzed on this sample in addition to the analytes listed on the chain of custody.

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

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.: 408401.01.DM

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Laboratory No.: 992958

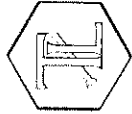
Date: February 9, 2011

Collected: January 4, 2011

Received: January 4, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 300.0	Anions	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Ethel Suico
SW 6020	Metals by ICP/MS	Katia Kiarashpoor
SW 7199	Hexavalent Chromium	Sonya Bersudsky



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

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

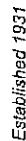
Laboratory No.: 992958
Date Received: January 4, 2011

Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>SW 7199</u> Hexavalent Chromium <u>mg/kg</u>	<u>EPA 300.0</u> Fluoride <u>mg/kg</u>	<u>EPA 300.0</u> Nitrate as N <u>mg/kg</u>	<u>SM 2540 B</u> % Moisture <u>%</u>
992958	SC-Sludge-WDR-290	12:09	44.0	11.8	ND	52.0

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.



Laboratory No.: 992958
Date Received: January 4, 2011

Attention: Shawn Duffy
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

METALS ANALYSIS: Total Metal Analyses as Requested

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.: 408401.01.DM

P.O. No.: 408401.01.DM

Prep. Batch: 01CrH11V

Laboratory No.: 992958

Date: February 9, 2011

Collected: January 4, 2011

Received: January 4, 2011

Prep/ Analyzed: January 27, 2011

Analytical Batch: 01CrH11V

Investigation:

Hexavalent Chromium by IC Using Method SW 7199

Analytical Results Hexavalent Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
992958	SC-Sludge-WDR-290	12:09	15:05	mg/kg	5.00	4.17	44.0

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	992958	44.0	42.2	4.28%	≤ 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	992958	44.0	10.0	16.7	167	202	211	94.8%	75-125%	Yes
IMS	992958	44.0	50.0	35.1	1757	1720	1801	95.4%	75-125%	Yes
PDMS	992958	44.0	25.0	13.3	333	396	377	106%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.400	---	<0.400	Yes
MRCCS	2.08	2.00	104%	90% - 110%	Yes
MRCVS#1	2.16	2.00	108%	90% - 110%	Yes
LCS	2.02	2.00	101%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Mona Nassimi, Manager
Analytical Services

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

REPORT

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
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www.truesdail.com

Attention: Shawn Duffy

Laboratory No.: 992958

Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Date: February 9, 2011
Collected: January 4, 2011
Received: January 4, 2011
Prep/ Analyzed: January 11, 2011
Analytical Batch: 01SOLID11C

Investigation:

Total Solids by SM 2540 B

Analytical Results % Moisture

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>Results</u>
992958	SC-Sludge-WDR-290	12:09	%	52.0

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	992968-6	75.8	75.5	0.40%	≤ 20%	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) Soil Sample

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

P.O. No.: 408401.01.DM

Laboratory No.: 992958

Date: February 9, 2011

Collected: January 4, 2011

Received: January 4, 2011

Prep/ Analyzed: January 10, 2011

Analytical Batch: 01AN11D

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
992958	SC-Sludge-WDR-290	12:09	13:48	mg/kg	1.00	4.17	11.8

QA/QC Summary

QC STD I.D.		Laboratory Number		Concentration		Duplicate Concentration		Relative Percent Difference		Acceptance limits		QC Within Control	
Duplicate		992932-10		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	992932-10	0.143	1.00	2.00	2.00	2.12	2.14	99.0%	85-115%	Yes
MSD	992932-10	0.143	1.00	2.00	2.00	2.12	2.14	98.8%	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	4.03	4.00	101%	90% - 110%	Yes
MRCVS#1	3.12	3.00	104%	90% - 110%	Yes
MRCVS#2	3.16	3.00	105%	90% - 110%	Yes
MRCVS#3	3.19	3.00	106%	90% - 110%	Yes
LCS	4.00	4.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

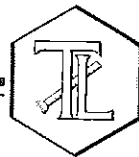
Respectfully submitted,
TRUESDAIL LABORATORIES, INC.

Mona Nassimi
for Mona Nassimi, Manager
Analytical Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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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.: 408401.01.DM

P.O. No.: 408401.01.DM

Laboratory No.: 992958

Date: February 9, 2011

Collected: January 4, 2011

Received: January 4, 2011

Prep/ Analyzed: January 10, 2011

Analytical Batch: 01AN11D

Investigation: Nitrate as N by Ion Chromatography using EPA 300.0

Analytical Results Nitrate as N

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
992958	SC-Sludge-WDR-290	12:09	13:48	mg/kg	1.00	8.33	ND

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	992932-10	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	992932-10	0.204	1.00	2.00	2.00	2.28	2.20	104%	85-115%	Yes
MSD	992932-10	0.204	1.00	2.00	2.00	2.30	2.20	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	3.94	4.00	98.5%	90% - 110%	Yes
MRCVS#1	2.97	3.00	99.1%	90% - 110%	Yes
MRCVS#2	2.98	3.00	99.3%	90% - 110%	Yes
LCS	3.93	4.00	98.3%	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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www.truesdail.com

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.: 408401.01.DM
P.O. No.: 408401.01.DM

Investigation: Total Metal Analyses as Requested

Laboratory No.: 992958

Reported: February 9, 2011

Collected: January 4, 2011

Received: January 4, 2011

Analyzed: See Below

Analytical Results

SAMPLE ID: SC-Sludge-WDR-290		Time Collected: 12:09		LAB ID: 992958				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Arsenic	SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Barium	SW 6010B	67.4	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Beryllium	SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Cadmium	SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Chromium	SW 6010B	4540	10.0	mg/kg	10.4	012611B-Th	01/26/11	16:34
Cobalt	SW 6010B	4.61	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Copper	SW 6010B	21.7	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Lead	SW 6010B	4.15	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Manganese	SW 6010B	370	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Mercury	SW 6020	ND	10.0	mg/kg	0.207	012711A	01/27/11	15:32
Molybdenum	SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Nickel	SW 6010B	20.1	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Selenium	SW 6010B	11.8	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Silver	SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Thallium	SW 6010B	4.80	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Vanadium	SW 6010B	62.5	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
Zinc	SW 6010B	14.4	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34


NOTES:

Sample results and reporting limits reported on a dry weight basis.

ND: Not detected, or below limit of detection.

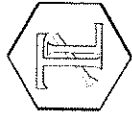
DF: Dilution factor.

Respectfully submitted,
TRUESDAIL LABORATORIES, INC.


Mona Nassimi, Manager
Analytical Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

015



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.: 408401.01.DM

P.O. No.: 408401.01.DM

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Laboratory No.: 992958
Reported: February 9, 2011
Collected: January 4, 2011
Received: January 4, 2011

Quality Control/Quality Assurance Report

DIGESTED BLANK										MRCVS			
Parameter	Method	Batch	Units	Blank	RL	MRCVS		MRCVS		TRUE Value	% Rec	Control Limits	% Control Limits
						Observed Value	% Rec	Observed Value	% Rec				
Antimony	SW 6010B	012611B-Th	mg/kg	ND	2.00	5.32	106%	5.39	108%	5.00	108%	90-110%	90-110%
Arsenic	SW 6010B	012611B-Th	mg/kg	ND	0.500	5.27	105%	5.17	103%	5.00	103%	90-110%	90-110%
Barium	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.20	104%	5.38	108%	5.00	108%	90-110%	90-110%
Beryllium	SW 6010B	012611B-Th	mg/kg	ND	1.00	4.99	99.8%	4.90	98.0%	5.00	98.0%	90-110%	90-110%
Cadmium	SW 6010B	012611B-Th	mg/kg	ND	0.500	5.15	103%	4.95	99.0%	5.00	99.0%	90-110%	90-110%
Chromium	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.07	101%	4.56	91.2%	5.00	91.2%	90-110%	90-110%
Cobalt	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.05	101%	5.01	100%	5.00	100%	90-110%	90-110%
Copper	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.12	102%	5.20	104%	5.00	104%	90-110%	90-110%
Lead	SW 6010B	012611B-Th	mg/kg	ND	1.00	4.98	99.6%	4.78	95.6%	5.00	95.6%	90-110%	90-110%
Manganese	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.07	101%	5.36	107%	5.00	107%	90-110%	90-110%
Mercury	SW 6020	012711A	mg/kg	ND	0.100	0.00187	93.5%	0.00211	106%	0.00200	106%	90-110%	90-110%
Molybdenum	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.19	104%	5.18	104%	5.00	104%	90-110%	90-110%
Nickel	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.14	103%	4.89	97.8%	5.00	97.8%	90-110%	90-110%
Selenium	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.19	104%	5.25	105%	5.00	105%	90-110%	90-110%
Silver	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.07	101%	5.44	109%	5.00	109%	90-110%	90-110%
Thallium	SW 6010B	012611B-Th	mg/kg	ND	2.00	5.10	102%	5.00	100%	5.00	100%	90-110%	90-110%
Vanadium	SW 6010B	012611B-Th	mg/kg	ND	1.00	5.01	100%	5.32	106%	5.00	106%	90-110%	90-110%
Zinc	SW 6010B	012611B-Th	mg/kg	ND	2.00	5.08	102%	4.58	91.6%	5.00	91.6%	90-110%	90-110%



TRUESDAIL LABORATORIES, INC.

Report Continued

INTERFERENCE CHECK STANDARD AB

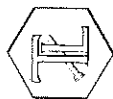
Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Arsenic	SW 6010B	mg/kg	1.96	2.00	98.0%	80-120%
Cadmium	SW 6010B	mg/kg	1.98	2.00	99.0%	80-120%
Chromium	SW 6010B	mg/kg	1.94	2.00	97.0%	80-120%
Cobalt	SW 6010B	mg/kg	1.96	2.00	98.0%	80-120%
Copper	SW 6010B	mg/kg	2.01	2.00	101%	80-120%
Manganese	SW 6010B	mg/kg	2.00	2.00	100%	80-120%
Mercury	SW 6020	mg/kg	0.00205	0.00200	103%	80-120%
Nickel	SW 6010B	mg/kg	1.98	2.00	99.0%	80-120%
Silver	SW 6010B	mg/kg	1.81	2.00	90.5%	80-120%
Zinc	SW 6010B	mg/kg	2.00	2.00	100%	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 6010B	mg/kg	103	100	103%	85-115%	992958	ND	ND	0.00%	≤20
Arsenic	SW 6010B	mg/kg	101	100	101%	85-115%	992958	ND	ND	0.00%	≤20
Barium	SW 6010B	mg/kg	103	100	103%	85-115%	992958	67.4	67.4	0.06%	≤20
Beryllium	SW 6010B	mg/kg	104	100	104%	85-115%	992958	ND	ND	0.00%	≤20
Cadmium	SW 6010B	mg/kg	102	100	102%	85-115%	992958	ND	ND	0.00%	≤20
Chromium	SW 6010B	mg/kg	101	100	101%	85-115%	992958	4540	4770	4.94%	≤20
Cobalt	SW 6010B	mg/kg	100	100	100%	85-115%	992958	4.61	4.61	0.05%	≤20
Copper	SW 6010B	mg/kg	103	100	103%	85-115%	992958	21.7	22.8	4.68%	≤20
Lead	SW 6010B	mg/kg	97.9	100	97.9%	85-115%	992958	4.15	3.55	15.6%	≤20
Manganese	SW 6010B	mg/kg	104	100	104%	85-115%	992958	370	372	0.67%	≤20
Mercury	SW 6020	mg/kg	0.107	0.100	107%	85-115%	992958	ND	ND	0.00%	≤20
Molybdenum	SW 6010B	mg/kg	101	100	101%	85-115%	992958	ND	ND	0.00%	≤20
Nickel	SW 6010B	mg/kg	102	100	102%	85-115%	992958	20.1	20.5	1.81%	≤20
Selenium	SW 6010B	mg/kg	97.3	100	97.3%	85-115%	992958	11.8	11.7	0.23%	≤20
Silver	SW 6010B	mg/kg	102	100	102%	85-115%	992958	ND	ND	0.00%	≤20
Thallium	SW 6010B	mg/kg	100	100	100%	85-115%	992958	4.80	4.62	3.76%	≤20
Vanadium	SW 6010B	mg/kg	101	100	101%	85-115%	992958	62.5	62.1	0.60%	≤20
Zinc	SW 6010B	mg/kg	101	100	101%	85-115%	992958	14.4	12.0	17.9%	≤20

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.



MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
992958	Antimony	SW 6010B	mg/kg	0.00	2.00	207	414	414	472	114%	75-125%
992958	Arsenic	SW 6010B	mg/kg	0.00	2.00	207	414	414	441	107%	75-125%
992958	Barium	SW 6010B	mg/kg	67.4	2.00	207	414	482	495	103%	75-125%
992958	Beryllium	SW 6010B	mg/kg	0.00	2.00	207	414	414	435	105%	75-125%
992958	Cadmium	SW 6010B	mg/kg	0.00	2.00	207	414	414	392	94.7%	75-125%
992958	Chromium	SW 6010B	mg/kg	4540	10.0	207	2071	6611	6221	81.2%	75-125%
992958	Cobalt	SW 6010B	mg/kg	4.61	2.00	207	414	419	421	101%	75-125%
992958	Copper	SW 6010B	mg/kg	21.7	2.00	207	414	436	433	99.4%	75-125%
992958	Lead	SW 6010B	mg/kg	4.15	2.00	207	414	418	404	96.4%	75-125%
992958	Manganese	SW 6010B	mg/kg	370	2.00	207	414	784	781	99.4%	75-125%
992958	Mercury	SW 6020	mg/kg	0.00	10.0	0.207	2.07	2.07	2.08	101%	75-125%
992958	Molybdenum	SW 6010B	mg/kg	0.00	2.00	207	414	414	444	107%	75-125%
992958	Nickel	SW 6010B	mg/kg	20.1	2.00	207	414	434	434	99.8%	75-125%
992958	Selenium	SW 6010B	mg/kg	11.8	2.00	207	414	426	412	96.6%	75-125%
992958	Silver	SW 6010B	mg/kg	0.00	2.00	207	414	414	435	105%	75-125%
992958	Thallium	SW 6010B	mg/kg	4.80	2.00	207	414	419	439	105%	75-125%
992958	Vanadium	SW 6010B	mg/kg	62.5	2.00	207	414	477	481	101%	75-125%
992958	Zinc	SW 6010B	mg/kg	14.4	2.00	207	414	428	450	105%	75-125%

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

Dry Weight Calculations

Date Calculated: 2/9/2011

	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	5.664	---	52.0	11.7998	11.8	2.00	4.17
Nitrate as N	ND	---	52.0	ND	ND	4.00	8.33
Hexavalent Chromium	21.1257	---	52.0	44.0109	44.0	2.00	4.17
Hexavalent Chromium - Dup	20.2397	---	52.0	42.1652	42.2	2.00	4.17
Hexavalent Chromium - MS	97.2087	---	52.0	202.514	202	4.00	8.33
Hexavalent Chromium - IMS	826.204	---	52.0	1721.222	1720	20.0	41.7
Hexavalent Chromium - PDMS	190.2829	---	52.0	396.414	396	10.0	20.8
Antimony	ND	2.00	52.0	ND	ND	0.994	2.07
Arsenic	ND	2.00	52.0	ND	ND	0.994	2.07
Barium	32.36	2.00	52.0	67.4153	67.4	0.994	2.07
Beryllium	ND	2.00	52.0	ND	ND	0.994	2.07
Cadmium	ND	2.00	52.0	ND	ND	0.994	2.07
Chromium	2180	10.0	52.0	4541.57	4540	4.97	10.4
Cobalt	2.214	2.00	52.0	4.6124	4.61	0.994	2.07
Copper	10.43	2.00	52.0	21.7287	21.7	0.994	2.07
Lead	1.994	2.00	52.0	4.1541	4.15	0.994	2.07
Manganese	177.5	2.00	52.0	369.7840	370	0.994	2.07
Mercury	0.04906	10.0	52.0	0.10220	ND	0.0994	0.207
Molybdenum	ND	2.00	52.0	ND	ND	0.994	2.07
Nickel	9.667	2.00	52.0	20.1392	20.1	0.994	2.07
Selenium	5.650	2.00	52.0	11.7706	11.8	0.994	2.07
Silver	ND	2.00	52.0	ND	ND	0.994	2.07
Thallium	2.304	2.00	52.0	4.7999	4.80	0.994	2.07
Vanadium	29.99	2.00	52.0	62.478	62.5	0.994	2.07
Zinc	6.90	2.00	52.0	14.3643	14.4	0.994	2.07

Sample Result in Dry Weight = [Sample_{ww} / (100-%Moisture)]*100

where:

Sample_{ww} = Sample result in wet weight

Date of Analysis: 01/11/11

Analytical Batch:	01SOLID11C
Oven Temp, °C:	105

[illegible]

Relative Percent Difference			
Sample ID	Sample	Sample Dup	RPD
992968-6	75.822	75.500	0.4

$$\% \text{ Total Solids} = \frac{(A - B) \times 100}{C - B} = \frac{\text{Weight of dried residue} \times 100}{\text{Weight of wet sample}}$$

C = Weight of wet sample + Dish, g


Analyst Signature

Reviewer Name


Reviewer Signature

Rec'd 01/04/11
s2la99 2958

TRUESDAIL LABORATORIES, INC.
14201 Franklin Avenue, Tustin, CA 92780-7008
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CHAIN OF CUSTODY RECORD

[TIM3plant-WDR-290]

TURNAROUND TIME 10 Days
DATE 01/04/11 PAGE 1

[illegible]

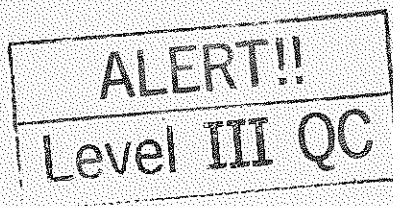
CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	4 °C °F
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				



Sample Integrity & Analysis Discrepancy Form

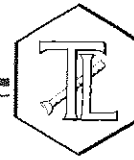
Client: ELLab # 992958Date Delivered: 01/04/11 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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?
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 = _____ ☐ 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: Linda



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February 12, 2011

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-290 PROJECT, GROUNDWATER
MONITORING,
TLI NO.: 992959

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-290 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 4, 2011, 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 result for sample SC-700B-WDR-290 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 within the retention time window, the data is accepted.

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

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

TRUESDAIL LABORATORIES, INC.

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Established 1931

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.: 408401.01.DM

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Laboratory No.: 992959

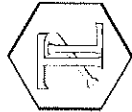
Date: February 12, 2011

Collected: January 4, 2011

Received: January 4, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
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	Jenny Tankunakorn
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 992959
Date Received: January 4, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992959-001	SC-700B-WDR-290	E120.1	NONE	1/4/2011	13:30	EC	7190	umhos/cm	2.0
992959-001	SC-700B-WDR-290	E200.7	NONE	1/4/2011	13:30	Aluminum	ND	ug/L	50.0
992959-001	SC-700B-WDR-290	E200.7	NONE	1/4/2011	13:30	BORON	1060	ug/L	200
992959-001	SC-700B-WDR-290	E200.7	NONE	1/4/2011	13:30	Iron	ND	ug/L	20.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Antimony	ND	ug/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Arsenic	ND	ug/L	1.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Barium	11.3	ug/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Chromium	ND	ug/L	1.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Copper	ND	ug/L	5.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Lead	ND	ug/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Manganese	1.5	ug/L	1.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Molybdenum	14.5	ug/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Nickel	ND	ug/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Zinc	13.8	ug/L	10.0
992959-001	SC-700B-WDR-290	E218.6	LABFLT	1/4/2011	13:30	Chromium, hexavalent	0.32	ug/L	0.20
992959-001	SC-700B-WDR-290	E300	NONE	1/4/2011	13:30	Fluoride	1.75	mg/L	0.500
992959-001	SC-700B-WDR-290	E300	NONE	1/4/2011	13:30	Nitrate as N	2.95	mg/L	1.00
992959-001	SC-700B-WDR-290	E300	NONE	1/4/2011	13:30	Sulfate	505	mg/L	25.0
992959-001	SC-700B-WDR-290	SM2130B	NONE	1/4/2011	13:30	Turbidity	ND	NTU	0.100
992959-001	SC-700B-WDR-290	SM2540C	NONE	1/4/2011	13:30	Total Dissolved Solids	4410	mg/L	250
992959-001	SC-700B-WDR-290	SM4500NH3D	NONE	1/4/2011	13:30	Ammonia-N	ND	mg/L	0.500
992959-001	SC-700B-WDR-290	SM4500NO2B	NONE	1/4/2011	13:30	Nitrite as N	ND	mg/L	0.0050



TRUESDAIL LABORATORIES, INC.

Report Continued

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992959-002	SC-100B-WDR-290	E120.1	NONE	1/4/2011	13:30	EC	8060	umhos/cm	2.00
992959-002	SC-100B-WDR-290	E200.7	NONE	1/4/2011	13:30	Aluminum	ND	ug/L	50.0
992959-002	SC-100B-WDR-290	E200.7	NONE	1/4/2011	13:30	BORON	1070	ug/L	200
992959-002	SC-100B-WDR-290	E200.7	NONE	1/4/2011	13:30	Iron	ND	ug/L	20.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Antimony	ND	ug/L	10.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Arsenic	3.5	ug/L	1.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Barium	27.0	ug/L	10.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Chromium	992	ug/L	1.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Copper	ND	ug/L	5.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Lead	ND	ug/L	10.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Manganese	10.0	ug/L	1.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Molybdenum	19.5	ug/L	10.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Nickel	ND	ug/L	10.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Zinc	13.2	ug/L	10.0
992959-002	SC-100B-WDR-290	E218.6	LABFLT	1/4/2011	13:30	Chromium, hexavalent	1120	ug/L	21.0
992959-002	SC-100B-WDR-290	E300	NONE	1/4/2011	13:30	Fluoride	2.06	mg/L	0.500
992959-002	SC-100B-WDR-290	E300	NONE	1/4/2011	13:30	Nitrate as N	3.51	mg/L	1.00
992959-002	SC-100B-WDR-290	E300	NONE	1/4/2011	13:30	Sulfate	556	mg/L	25.0
992959-002	SC-100B-WDR-290	SM2130B	NONE	1/4/2011	13:30	Turbidity	ND	NTU	0.100
992959-002	SC-100B-WDR-290	SM2540C	NONE	1/4/2011	13:30	Total Dissolved Solids	5470	mg/L	250
992959-002	SC-100B-WDR-290	SM4500NH3D	NONE	1/4/2011	13:30	Ammonia-N	ND	mg/L	0.500
992959-002	SC-100B-WDR-290	SM4500NO2B	NONE	1/4/2011	13:30	Nitrite as N	ND	mg/L	0.0050



TRUESDAIL LABORATORIES, INC.

Report Continued

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
992959-003	SC-701-WDR-290	E120.1	NONE	1/4/2011	13:30	EC	48800	umhos/cm	2.00
992959-003	SC-701-WDR-290	E200.7	NONE	1/4/2011	13:30	Selenium	ND	ug/L	50.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Antimony	ND	ug/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Arsenic	2.3	ug/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Barium	107	ug/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Beryllium	ND	ug/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Cadmium	ND	ug/L	3.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Chromium	4.6	ug/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Cobalt	ND	ug/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Copper	ND	ug/L	5.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Lead	ND	ug/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Manganese	12.8	ug/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Mercury	ND	ug/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Molybdenum	139	ug/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Nickel	ND	ug/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Silver	ND	ug/L	5.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Thallium	ND	ug/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Vanadium	7.9	ug/L	5.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Zinc	18.8	ug/L	10.0
992959-003	SC-701-WDR-290	E218.6	LABFLT	1/4/2011	13:30	Chromium, hexavalent	2.5	ug/L	2.1
992959-003	SC-701-WDR-290	E300	NONE	1/4/2011	13:30	Fluoride	14.4	mg/L	0.500
992959-003	SC-701-WDR-290	SM2540C	NONE	1/4/2011	13:30	Total Dissolved Solids	41200	mg/L	1250

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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TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 992959

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Printed 2/12/2011

Samples Received on 1/4/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-290	992959-001	01/04/2011 13:30	Water
SC-100B-WDR-290	992959-002	01/04/2011 13:30	Water
SC-701-WDR-290	992959-003	01/04/2011 13:30	Water

Anions By I.C. - EPA 300.0

Batch 01AN11B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Fluoride	mg/L	01/05/2011 11:53	5.00	0.0250	0.500	1.75
Nitrate as Nitrogen	mg/L	01/05/2011 11:53	5.00	0.0550	1.00	2.95
Sulfate	mg/L	01/05/2011 14:34	50.0	1.00	25.0	505
992959-002 Fluoride	mg/L	01/05/2011 12:05	5.00	0.0250	0.500	2.06
Nitrate as Nitrogen	mg/L	01/05/2011 12:05	5.00	0.0550	1.00	3.51
Sulfate	mg/L	01/05/2011 15:12	50.0	1.00	25.0	556
992959-003 Fluoride	mg/L	01/05/2011 15:24	5.00	0.0250	0.500	14.4

Method Blank

Parameter	Unit	DF	Result
Fluoride	mg/L	1.00	ND
Sulfate	mg/L	1.00	ND
Nitrate as Nitrogen	mg/L	1.00	ND

Duplicate

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	1.60	1.75	9.07	0 - 20
Sulfate	mg/L	50.0	504	505	0.137	0 - 20
Nitrate as Nitrogen	mg/L	5.00	2.92	2.95	0.919	0 - 20

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.04	4.00	101	90 - 110
Sulfate	mg/L	1.00	20.1	20.0	101	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.97	4.00	99.3	90 - 110

Matrix Spike

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	12.0	11.8(10.0)	102	85 - 115
Sulfate	mg/L	50.0	1030	1000(500.)	105	85 - 115
Nitrate as Nitrogen	mg/L	5.00	14.4	13.0(10.0)	115	85 - 115

Matrix Spike Duplicate

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	11.8	11.8(10.0)	101	85 - 115
Nitrate as Nitrogen	mg/L	5.00	14.4	13.0(10.0)	114	85 - 115

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.04	4.00	101	90 - 110
Sulfate	mg/L	1.00	20.4	20.0	102	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.98	4.00	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.05	3.00	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.02	3.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.2	15.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.2	15.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.91	3.00	97.1	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Printed 2/12/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.91	3.00	96.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.90	3.00	96.5	90 - 110

Nitrite SM 4500-NO2 B

Batch 01NO211B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Nitrite as Nitrogen	mg/L	01/05/2011 17:18	1.00	0.000200	0.0050	ND
992959-002 Nitrite as Nitrogen	mg/L	01/05/2011 17:19	1.00	0.000200	0.0050	ND

Method Blank

Parameter	Unit	DF	Result
Nitrite as Nitrogen	mg/L	1.00	ND

Duplicate

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0391	0.0400	97.8	90 - 110

Matrix Spike

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0192	0.0200(0.0200)	96.0	75 - 125

Matrix Spike Duplicate

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0194	0.0200(0.0200)	97.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0203	0.0200	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0203	0.0200	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0201	0.0200	100	90 - 110

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Specific Conductivity - EPA 120.1

Batch 01EC11I

1/12/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Specific Conductivity	umhos/cm	01/12/2011	1.00	0.0380	2.00	7190
992959-002 Specific Conductivity	umhos/cm	01/12/2011	1.00	0.0380	2.00	8060
992959-003 Specific Conductivity	umhos/cm	01/12/2011	1.00	0.0380	2.00	48800

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8040	8060	0.248	0 - 10

Duplicate

Lab ID = 993043-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7460	7460	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	691.	706.	97.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	698.	706.	98.9	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	701.	706.	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991.	999.	99.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	999.	99.6	90 - 110



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Chrome VI by EPA 218.6

Batch 01CrH11B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Chromium, Hexavalent	ug/L	01/05/2011 16:16	1.05	0.0210	0.20	0.32
992959-002 Chromium, Hexavalent	ug/L	01/05/2011 16:58	105	2.20	21.0	1120
992959-003 Chromium, Hexavalent	ug/L	01/05/2011 18:55	10.5	0.220	2.1	2.5

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND
Duplicate			

Lab ID = 992658-020

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	24.3	23.2	4.39	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.10	5.00	102	90 - 110

Matrix Spike

Lab ID = 992658-016

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.92	5.71(5.25)	104	90 - 110

Matrix Spike

Lab ID = 992658-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	10.9	10.5(10.5)	104	90 - 110

Matrix Spike

Lab ID = 992658-017

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	4.51	5.25(5.25)	85.9	90 - 110

Matrix Spike

Lab ID = 992658-018

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.19(1.06)	91.0	90 - 110

Matrix Spike

Lab ID = 992658-019

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.18(1.06)	93.9	90 - 110

Matrix Spike

Lab ID = 992658-020

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	47.5	49.4(26.2)	92.7	90 - 110

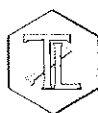
Matrix Spike

Lab ID = 992658-021

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	35.6	37.6(26.2)	92.2	90 - 110


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Project Number: 408401.01.DM
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Matrix Spike						Lab ID = 992957-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	39.1	39.1(21.6)	100	90 - 110
Matrix Spike						Lab ID = 992959-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.45	1.38(1.06)	106	90 - 110
Matrix Spike						Lab ID = 992959-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2540	2700(1580)	89.9	90 - 110
Matrix Spike						Lab ID = 992959-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	13.1	13.0(10.5)	101	90 - 110
Matrix Spike						Lab ID = 992959-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	0.263	6.79(5.25)	-24.3	90 - 110
Matrix Spike						Lab ID = 992959-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	ND	1.06(1.06)		90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.02	5.00	100	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.82	10.0	98.2	95 - 105



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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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Metals by EPA 200.7, Total

Batch 012511A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Aluminum	ug/L	01/25/2011 14:26	1.00	1.00	50.0	ND
Iron	ug/L	01/25/2011 14:26	1.00	3.00	20.0	ND
992959-002 Aluminum	ug/L	01/25/2011 14:58	1.00	1.00	50.0	ND
Iron	ug/L	01/25/2011 14:58	1.00	3.00	20.0	ND
992959-003 Selenium	ug/L	01/25/2011 15:03	1.00	2.00	10.0	31.9

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Iron	ug/L	1.00	ND
Selenium	ug/L	1.00	ND

Duplicate

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	ND	0	0	0 - 20
Iron	ug/L	1.00	ND	0	0	0 - 20
Selenium	ug/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4880	5000	97.7	90 - 110
Iron	ug/L	1.00	5230	5000	105	90 - 110
Selenium	ug/L	1.00	5110	5000	102	90 - 110

Matrix Spike

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1800	2000(2000)	90.2	75 - 125
Iron	ug/L	1.00	2130	2000(2000)	107	75 - 125
Selenium	ug/L	1.00	2180	2000(2000)	109	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	5080	5000	102	95 - 105
Iron	ug/L	1.00	5270	5000	105	95 - 105
Selenium	ug/L	1.00	5240	5000	105	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4620	5000	92.4	90 - 110

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MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4810	5000	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5160	5000	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5420	5000	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	5200	5000	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	5260	5000	105	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1710	2000	85.6	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1770	2000	88.7	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2210	2000	110	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2250	2000	112	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1810	2000	90.7	80 - 120

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 9 of 31****Project Number: 408401.01.DM****Printed 2/12/2011****Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2150	2000	108	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2160	2000	108	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2220	2000	111	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	ND	0		



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Metals by EPA 200.7, Total

Batch 021011A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Boron	ug/L	02/10/2011 15:16	1.00	5.00	200.	1060
992959-002 Boron	ug/L	02/10/2011 15:38	1.00	5.00	200.	1070

Method Blank

Parameter	Unit	DF	Result
Boron	ug/L	1.00	ND

Duplicate

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Boron	ug/L	1.00	1070	1060	0.753	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5070	5000	101	90 - 110

Matrix Spike

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Boron	ug/L	1.00	2840	3060(2000)	88.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	4970	5000	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5210	5000	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	5150	5000	103	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Metals by EPA 200.8, Total

Batch 012511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Antimony	ug/L	01/25/2011 10:37	5.00	0.190	10.0	ND
Arsenic	ug/L	01/25/2011 10:37	5.00	0.260	1.0	ND
Barium	ug/L	01/25/2011 10:37	5.00	0.185	10.0	11.3
Chromium	ug/L	01/25/2011 10:37	5.00	0.0950	1.0	ND
Copper	ug/L	01/25/2011 10:37	5.00	0.305	5.0	ND
Lead	ug/L	01/25/2011 10:37	5.00	0.0950	10.0	ND
Manganese	ug/L	01/25/2011 10:37	5.00	0.210	1.0	1.5
Molybdenum	ug/L	01/25/2011 10:37	5.00	0.660	10.0	14.5
Nickel	ug/L	01/25/2011 10:37	5.00	0.240	10.0	ND
Zinc	ug/L	01/25/2011 10:37	5.00	1.32	10.0	13.8
992959-002 Antimony	ug/L	01/25/2011 10:44	5.00	0.190	10.0	ND
Arsenic	ug/L	01/25/2011 10:44	5.00	0.260	1.0	3.5
Barium	ug/L	01/25/2011 10:44	5.00	0.185	10.0	27.0
Chromium	ug/L	01/25/2011 10:44	5.00	0.0950	1.0	992.
Copper	ug/L	01/25/2011 10:44	5.00	0.305	5.0	ND
Lead	ug/L	01/25/2011 10:44	5.00	0.0950	10.0	ND
Manganese	ug/L	01/25/2011 10:44	5.00	0.210	1.0	10.0
Molybdenum	ug/L	01/25/2011 10:44	5.00	0.660	10.0	19.5
Nickel	ug/L	01/25/2011 10:44	5.00	0.240	10.0	ND
Zinc	ug/L	01/25/2011 10:44	5.00	1.32	10.0	13.2
992959-003 Antimony	ug/L	01/25/2011 11:56	5.00	0.190	10.0	ND
Arsenic	ug/L	01/25/2011 11:56	5.00	0.260	1.0	2.3
Barium	ug/L	01/25/2011 11:56	5.00	0.185	10.0	107
Cadmium	ug/L	01/25/2011 11:56	5.00	0.125	3.0	ND
Chromium	ug/L	01/25/2011 11:56	5.00	0.0950	1.0	4.6
Cobalt	ug/L	01/25/2011 11:56	5.00	0.0750	10.0	ND
Copper	ug/L	01/25/2011 11:56	5.00	0.305	5.0	ND
Lead	ug/L	01/25/2011 11:56	5.00	0.0950	10.0	ND
Manganese	ug/L	01/25/2011 11:56	5.00	0.210	1.0	12.8
Molybdenum	ug/L	01/25/2011 11:56	5.00	0.660	10.0	139
Nickel	ug/L	01/25/2011 11:56	5.00	0.240	10.0	ND
Thallium	ug/L	01/25/2011 11:56	5.00	0.180	1.0	ND
Vanadium	ug/L	01/25/2011 11:56	5.00	0.100	5.0	7.9
Zinc	ug/L	01/25/2011 11:56	5.00	1.32	10.0	18.8

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Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Cadmium	ug/L	1.00	ND
Cobalt	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Nickel	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND
Thallium	ug/L	1.00	ND
Vanadium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate

Lab ID = 993223-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	3.37	3.61	6.79	0 - 20
Barium	ug/L	5.00	50.2	50.6	0.695	0 - 20
Cadmium	ug/L	5.00	ND	0	0	0 - 20
Cobalt	ug/L	5.00	2.07	2.03	2.27	0 - 20
Chromium	ug/L	5.00	1.06	0.976	8.58	0 - 20
Nickel	ug/L	5.00	ND	0	0	0 - 20
Zinc	ug/L	5.00	15.0	15.1	0.631	0 - 20
Antimony	ug/L	5.00	ND	0	0	0 - 20
Copper	ug/L	5.00	ND	0	0	0 - 20
Lead	ug/L	5.00	ND	0	0	0 - 20
Thallium	ug/L	5.00	ND	0	0	0 - 20
Vanadium	ug/L	5.00	8.93	9.04	1.22	0 - 20
Manganese	ug/L	5.00	17.2	17.3	0.145	0 - 20
Molybdenum	ug/L	5.00	1.37	1.36	0.989	0 - 20



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Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.7	50.0	97.5	90 - 110
Barium	ug/L	1.00	50.4	50.0	101	90 - 110
Cadmium	ug/L	1.00	49.8	50.0	99.6	90 - 110
Cobalt	ug/L	1.00	48.9	50.0	97.8	90 - 110
Chromium	ug/L	1.00	50.3	50.0	101	90 - 110
Nickel	ug/L	1.00	51.1	50.0	102	90 - 110
Zinc	ug/L	1.00	54.2	50.0	108	90 - 110
Antimony	ug/L	1.00	48.8	50.0	97.6	90 - 110
Copper	ug/L	1.00	49.4	50.0	98.7	90 - 110
Lead	ug/L	1.00	49.4	50.0	98.7	90 - 110
Thallium	ug/L	1.00	49.3	50.0	98.7	90 - 110
Vanadium	ug/L	1.00	49.2	50.0	98.5	90 - 110
Manganese	ug/L	1.00	50.3	50.0	101	90 - 110
Molybdenum	ug/L	1.00	48.2	50.0	96.4	90 - 110

Matrix Spike

Lab ID = 993223-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	235	254(250.)	92.5	75 - 125
Barium	ug/L	5.00	283	301(250.)	92.8	75 - 125
Cadmium	ug/L	5.00	211	250.(250.)	84.6	75 - 125
Cobalt	ug/L	5.00	219	252(250.)	86.9	75 - 125
Chromium	ug/L	5.00	232	251(250.)	92.5	75 - 125
Nickel	ug/L	5.00	214	250.(250.)	85.7	75 - 125
Zinc	ug/L	5.00	240	265(250.)	90.1	75 - 125
Antimony	ug/L	5.00	237	250.(250.)	95.0	75 - 125
Copper	ug/L	5.00	212	250.(250.)	84.7	75 - 125
Lead	ug/L	5.00	207	250.(250.)	82.8	75 - 125
Thallium	ug/L	5.00	208	250.(250.)	83.4	75 - 125
Vanadium	ug/L	5.00	244	259(250.)	94.1	75 - 125
Manganese	ug/L	5.00	253	267(250.)	94.2	75 - 125
Molybdenum	ug/L	5.00	226	251(250.)	89.7	75 - 125



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Matrix Spike Duplicate

Lab ID = 993223-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	238	254(250.)	93.6	75 - 125
Barium	ug/L	5.00	278	301(250.)	91.0	75 - 125
Cadmium	ug/L	5.00	208	250.(250.)	83.0	75 - 125
Cobalt	ug/L	5.00	221	252(250.)	87.7	75 - 125
Chromium	ug/L	5.00	231	251(250.)	92.1	75 - 125
Nickel	ug/L	5.00	216	250.(250.)	86.5	75 - 125
Zinc	ug/L	5.00	228	265(250.)	85.3	75 - 125
Antimony	ug/L	5.00	236	250.(250.)	94.3	75 - 125
Copper	ug/L	5.00	211	250.(250.)	84.6	75 - 125
Lead	ug/L	5.00	206	250.(250.)	82.2	75 - 125
Thallium	ug/L	5.00	206	250.(250.)	82.4	75 - 125
Vanadium	ug/L	5.00	244	259(250.)	93.8	75 - 125
Manganese	ug/L	5.00	253	267(250.)	94.4	75 - 125
Molybdenum	ug/L	5.00	224	251(250.)	89.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.9	50.0	95.7	90 - 110
Barium	ug/L	1.00	50.0	50.0	99.9	90 - 110
Cadmium	ug/L	1.00	49.6	50.0	99.2	90 - 110
Cobalt	ug/L	1.00	48.1	50.0	96.2	90 - 110
Chromium	ug/L	1.00	49.5	50.0	99.0	90 - 110
Nickel	ug/L	1.00	49.2	50.0	98.5	90 - 110
Zinc	ug/L	1.00	52.5	50.0	105	90 - 110
Antimony	ug/L	1.00	48.7	50.0	97.3	90 - 110
Copper	ug/L	1.00	48.5	50.0	97.1	90 - 110
Lead	ug/L	1.00	49.2	50.0	98.4	90 - 110
Thallium	ug/L	1.00	49.2	50.0	98.3	90 - 110
Vanadium	ug/L	1.00	48.5	50.0	97.1	90 - 110
Manganese	ug/L	1.00	50.2	50.0	100	90 - 110
Molybdenum	ug/L	1.00	48.6	50.0	97.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.6	50.0	93.1	90 - 110

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MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.6	50.0	95.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.2	50.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	47.4	50.0	94.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	48.9	50.0	97.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	49.1	50.0	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	49.8	50.0	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	49.2	50.0	98.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	46.7	50.0	93.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	46.5	50.0	93.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	46.5	50.0	93.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	46.2	50.0	92.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	48.6	50.0	97.3	90 - 110

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Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	48.1	50.0	96.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	49.0	50.0	97.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	49.2	50.0	98.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.6	50.0	97.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.8	50.0	97.5	90 - 110
Nickel	ug/L	1.00	48.1	50.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	46.1	50.0	92.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	47.8	50.0	95.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	48.3	50.0	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	49.2	50.0	98.3	90 - 110

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Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	48.2	50.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	48.0	50.0	96.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	49.5	50.0	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	49.4	50.0	98.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	50.3	50.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	48.6	50.0	97.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	50.4	50.0	101	90 - 110
Copper	ug/L	1.00	48.1	50.0	96.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	45.6	50.0	91.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	48.2	50.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	48.4	50.0	96.8	90 - 110
Lead	ug/L	1.00	46.7	50.0	93.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	46.4	50.0	92.8	90 - 110

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Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	46.8	50.0	93.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	46.3	50.0	92.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	46.1	50.0	92.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	46.9	50.0	93.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	46.3	50.0	92.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	46.2	50.0	92.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	48.5	50.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	47.3	50.0	94.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	48.3	50.0	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	47.9	50.0	95.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.8	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.7	50.0	101	90 - 110



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MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.4	50.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.7	50.0	101	90 - 110
Molybdenum	ug/L	1.00	48.5	50.0	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	47.9	50.0	95.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	48.1	50.0	96.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	48.1	50.0	96.2	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	ND	0		
Barium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	ND	0		

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Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

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Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.5	50.0	93.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	46.8	50.0	93.6	80 - 120
Barium	ug/L	1.00	ND	0		

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 23 of 31****Project Number: 408401.01.DM****Printed 2/12/2011****Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	46.7	50.0	93.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	45.4	50.0	90.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	46.8	50.0	93.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	47.9	50.0	95.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.3	50.0	94.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	80 - 120
Nickel	ug/L	1.00	45.2	50.0	90.3	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	47.5	50.0	94.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	52.8	50.0	106	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	51.0	50.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 24 of 31****Project Number: 408401.01.DM****Printed 2/12/2011****Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	44.9	50.0	89.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	47.5	50.0	95.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.2	50.0	100	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.1	50.0	96.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 25 of 31

Project Number: 408401.01.DM

Printed 2/12/2011

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0		

Serial Dilution

Lab ID = 992959-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	25.0	104	107	2.56	0 - 10
Chromium	ug/L	25.0	5.20	4.57	12.9	0 - 10
Molybdenum	ug/L	25.0	137	139	1.36	0 - 10



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Metals by EPA 200.8, Total

Batch: 012711A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-003 Mercury	ug/L	01/27/2011 13:22	5.00	0.200	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Mercury	ug/L	1.00	ND

Duplicate

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Mercury	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.01	2.00	101	90 - 110

Matrix Spike

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	9.83	10.0(10.0)	98.3	75 - 125

Matrix Spike Duplicate

Lab ID = 992959-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	10.1	10.0(10.0)	101	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.87	2.00	93.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.12	2.00	106	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.11	2.00	106	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.61	2.00	80.7	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.96	2.00	98.1	80 - 120



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 27 of 31

Project Number: 408401.01.DM

Printed 2/12/2011

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.05	2.00	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.90	2.00	95.2	80 - 120



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Metals by EPA 200.8, Total

Batch 012911A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-003 Beryllium	ug/L	01/29/2011 23:50	5.00	0.110	5.0	ND
Silver	ug/L	01/29/2011 23:50	5.00	0.200	5.0	ND

Method Blank

Parameter	Unit	DF	Result
Beryllium	ug/L	1.00	ND
Silver	ug/L	1.00	ND

Duplicate

Lab ID = 992959-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Beryllium	ug/L	5.00	ND	0	0	0 - 20
Silver	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	45.3	50.0	90.6	90 - 110
Silver	ug/L	1.00	45.4	50.0	90.7	90 - 110

Matrix Spike

Lab ID = 992959-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Beryllium	ug/L	5.00	310	250.(250.)	124	75 - 125
Silver	ug/L	5.00	216	250.(250.)	86.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	47.8	50.0	95.7	90 - 110
Silver	ug/L	1.00	45.9	50.0	91.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	45.6	50.0	91.1	90 - 110
Silver	ug/L	1.00	45.3	50.0	90.6	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 29 of 31

Project Number: 408401.01.DM

Printed 2/12/2011

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	55.1	50.0	110	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	54.0	50.0	108	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 01TDS11A

1/6/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Total Dissolved Solids	mg/L	01/06/2011	1.00	0.434	250.	4410
992959-002 Total Dissolved Solids	mg/L	01/06/2011	1.00	0.434	250.	5470
992959-003 Total Dissolved Solids	mg/L	01/06/2011	1.00	0.434	1250	41200

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 992959-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	41400	41200	0.363	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	504.	500.	101	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Ammonia Nitrogen by SM4500-NH3D

Batch 01NH3-E11A

1/6/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Ammonia as N	mg/L	01/06/2011	1.00	0.00200	0.500	ND
992959-002 Ammonia as N	mg/L	01/06/2011	1.00	0.00200	0.500	ND

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.3	10.0	103	90 - 110

Matrix Spike

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.40	6.00(6.00)	107	75 - 125

Matrix Spike Duplicate

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.30	6.00(6.00)	105	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.08	6.00	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.10	6.00	102	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 31 of 31

Project Number: 408401.01.DM

Printed 2/12/2011

Turbidity by SM 2130 B

Batch 01TUC11D

1/5/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
992959-001 Turbidity	NTU	01/05/2011	1.00	0.0140	0.100	ND
992959-002 Turbidity	NTU	01/05/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 992959-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.57	8.00	94.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.70	8.00	96.2	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.


Mona Nassimi

Manager, Analytical Services

TDS/EC CHECK

Date Calculated: 1/10/11

[illegible]

Rec'd 01/04/11
s21a 992959

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

CHAIN OF CUSTODY RECORD

[IM3]Plant-WDR-290]

TURNAROUND TIME 10 Days

DATE 01/04/11 PAGE 1 OF 1

COMPANY	CH2M HILL /E2	DATE		TIME	DESCRIPTION	NUMBER OF CONTAINERS										COMMENTS			
PROJECT NAME	PG&E Topock IM3	SAMPLE I.D.	01/04/11	1330	SC-700B-WDR-290	Cr(VI) (218.6) Lab Filtered	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, SO4	Total Metals (200.7) Mn	NO2 (4500-NO2B)	TOTAL NUMBER OF CONTAINERS	4	PH = 7 (calculated)	
PHONE	530-229-3303		01/04/11	1330	SC-100B-WDR-290														4
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612		01/04/11	1330	SC-701-WDR-290														4
P.O. NUMBER	408401.01.DM																		
SAMPLERS (SIGNATURE)																			

ALERT!!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD										SAMPLE CONDITIONS	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	Signature (Received)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL	WARM	°F
	Rafael Davila	PG&E	1-4-11 13:40		Rafael Davila	PG&E	1-4-11 13:40	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4°C
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES	NO	
	Rafael Davila	PG&E	1-4-11 13:40		Rafael Davila	PG&E	1-4-11 13:40	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	Signature (Received)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
	Rafael Davila	PG&E	1-4-11 13:40		Rafael Davila	PG&E	1-4-11 13:40	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
	Rafael Davila	PG&E	1-4-11 13:40		Rafael Davila	PG&E	1-4-11 13:40				

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
993093	71	<2	1/14/11	ES	yes	3010A
993106	71	<2			yes	
107	71	<2				
108						
110						
992957(1-2)	<1	>2	1/17/11	RK	-	Y @ 11:30 am
992959(1-3)	<1	>2			-	Y @ 11:30 am
993000 (1-13)	<1	<2			-	-
993001 (1-13)	<1	<2			-	-
993002 (1-12)	<1	<2			-	-
993042 (1-2)	<1	<2			-	-
993043	<1	>2			-	Y @ 12 pm
993008	<1	<2			-	-
993097 (1-7)	<1	<2			-	-
993098 (1-10)	<1	<2			-	-
993099 (1-10)	<1	<2			-	-
993121	<1	<2	1/19/11	ES	NO	-
3122						
3127	<1	72			NO	Y @ 2:15 pm
3128	-	-			YES	TTL
3142 (3)	<1	72			NO	Y @ 2:20 pm
3143		<2				-
3144						-
3145						-
3146						-
3147						-
3148						-
3149 (3)	71	<2			YES	-
992172	<1	<2	1/20/11	ES	NO	-
178(1-3)	<1	72				Y @ 12:30 pm
992958	SLUDGE	GE			YES	TTL
992196	<1	<2	1/21/11	M.M	NO	Y @ 13:30 pm
993210	Solid		1/21/11	M.M	YES	TTL
993213	Solid			M.M	-	-
993223(1-4)	<1	<2	1/21/11	ES	NO	-
993130 (1-7)	<1	<2	1/24/11	RK	NO	-
993186(1-10)	<1	<2	1/24/11	RK	NO	-
993187	<1	>2	1/24/11	RK	NO	Y @ 12:20 pm
993187(1-10)	<1	<2	1/24/11	ES	NO	-
993202	<1	<2	1/25/11	ES	NO	-
220						-
221						-
254						-
255						-
258						-
993280 (1-10)	Solid	72	1/26/11	ES	YES	Y @ 10:00 am
993292(1-3)	<1	72			NO	yes w 10:30 am
993302-1	<1	<1				-
993160 (1-14)	<1	<2				-



Sample Integrity & Analysis Discrepancy Form

Client: E2Lab # 992959Date Delivered: 01/10/11 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?
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: Shabun

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 28, 2011

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-291 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 993043

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-291 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 11, 2011, 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 sample result and associated matrix spike for sample SC-700B-WDR-291 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 agreed with those of the straight run, the data from the straight run is reported.

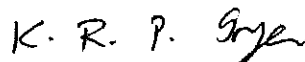
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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.: 408401.01.DM

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
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Laboratory No.: 993043

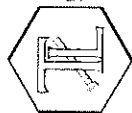
Date: January 28, 2011

Collected: January 11, 2011

Received: January 11, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 993043
Date Received: January 11, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993043-001	SC-700B-WDR-291	E120.1	NONE	1/11/2011	14:15	EC	7460	umhos/cm	2.00
993043-001	SC-700B-WDR-291	E200.8	NONE	1/11/2011	14:15	Chromium	ND	ug/L	1.0
993043-001	SC-700B-WDR-291	E200.8	NONE	1/11/2011	14:15	Manganese	2.6	ug/L	1.0
993043-001	SC-700B-WDR-291	E218.6	LABFLT	1/11/2011	14:15	Chromium, hexavalent	0.43	ug/L	0.20
993043-001	SC-700B-WDR-291	SM2130B	NONE	1/11/2011	14:15	Turbidity	ND	NTU	0.100
993043-001	SC-700B-WDR-291	SM2540C	NONE	1/11/2011	14:15	Total Dissolved Solids	4290	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

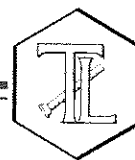
Results below 0.01ppm will have two (2) significant figures.

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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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 993043

Page 1 of 6

Printed 1/28/2011

Samples Received on 1/11/2011 10:00:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-291	993043-001	01/11/2011 14:15	Water

Specific Conductivity - EPA 120.1

Batch 01EC111

1/12/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993043-001 Specific Conductivity	umhos/cm	01/12/2011	1.00	0.0380	2.00	7460

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8040	8060	0.248	0 - 10

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7460	7460	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	691.	706.	97.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	698.	706.	98.9	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	701.	706.	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991.	999.	99.2	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 6

Project Number: 408401.01.DM

Printed 1/28/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	999.	99.6	90 - 110

Chrome VI by EPA 218.6

Batch 01CrH11H

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993043-001 Chromium, Hexavalent	ug/L	01/12/2011 10:39	1.05	0.0210	0.20	0.43

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993001-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	1.69	1.65	2.64	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.84	5.00	96.9	90 - 110

Matrix Spike

Lab ID = 993043-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.77	5.70(5.25)	101	90 - 110

Matrix Spike

Lab ID = 993043-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.48	1.49(1.06)	99.2	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.83	5.00	96.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.80	10.0	98.0	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.95	10.0	99.5	95 - 105

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 1/28/2011

Metals by EPA 200.8, Total

Batch 012511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993043-001 Chromium	ug/L	01/25/2011 10:58	5.00	0.0950	5.0	ND
Manganese	ug/L	01/25/2011 10:58	5.00	0.210	5.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 993223-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	1.06	0.976	8.58	0 - 20
Manganese	ug/L	5.00	17.2	17.3	0.145	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.3	50.0	101	90 - 110
Manganese	ug/L	1.00	50.3	50.0	101	90 - 110

Matrix Spike

Lab ID = 993223-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	232	251(250.)	92.5	75 - 125
Manganese	ug/L	5.00	253	267(250.)	94.2	75 - 125

Matrix Spike Duplicate

Lab ID = 993223-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	231	251(250.)	92.1	75 - 125
Manganese	ug/L	5.00	253	267(250.)	94.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.5	50.0	99.0	90 - 110
Manganese	ug/L	1.00	50.2	50.0	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.8	50.0	97.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.7	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 1/28/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.6	50.0	97.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.8	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.7	50.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.4	50.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.7	50.0	101	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.3	50.0	94.6	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	80 - 120

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 6

Project Number: 408401.01.DM

Printed 1/28/2011

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.1	50.0	96.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.2	50.0	100	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 01TDS11C

1/12/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993043-001 Total Dissolved Solids	mg/L	01/12/2011	1.00	0.434	250	4290

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993043-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4370	4290	1.85	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	507	500	101	90 - 110

Turbidity by SM 2130 B

Batch 01TUC11F

1/12/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993043-001 Turbidity	NTU	01/12/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993043-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.83	8.00	97.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.78	8.00	97.2	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 6 of 6

Project Number: 408401.01.DM

Printed 1/28/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 

Mona Nassimi

Manager, Analytical Services

TDS/EC CHECK

Date Calculated: 1/14/11

[illegible]

Rec'd 01/11/11
93043

TRUESDAIL LABORATORIES, INC.
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CHAIN OF CUSTODY RECORD

JIM3Plant-WDR-291]

COC Number

TURNAROUND TIME 10 Days
DATE 01/11/11 PAGE 1 OF 1

993 043

COMPANY	E2	DATE	01/11/11	TIME	14:15	DESCRIPTION	Water
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	408401.01.DM	TEAM	1				
SAMPLERS (SIGNATURE)							
SAMPLE I.D.	SC-700B-WDR-291						
NUMBER OF CONTAINERS							3
COMMENTS							PH = 6 (200.7)
TOTAL NUMBER OF CONTAINERS							3

ALERT!!
Level III QC

For Sample Contingency
See Form A-10

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL	WARM	4.2°C °F
Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED	YES	NO	
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:			
Signature (Received)	Printed Name	Company/Agency	Date/Time				
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time				
Signature (Received)	Printed Name	Company/Agency	Date/Time				

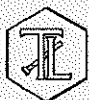
Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
993093	71	<2	1/14/11	ES	yes	3010A
993106	71	<2			yes	
107	71	<2				
108						
110						
992957(1-2)	<1	>2	1/17/11	KK	-	Y @ 11:30 am
992959(1-3)	<1	>2			-	Y @ 11:30 am
993000 (1-13)	<1	<2			-	-
993001 (1-13)	<1	<2			-	-
993002 (1-12)	<1	<2			-	-
993042 (1-2)	<1	<2			-	-
993043	<1	>2			-	Y @ 12 pm
993008	<1	<2			-	-
993097 (1-7)	<1	<2			-	-
993098 (1-10)	<1	<2			-	-
993099 (1-10)	<1	<2			-	-
993121	<1	<2	1/19/11	KK	NO	-
3122						
3127	<1	72			NO	Y @ 2:15 pm
3128	-	-			YES	TTL
3142 (3)	<1	72			NO	Y @ 2:20 pm
3143		<2				-
3144						-
3145						-
3146						-
3147						-
3148						-
3149 (3)	>1	<2			YES	-
992172	<1	<2	1/20/11	ES	NO	-
178(1-3)	<1	72				Y @ 12:30 pm
992958	SLUDGE	GE			YES	TTL
992956	<1	<2	1/21/11	M.M	NO	Y @ 13:30 pm
993210	Solid		1/21/11	M.M	YES	TTL
993213	Solid			M.M	-	-
993223(1-4)	<1	<2	1/21/11	ES	NO	-
993130 (1-7)	<1	<2	1/24/11	KK	NO	-
993186(1-10)	<1	<2	1/24/11	KK	NO	-
993187	<1	>2	1/24/11	KK	NO	Y @ 12:20 pm
993187(1-10)	<1	<2	1/24/11	ES	NO	-
993202	<1	<2	1/25/11	ES	NO	-
220						-
221						-
254						-
255						-
258		72				Y @ 10:00 am
993280 (1-10)	Solid		1/26/11	ES	YES	TTL
993292(1-3)	<1	72			NO	yes w/ 10:30 am
993302-1	<1	<1				-
993160 (1-14)	<1	<2				-



Sample Integrity & Analysis Discrepancy Form

Client: E2Lab # 993043Date Delivered: 01/11/11 Time: 22:00 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 Water
16. Comments: _____
17. Sample Check-In completed by Truesdail Log-In/Receiving: Shaburine

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www.truesdail.com

January 31, 2011

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-292 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 993159

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-292 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 18, 2011, 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.

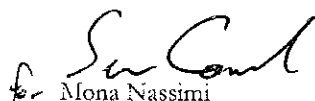
The sample result and associated matrix spike for sample SC-700B-WDR-292 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agreed with those of the straight run, the data from the straight run is reported.

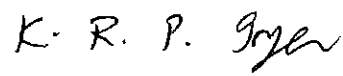
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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.

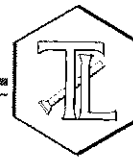
Respectfully Submitted,
TRUESDAIL LABORATORIES, INC.


Mona Nassimi
Manager, Analytical Services


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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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.: 408401.01.DM

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

Laboratory No.: 993159

Date: January 31, 2011

Collected: January 18, 2011

Received: January 18, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 993159
Date Received: January 18, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993159-001	SC-700B-WDR-292	E120.1	NONE	1/18/2011	7:30	EC	7090	umhos/cm	2.00
993159-001	SC-700B-WDR-292	E200.8	NONE	1/18/2011	7:30	Chromium	ND	ug/L	1.0
993159-001	SC-700B-WDR-292	E200.8	NONE	1/18/2011	7:30	Manganese	1.5	ug/L	1.0
993159-001	SC-700B-WDR-292	E218.6	LABFLT	1/18/2011	7:30	Chromium, hexavalent	0.53	ug/L	0.20
993159-001	SC-700B-WDR-292	SM2130B	NONE	1/18/2011	7:30	Turbidity	ND	NTU	0.100
993159-001	SC-700B-WDR-292	SM2540C	NONE	1/18/2011	7:30	Total Dissolved Solids	4150	mg/L	250

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.

TRUESDAIL LABORATORIES, INC.

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TUSTIN, CALIFORNIA 92780-7008
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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 993159

Page 1 of 8

Printed 1/31/2011

Samples Received on 1/18/2011 10:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-292	993159-001	01/18/2011 07:30	Water

Specific Conductivity - EPA 120.1

Batch 01EC11J

1/19/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993159-001 Specific Conductivity	umhos/cm	01/19/2011	1.00	0.0380	2.00	7090

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 993160-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	953.	955.	0.210	0 - 10

Duplicate

Lab ID = 993160-014

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	1050	1050	0.190	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703.	706.	99.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	707.	706.	100	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	692.	706.	98.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	997.	999.	99.8	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 8

Project Number: 408401.01.DM

Printed 1/31/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	994.	999.	99.5	90 - 110

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Intention Blank



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 1/31/2011

Chrome VI by EPA 218.6

Batch 01CrH11L

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993159-001 Chromium, Hexavalent	ug/L	01/21/2011 15:16	1.05	0.0210	0.20	0.53

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993160-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	ND	0.0520	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.05	5.00	101	90 - 110

Matrix Spike

Lab ID = 993159-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.62	1.59(1.06)	103	90 - 110

Matrix Spike

Lab ID = 993160-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.11(1.06)	102	90 - 110

Matrix Spike

Lab ID = 993160-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.10(1.06)	103	90 - 110

Matrix Spike

Lab ID = 993160-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.12(1.06)	103	90 - 110

Matrix Spike

Lab ID = 993160-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.10(1.06)	105	90 - 110

Matrix Spike

Lab ID = 993160-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.14(1.06)	104	90 - 110

Matrix Spike

Lab ID = 993160-012

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.11(1.06)	106	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 1/31/2011

Matrix Spike

Lab ID = 993160-014

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.18(1.06)	104	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.96	5.00	99.2	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 1/31/2011

Metals by EPA 200.8, Total

Batch 012811A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993159-001 Chromium	ug/L	01/28/2011 12:54	5.00	0.0950	1.0	ND
Manganese	ug/L	01/28/2011 12:54	5.00	0.210	1.0	1.5

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 993301-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	2.44	2.37	3.01	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.1	50.0	92.2	90 - 110
Manganese	ug/L	1.00	47.0	50.0	94.0	90 - 110

Matrix Spike

Lab ID = 993301-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	220	252(250.)	87.2	75 - 125
Manganese	ug/L	5.00	225	250.(250.)	89.9	75 - 125

Matrix Spike Duplicate

Lab ID = 993301-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	222	252(250.)	87.7	75 - 125
Manganese	ug/L	5.00	222	250.(250.)	88.9	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.9	50.0	91.8	90 - 110
Manganese	ug/L	1.00	46.4	50.0	92.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.0	50.0	93.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.4	50.0	92.8	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 1/31/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.0	50.0	92.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.9	50.0	97.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.6	50.0	97.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.0	50.0	92.1	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	43.9	50.0	87.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	44.4	50.0	88.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	43.6	50.0	87.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	44.2	50.0	88.4	80 - 120

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**TRUESDAIL LABORATORIES, INC.**

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 1/31/2011

Total Dissolved Solids by SM 2540 C

Batch 01TDS11D

1/19/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993159-001 Total Dissolved Solids	mg/L	01/19/2011	1.00	0.434	250.	4150

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993159-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4090	4150	1.46	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	511.	500.	102	90 - 110

Turbidity by SM 2130 B

Batch 01TUC11G

1/19/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993159-001 Turbidity	NTU	01/19/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993159-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.86	8.00	98.2	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.80	8.00	97.5	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 8 of 8

Project Number: 408401.01.DM

Printed 1/31/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 

Mona Nassimi

Manager, Analytical Services



Calculations

Date Calculated: 1/24/11

Calculation as follows:

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)


Analyst Signature



Reviewer Printed Name


Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 01TDS11D

Date Calculated: 1/24/11

[illegible]

Ag



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Rec'd 01/18/11
S 993159

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-292]

COC Number

TURNAROUND TIME 10 Days
DATE 01/18/11 PAGE 1 OF 1

993159

COMPANY	E2	DATE	01/18/11	TIME	7:30	DESCRIPTION	Water
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	408401.01.DM	TEAM	1				
SAMPLERS (SIGNATURE)							
SAMPLE I.D.	SC-700B-WDR-292						
C6 (218.6) Lab Filtered							X
Total Metals (200.7) Cr, Mn							X
Specific Conductance (120.1)							X
TDS (SM2540C)							X
Turbidity (SM2130)							X
NUMBER OF CONTAINERS							3
COMMENTS							mu = 6 (200.7)
TOTAL NUMBER OF CONTAINERS							3

ALERT!!
Level III QC

For Sample Condition
See Form Attachment

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL	WARM	3.7°C °F
	Rafael Davila	PG&E	1-18-11 16:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED	YES	NO	
	Rafael Davila	PG&E	1-18-11 16:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:			
	Rafael Davila	PG&E	1-18-11 22:30				
Signature (Received)	Printed Name	Company/Agency	Date/Time				
	Linda S.	PG&E	1/18/11 22:30				
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time				
	Rafael Davila	PG&E	1-18-11 22:30				
Signature (Received)	Printed Name	Company/Agency	Date/Time				
	Rafael Davila	PG&E	1-18-11 22:30				

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
01/14/11	993099-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
01/14/11	993100	9.5	N/A	N/A	N/A	SB
01/18/11	993130-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
01/12/11	993043	7.0	5.00	9.5	8:00	SB
01/19/11	993159	7.0	5.00	9.5	7:20	SB
01/19/11	993160-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
↓	↓ -11	↓	↓	↓	↓	↓

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
993093	71	<2	1/14/11	ES	yes	3010A
993106	71	<2			yes	
107	71	<2				
108						
110						
992957(1-2)	<1	>2	1/17/11	KK	-	Y @ 11:30 am
992959(1-3)	<1	>2			-	Y @ 11:30 am
993000 (1-13)	<1	<2			-	
993001 (1-13)	<1	<2			-	
993002 (1-12)	<1	<2			-	
993042 (1-2)	<1	<2			-	
993043	<1	>2			-	Y @ 12 pm
993008	<1	<2			-	
993097 (1-7)	<1	<2			-	
993098 (1-10)	<1	<2			-	
993099 (1-79-10)	<1	<2			-	
993121	<1	<2	1/19/11	KK	NO	
3122						
3127	<1	>2			NO	Y @ 2:15 pm
3128	-	-			YES	TTL
3142 (3)	<1	>2			NO	Y @ 2:20 pm
3143		<2				
3144						
3145						
3146						
3147						
3148						
3149 (3)	>1	<2			YES	
9921721	<1	<2	1/20/11	ES	NO	
178(1-3)	<1	>2				Y @ 12:30 pm
992958	SLUDGE				YES	TTL
992996	<1	<2	1/21/11	M.M	NO	Y @ 13:30 pm
993210	Solid		1/21/11	M.M	YES	TTL
993213	Solid			M.M	-	
993223(1-4)	<1	<2	1/21/11	ES	NO	
993130 (1-7)	<1	<2	1/24/11	KK	NO	
993186(1-10)	<1	<2	1/24/11	KK	NO	
993189	<1	>2	1/24/11	KK	NO	Y @ 12:20 pm
993187(1-10)	<1	<2	1/24/11	ES	NO	
993202	<1	<2	1/25/11	ES	NO	
220						
221						
254						
255						
258		>2				
993280 (1-10)	Solid		1/26/11	ES	yes	Y @ 10:00 am
993292(1-3)	<1	>2			NO	yes w/ 10:30 am
993302-1	<1	<1				
993160 (1-14)	<1	<2				



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 993159

Date Delivered: 01/18/11 Time: 22:30 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) 3.4 °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. E. ☒ 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: Linda

ALERT!!
Level III QC

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

February 9, 2011

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-293 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 993294

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-293 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 25, 2011, 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 sample result and associated matrix spike for sample SC-700B-WDR-293 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 agreed with those of the straight run, the data from the straight run is reported.

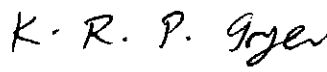
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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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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.: 408401.01.DM

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Laboratory No.: 993294

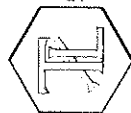
Date: February 9, 2011

Collected: January 25, 2011

Received: January 25, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 993294
Date Received: January 25, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993294-001	SC-700B-WDR-293	E120.1	NONE	1/25/2011	14:00	EC	7290	umhos/cm	2.00
993294-001	SC-700B-WDR-293	E200.8	NONE	1/25/2011	14:00	Chromium	ND	ug/L	1.0
993294-001	SC-700B-WDR-293	E200.8	NONE	1/25/2011	14:00	Manganese	ND	ug/L	1.0
993294-001	SC-700B-WDR-293	E218.6	LABFLT	1/25/2011	14:00	Chromium, hexavalent	ND	ug/L	0.20
993294-001	SC-700B-WDR-293	SM2130B	NONE	1/25/2011	14:00	Turbidity	ND	NTU	0.100
993294-001	SC-700B-WDR-293	SM2540C	NONE	1/25/2011	14:00	Total Dissolved Solids	4140	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

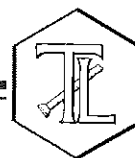
Results below 0.01ppm will have two (2) significant figures.

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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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 993294

Page 1 of 6

Printed 2/9/2011

Samples Received on 1/25/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-293	993294-001	01/25/2011 14:00	Water

Specific Conductivity - EPA 120.1		Batch 01EC11L	1/27/2011			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
993294-001 Specific Conductivity	umhos/cm	01/27/2011	1.00	0.0380	2.00	7290

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 993325-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	2760	2760	0	0 - 10

Duplicate

Lab ID = 993325-013

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	3020	3000	0.664	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	718.	706.	102	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	710.	706.	101	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	724.	706.	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	998.	999.	99.9	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/9/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1050	999.	105	90 - 110

Chrome VI by EPA 218.6

Batch 01CrH11R

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993294-001 Chromium, Hexavalent	ug/L	01/26/2011 11:39	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993301-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	2.29	2.28	0.569	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101	90 - 110

Matrix Spike

Lab ID = 993294-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.73	5.48(5.25)	105	90 - 110

Matrix Spike

Lab ID = 993294-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.20(1.06)	99.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.01	5.00	100	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.50	10.0	95.0	95 - 105

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/9/2011

Metals by EPA 200.8, Total

Batch: 012911B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993294-001 Chromium	ug/L	01/29/2011 23:39	5.00	0.0950	1.0	ND
Manganese	ug/L	01/29/2011 23:39	5.00	0.210	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 993187-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.1	50.0	92.1	90 - 110
Manganese	ug/L	1.00	51.6	50.0	103	90 - 110

Matrix Spike

Lab ID = 993187-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	228	250.(250.)	91.1	75 - 125
Manganese	ug/L	5.00	246	250.(250.)	98.2	75 - 125

Matrix Spike Duplicate

Lab ID = 993187-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	227	250.(250.)	90.8	75 - 125
Manganese	ug/L	5.00	241	250.(250.)	96.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.8	50.0	102	90 - 110
Manganese	ug/L	1.00	50.9	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.7	50.0	93.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.4	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/9/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.2	50.0	94.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.3	50.0	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.8	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.3	50.0	101	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.5	50.0	93.1	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.2	50.0	92.3	80 - 120

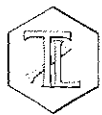
Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.3	50.0	101	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.3	50.0	98.6	80 - 120

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/9/2011

Total Dissolved Solids by SM 2540 C

		Batch 01TDS11F	1/28/2011			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
993294-001 Total Dissolved Solids	mg/L	01/28/2011	1.00	0.434	250.	4140

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993297-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	698.	714.	2.27	0 - 5

Duplicate

Lab ID = 993300-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1210	1230	1.97	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	506.	500.	101	90 - 110

Turbidity by SM 2130 B

		Batch 01TUC11N	1/26/2011			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
993294-001 Turbidity	NTU	01/26/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993294-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.50	8.00	93.8	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.53	8.00	94.1	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 6 of 6

Project Number: 408401.01.DM

Printed 2/9/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.



Mona Nassimi

Manager, Analytical Services

E2 Gordon

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Total Dissolved Solids by SM 2540 C

Calculations

Batch: 01TDS11F

Date Calculated: 2/7/11

Laboratory Number	Sample volume, ml	Initial weight, g	1st Final weight, g	2nd Final weight, g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight, g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	69.2395	69.2395	69.2395	0.0000	No	0.0000	0.0	25.0	ND	1
993294	10	48.1853	48.2267	48.2267	0.0000	No	0.0414	4140.0	250.0	4140.0	1
993295-1	50	75.4545	75.5033	75.5033	0.0000	No	0.0488	976.0	50.0	976.0	1
993295-2	50	75.5428	75.5933	75.5932	0.0001	No	0.0504	1008.0	50.0	1008.0	1
993295-6	50	68.1878	68.2356	68.2356	0.0000	No	0.0478	956.0	50.0	956.0	1
993295-7	50	74.7168	74.7666	74.7686	0.0000	No	0.0518	1036.0	50.0	1036.0	1
993295-9	50	67.8206	67.8745	67.8743	0.0002	No	0.0537	1074.0	50.0	1074.0	1
993296-1	20	48.1857	48.2725	48.2725	0.0000	No	0.0868	4340.0	125.0	4340.0	1
993296-2	50	76.5538	76.6048	76.6045	0.0003	No	0.0507	1014.0	50.0	1014.0	1
993297-1	100	66.7217	66.7532	66.753	0.0002	No	0.0313	313.0	25.0	313.0	1
993297-3	50	112.3596	112.3957	112.3953	0.0004	No	0.0357	714.0	50.0	714.0	1
993297-3D	50	67.7342	67.7695	67.7691	0.0004	No	0.0349	698.0	50.0	698.0	1
LCS	100	92.1031	92.1537	92.1537	0.0000	No	0.0506	506.0	25.0	506.0	1
993297-6	100	72.9832	73.0361	73.0361	0.0000	No	0.0529	529.0	25.0	529.0	1
993300-1	50	68.5353	68.6491	68.6491	0.0000	No	0.1138	2276.0	50.0	2276.0	1
993300-2	20	49.3608	49.4512	49.4512	0.0000	No	0.0904	4520.0	125.0	4520.0	1
993300-3	20	49.4993	49.5757	49.5757	0.0000	No	0.0764	3820.0	125.0	3820.0	1
993300-4	50	112.3099	112.3897	112.3897	0.0000	No	0.0798	1596.0	50.0	1596.0	1
993300-5	20	50.4020	50.4841	50.4840	0.0001	No	0.0820	4100.0	125.0	4100.0	1
993300-6	50	65.8279	65.8624	65.8624	0.0000	No	0.0345	690.0	50.0	690.0	1
993300-7	20	49.7261	49.7911	49.7911	0.0000	No	0.0650	3250.0	125.0	3250.0	1
993300-8	100	109.1276	109.1635	109.1635	0.0000	No	0.0359	359.0	25.0	359.0	1
993300-9	50	76.0043	76.0658	76.0658	0.0000	No	0.0615	1230.0	50.0	1230.0	1
993300-9D	50	72.8316	72.8922	72.8919	0.0003	No	0.0603	1206.0	50.0	1206.0	1
LCS											1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

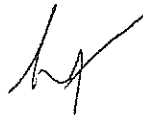
Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 01TDS11F

Date Calculated: 2/7/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
993294	7290	0.57	4738.5	0.87
993295-1	1464	0.67	951.6	1.03
993295-2	1480	0.68	962	1.05
993295-6	1592	0.60	1034.8	0.92
993295-7	1620	0.64	1053	0.98
993295-9	1591	0.68	1034.15	1.04
993296-1	5590	0.78	3633.5	1.19
993296-2	1532	0.66	995.8	1.02
993297-1	545	0.57	354.25	0.88
993297-3	1136	0.63	738.4	0.97
993297-3D	1136	0.61	738.4	0.95
LCS				
993297-6	832	0.64	540.8	0.98
993300-1	3360	0.68	2184	1.04
993300-2	5820	0.78	3783	1.19
993300-3	5830	0.66	3789.5	1.01
993300-4	2420	0.66	1573	1.01
993300-5	5720	0.72	3718	1.10
993300-6	1130	0.61	734.5	0.94
993300-7	4760	0.68	3094	1.05
993300-8	624	0.58	405.6	0.89
993300-9	1802	0.68	1171.3	1.05
993300-9D	1802	0.67	1171.3	1.03



Lab# 993294

DATE 01/25/11 PAGE 1 OF 1

UM3Plant-WDR-293]

[illegible]

ALERT!!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	°F
<i>[Signature]</i>	<i>[Printed Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
<i>[Signature]</i>	<i>[Printed Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
<i>[Signature]</i>	<i>[Printed Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
<i>[Signature]</i>	<i>[Printed Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
<i>[Signature]</i>	<i>[Printed Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
<i>[Signature]</i>	<i>[Printed Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>				

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
01/21/11	993206-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
01/21/11	993223-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
01/26/11	993294	7.0	5.00	9.5	8:30	SB
01/26/11	993295-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
01/26/11	993296-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
01/26/11	993297-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓

Turbidity/pH Check

ht 1/28/11

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
993305	<1	<2	1/27/11	ES	NO	—
993316	<1	<2	1	1	1	—
993280 (1-10)	Solid	—	1/26/11	M. M	YES	ITLC
993128	Solid	—	1/28/11	M. M	yes	TCLP
993330	Solid	—	1/28/11	M. M	yes	TCLP
993359	Solid	—	1/28/11	M. M	yes	TCLP
993301 (1-14)	<1	<2	1/27/11	KK	NO	—
993321 (1-6)	<1	<2	1/27/11	KK	NO	—
993130 (1-6)	<1	<2	1/27/11	KK	NO	—
993101 (1-8)	<1	<2	1/27/11	KK	NO	—
993360 (1-2)	<1	7.2	1/28/11	ES	NO	yes w/ 1/28/11
T/D 993296 (1-2)	<1	<2	1/28/11	ES	NO	—
T/D 993297 (1-6)	<1	<2	1	1	YES (-7.8)	—
T/D 993298 (1-9)	<1	<2	1	1	YES	—
992922	<1	<2	1/27/11	KK	YES	—
993206 (1-6)	<1	<2	1/28/11	KK	NO	1/28/11 (Y)
993258 (1-24)	<1	>2	1	1	NO	1/28/11 Y
993292 (1-2)	<1	>2	1	1	NO	—
993294	<1	<2	1	1	NO	—
993295 (1-9)	<1	<2	1	1	NO	—
993298 (1-9)	<1	<2	1	1	NO	—
99299 (2-8)	<1	<2	1	1	NO	—
993300 (1-9)	<1	<2	1	1	NO	—
993353 (1-3)	<1	<2	1	1	NO	—
992999 (1-3)	<1	7.2	1/11/11	ES	NO	yes w/ 9/28/11
993324 (1-6)	<1	<2	2/01/11	KK	NO	—
993352 (1-5)	<1	<2	1	1	NO	—
993357 (1-6)	<1	<2	1	1	NO	—
993358 (1-9)	<1	<2	1	1	NO	—
993354 (1-8)	<1	<2	1	1	NO	—
993355 (1-24)	<1	<2	1	1	NO	—
993356 (1-3-10)	<1	<2	1	1	NO	—
993376 (1-5)	<1	<2	1	1	NO	—
993377 (1-4)	<1	<2	1	1	NO	—
993379 (1-3-5)	<1	<2	1	1	NO	—
993380 (1-5)	<1	<2	1	1	NO	—
993381	<1	<2	1	1	NO	—
993325 (1-3)	<1	<2	2/2/11	KK	NO	yes 3pm 2/1/11
993378 (1-3)	<1	<2	2/2/11	↓	NO	—
993387	<1	<2	2/2/11	ES	NO	—
388	↓	↓	1	1	↓	—
426	↓	↓	1	1	↓	—
427	↓	↓	1	1	↓	—
441 (1-3)	<1	7.2	1	1	↓	yes 2:50 pm
460 (1-3)	<1	7.2	1	1	↓	↓
462	>2	<2	1	1	YES	—
463	>1	<2	1	1	↓	—
993443 (1-5)	<1	<2	2/4/11	KK	NO	—
993002-9	<1	<2	2/3/11	KK	YES	—



Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 993294

Date Delivered: 01/25/11 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?
Temperature (if yes) 4.9°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: Linda

ALERT!!
Level III QC

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
SC-700B W02290	1-4-11	1330	1-4-11	1333	METER#1	1-4-11	4:30	-54.9	R. Phelps	6.9

Notes:

SC-700B W02290	1-4-11	1330	1-4-11	1336	METER#1	1-4-11	4:30	-54.9	R. Phelps	7.3
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Notes:

SC-700B W02290	1-4-11	1330	1-4-11	1339	METER#1	1-4-11	4:30	-54.9	R. Phelps	6.8
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Notes:

SC-700B	1-11-11	14:15	1-11-11	14:20	METER#1	1-11-11	5:00	-54.7	R. Phelps	7.1
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Notes:

SC-700B	1-18-11	730	1-18-11	735	METER#1	1-18-11	4:00	-55.5	R. Phelps	7.1
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Notes:

SC-700B	1-25-11	1400	1-25-11	1406	METER#1	1-25-11	3:30	-54.5	R. Phelps	7.1
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Notes:

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Notes:

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

April 12, 2011

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

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-294 PROJECT,
GROUNDWATER MONITORING,
TLI No.: 993429

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-294 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 1, 2011, 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 result and associated matrix spike for sample SC-700B-WDR-294 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits as was the 5x dilution, the data from the straight run is reported.

The calibration for Molybdenum by EPA 200.8 in batch 020411C had failed but was overlooked and the results were reported. These results have been removed from the revised report and Total Molybdenum results are now reported by EPA 200.7 from batch 030111A-Th.

Sample SC-100B-WDR-294 was re-analyzed for Total Dissolved Solids, past the method specified holding time, at the request of Mr. Shawn Duffy. The result from the re-analysis 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.

Mona Nassimi
for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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.: 408401.01.DM

14201 FRANKLIN AVENUE
TUSTIN, CALIFORNIA 92780-7008
(714) 730-6239 · FAX (714) 730-6462
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Laboratory No.: 993429

Date: April 2, 2011

Collected: February 1, 2011

Received: February 1, 2011

Revision 1; April 2, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Iordan Stavrev
SM 4500-Si D	Soluble Silica	Jenny Tankunakorn
SM 4500-P B,E	Total Phosphorus	Kim Luck
SM 5310C	Total Organic Carbon	Jenny Tankunakorn
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	Jenny Tankunakorn
EPA 200.7	Metals by ICP	Ethel Suico / Mark Kotani
EPA 200.8	Metals by ICP/MS	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 993429
Date Received: February 1, 2011
Revision 2; April 5, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993429-001	SC-700B-WDR-294	E120.1	NONE	2/1/2011	10:30	EC	7240	umhos/cm	2.00
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	Aluminum	ND	ug/L	50.0
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	BORON	1020	ug/L	200
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	Iron	ND	ug/L	20.0
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	Zinc	ND	ug/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Antimony	ND	ug/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Arsenic	ND	ug/L	1.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Barium	11.8	ug/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Chromium	ND	ug/L	1.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Copper	ND	ug/L	5.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Lead	ND	ug/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Manganese	3.0	ug/L	1.0
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	Molybdenum	16.1	ug/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Nickel	ND	ug/L	10.0
993429-001	SC-700B-WDR-294	E218.6	LABFLT	2/1/2011	10:30	Chromium, hexavalent	0.21	ug/L	0.20
993429-001	SC-700B-WDR-294	E300	NONE	2/1/2011	10:30	Fluoride	1.69	mg/L	0.500
993429-001	SC-700B-WDR-294	E300	NONE	2/1/2011	10:30	Nitrate as N	3.19	mg/L	1.00
993429-001	SC-700B-WDR-294	E300	NONE	2/1/2011	10:30	Sulfate	492	mg/L	12.5
993429-001	SC-700B-WDR-294	SM2130B	NONE	2/1/2011	10:30	Turbidity	ND	NTU	0.100
993429-001	SC-700B-WDR-294	SM2540C	NONE	2/1/2011	10:30	Total Dissolved Solids	3890	mg/L	250
993429-001	SC-700B-WDR-294	SM4500-NH3 B	NONE	2/1/2011	10:30	Ammonia-N	ND	mg/L	0.500
993429-001	SC-700B-WDR-294	SM4500NO2B	NONE	2/1/2011	10:30	Nitrite as N	ND	mg/L	0.0050



TRUESDAIL LABORATORIES, INC.

Report Continued

Revision 3; April 12, 2011

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993429-002	SC-100B-WDR-294	E120.1	NONE	2/1/2011	10:30	EC	8070	umhos/cm	2.00
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	Aluminum	ND	ug/L	50.0
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	BORON	1000	ug/L	200
993429-002	SC-100B-WDR-294	E200.7	LABFLT	2/1/2011	10:30	Iron	ND	ug/L	20.0
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	Iron	ND	ug/L	20.0
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	Zinc	ND	ug/L	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Antimony	ND	ug/L	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Arsenic	3.2	ug/L	2.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Barium	28.8	ug/L	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Chromium	1060	ug/L	2.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Copper	ND	ug/L	5.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Lead	ND	ug/L	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Manganese	10.5	ug/L	2.0
993429-002	SC-100B-WDR-294	E200.8	LABFLT	2/1/2011	10:30	Manganese	9.0	ug/L	1.0
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	Molybdenum	21.5	ug/L	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Nickel	ND	ug/L	10.0
993429-002	SC-100B-WDR-294	E218.6	LABFLT	2/1/2011	10:30	Chromium, hexavalent	1060	ug/L	21.0
993429-002	SC-100B-WDR-294	E300	NONE	2/1/2011	10:30	Fluoride	2.28	mg/L	0.500
993429-002	SC-100B-WDR-294	E300	NONE	2/1/2011	10:30	Nitrate as N	3.44	mg/L	1.00
993429-002	SC-100B-WDR-294	E300	NONE	2/1/2011	10:30	Sulfate	622	mg/L	25.0
993429-002	SC-100B-WDR-294	SM2130B	NONE	2/1/2011	10:30	Turbidity	ND	NTU	0.100
993429-002	SC-100B-WDR-294	SM2320B	NONE	2/1/2011	10:30	Alkalinity	151	mg/L	5.00
993429-002	SC-100B-WDR-294	SM2320B	NONE	2/1/2011	10:30	Bicarbonate	151	mg/L	5.00
993429-002	SC-100B-WDR-294	SM2320B	NONE	2/1/2011	10:30	Carbonate	ND	mg/L	5.00
993429-002	SC-100B-WDR-294	SM2540C	NONE	2/1/2011	10:30	Total Dissolved Solids	4820 J	mg/L	125
993429-002	SC-100B-WDR-294	SM4500-NH3 B	NONE	2/1/2011	10:30	Ammonia-N	ND	mg/L	0.500
993429-002	SC-100B-WDR-294	SM4500NO2B	NONE	2/1/2011	10:30	Nitrite as N	ND	mg/L	0.0050
993429-002	SC-100B-WDR-294	SM4500-PB_E	NONE	2/1/2011	10:30	Total Phosphorous-P	ND	mg/L	0.0200
993429-002	SC-100B-WDR-294	SM4500Si	NONE	2/1/2011	10:30	Soluble Silica	22.8	mg/L	1.00
993429-002	SC-100B-WDR-294	SM5310C	NONE	2/1/2011	10:30	Total Organic Carbon	0.790	mg/L	0.300

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.

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 993429

Page 1 of 29

Printed 4/5/2011

Revised

Samples Received on 2/1/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-294	993429-001	02/01/2011 10:30	Water
SC-100B-WDR-294	993429-002	02/01/2011 10:30	Water

Anions By I.C. - EPA 300.0

Batch 02AN11C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Fluoride	mg/L	02/02/2011 10:27	5.00	0.0600	0.500	1.69
Nitrate as Nitrogen	mg/L	02/02/2011 10:27	5.00	0.0550	1.00	3.19
Sulfate	mg/L	02/02/2011 16:24	25.0	1.00	12.5	492.
993429-002 Fluoride	mg/L	02/02/2011 10:40	5.00	0.0600	0.500	2.28
Nitrate as Nitrogen	mg/L	02/02/2011 10:40	5.00	0.0550	1.00	3.44
Sulfate	mg/L	02/02/2011 16:37	50.0	2.00	25.0	622.

Method Blank

Parameter	Unit	DF	Result
Chloride	mg/L	1.00	ND
Fluoride	mg/L	1.00	ND
Sulfate	mg/L	1.00	ND
Nitrate as Nitrogen	mg/L	1.00	ND

Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	1.65	1.69	2.40	0 - 20
Nitrate as Nitrogen	mg/L	5.00	3.13	3.19	1.77	0 - 20

Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sulfate	mg/L	50.0	626.	622	0.563	0 - 20

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/5/2011

Revised

Lab ID = 993448-001

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chloride	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.92	4.00	98.0	90 - 110
Fluoride	mg/L	1.00	4.08	4.00	102	90 - 110
Sulfate	mg/L	1.00	20.2	20.0	101.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	100.0	90 - 110

Matrix Spike

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	12.3	11.7(10.0)	106.	85 - 115
Nitrate as Nitrogen	mg/L	5.00	25.0	23.2(20.0)	109.	85 - 115

Matrix Spike

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sulfate	mg/L	50.0	1090	1120(500.)	93.3	85 - 115

Matrix Spike

Lab ID = 993448-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chloride	mg/L	1.00	1.93	2.00(2.00)	96.6	85 - 115

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.94	4.00	98.4	90 - 110
Fluoride	mg/L	1.00	4.10	4.00	102.	90 - 110
Sulfate	mg/L	1.00	20.2	20.0	101.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.99	4.00	99.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.17	3.00	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.19	3.00	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.92	3.00	97.3	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/5/2011

Revised

Nitrite SM 4500-NO2 B

Batch 02NO211C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Nitrite as Nitrogen	mg/L	02/03/2011 10:23	1.00	0.000200	0.0050	ND
993429-002 Nitrite as Nitrogen	mg/L	02/03/2011 10:24	1.00	0.000200	0.0050	ND

Method Blank

Parameter	Unit	DF	Result
Nitrite as Nitrogen	mg/L	1.00	ND

Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0379	0.0400	94.8	90 - 110

Matrix Spike

Lab ID = 993429-001

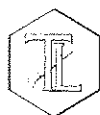
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0199	0.0200(0.0200)	99.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0194	0.0200	97.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0195	0.0200	97.5	90 - 110



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Alkalinity by SM 2320B

Batch 02ALK11A

2/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-002 Alkalinity as CaCO ₃	mg/L	02/02/2011	1.00	1.68	5.00	151
Bicarbonate (Calculated)	mg/L	02/02/2011	1.00	0.153	5.00	151
Carbonate (Calculated)	mg/L	02/02/2011	1.00	0.153	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO ₃	mg/L	1.00	ND

Duplicate

Lab ID = 993443-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	176	174	1.14	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	102	100.	102	90 - 110

Matrix Spike

Lab ID = 993443-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	320.	324(100.)	96.0	75 - 125

Matrix Spike Duplicate

Lab ID = 993443-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	322	324(100.)	98.0	75 - 125



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Printed 4/5/2011

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Specific Conductivity - EPA 120.1

Batch 02EC11B

2/9/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Specific Conductivity	umhos/cm	02/09/2011	1.00	0.0380	2.00	7240
993429-002 Specific Conductivity	umhos/cm	02/09/2011	1.00	0.0380	2.00	8070

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 993435-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	3800	3800	0.00	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	712	706	101.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	715	706	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	994	999	99.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991	999	99.2	90 - 110



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Chrome VI by EPA 218.6

Batch 02CrH11C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Chromium, Hexavalent	ug/L	02/02/2011 12:41	1.05	0.0210	0.20	0.21
993429-002 Chromium, Hexavalent	ug/L	02/02/2011 11:56	105	2.20	21.0	1060

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	1060	1060	0.353	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.22	5.00	104.	90 - 110

Matrix Spike

Lab ID = 993321-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.66	9.37(5.30)	105.	90 - 110

Matrix Spike

Lab ID = 993321-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.09	8.81(5.30)	105.	90 - 110

Matrix Spike

Lab ID = 993428-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.08	38.5	37.0(21.6)	107.	90 - 110

Matrix Spike

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.11	5.68(5.25)	108.	90 - 110

Matrix Spike

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.36	1.27(1.06)	108.	90 - 110

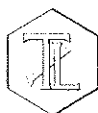
Matrix Spike

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2740	2640(1580)	106.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.09	5.00	102.	90 - 110



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Metals by EPA 200.7, Total

Batch 030111A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Aluminum	ug/L	03/01/2011 13:00	1.00	2.83	50.0	ND
Boron	ug/L	03/01/2011 13:00	1.00	5.00	200.	1020
Molybdenum	ug/L	03/01/2011 13:00	1.00	0.300	10.0	16.1
Zinc	ug/L	03/01/2011 13:00	1.00	2.00	10.0	ND
993429-002 Aluminum	ug/L	03/01/2011 13:24	1.00	2.83	50.0	ND
Boron	ug/L	03/01/2011 13:24	1.00	5.00	200.	1000
Molybdenum	ug/L	03/01/2011 13:24	1.00	0.300	10.0	21.5
Zinc	ug/L	03/01/2011 13:24	1.00	2.00	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Boron	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	ND	0.00	0	0 - 20
Zinc	ug/L	1.00	ND	0.00	0	0 - 20
Boron	ug/L	1.00	989.	1020	3.10	0 - 20
Molybdenum	ug/L	1.00	16.3	16.1	1.23	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4920	5000	98.5	90 - 110
Zinc	ug/L	1.00	4880	5000	97.7	90 - 110
Boron	ug/L	1.00	4650	5000	93.0	90 - 110
Molybdenum	ug/L	1.00	4810	5000	96.3	90 - 110

Matrix Spike

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1850	2000(2000)	92.7	75 - 125
Zinc	ug/L	1.00	1830	2000(2000)	91.5	75 - 125
Boron	ug/L	1.00	2810	3020(2000)	89.4	75 - 125
Molybdenum	ug/L	1.00	1870	2020(2000)	92.7	75 - 125



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Metals by EPA 200.7, Total

Batch 021711B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Iron	ug/L	02/17/2011 17:03	1.00	3.00	20.0	ND
993429-002 Iron	ug/L	02/17/2011 17:38	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0.00	0	0 - 0

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5040	5000	101.	90 - 110

Matrix Spike

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1980	2000(2000)	99.0	75 - 75

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5050	5000	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5100	5000	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5080	5000	102.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2090	2000	104.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2210	2000	111.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2040	2000	102.	80 - 120



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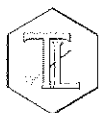
Metals by EPA 200.8, Total

Batch 020411C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Antimony	ug/L	02/04/2011 21:23	5.00	0.190	10.0	ND
Arsenic	ug/L	02/04/2011 21:23	5.00	0.260	1.0	ND
Barium	ug/L	02/04/2011 21:23	5.00	0.185	10.0	11.8
Chromium	ug/L	02/04/2011 21:23	5.00	0.0950	1.0	ND
Copper	ug/L	02/04/2011 21:23	5.00	0.305	5.0	ND
Lead	ug/L	02/04/2011 21:23	5.00	0.0950	10.0	ND
Manganese	ug/L	02/04/2011 21:23	5.00	0.210	1.0	3.0
Nickel	ug/L	02/04/2011 21:23	5.00	0.240	10.0	ND
993429-002 Antimony	ug/L	02/04/2011 21:50	10.0	0.380	10.0	ND
Arsenic	ug/L	02/04/2011 21:50	10.0	0.520	2.0	3.2
Barium	ug/L	02/04/2011 21:50	10.0	0.370	10.0	28.8
Chromium	ug/L	02/04/2011 21:50	10.0	0.190	2.0	1060
Copper	ug/L	02/04/2011 21:50	10.0	0.610	5.0	ND
Lead	ug/L	02/04/2011 21:50	10.0	0.190	10.0	ND
Manganese	ug/L	02/04/2011 21:50	10.0	0.420	2.0	10.5
Nickel	ug/L	02/04/2011 21:50	10.0	0.480	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Nickel	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND
Manganese	ug/L	1.00	ND



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Client: E2 Consulting Engineers, Inc.

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Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	ND	0.00	0	0 - 20
Barium	ug/L	5.00	12.0	11.8	1.93	0 - 20
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Nickel	ug/L	5.00	ND	0.00	0	0 - 20
Antimony	ug/L	5.00	ND	0.00	0	0 - 20
Copper	ug/L	5.00	ND	0.00	0	0 - 20
Lead	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	2.80	3.01	7.34	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.8	50.0	97.5	90 - 110
Barium	ug/L	1.00	49.5	50.0	99.1	90 - 110
Chromium	ug/L	1.00	49.5	50.0	99.1	90 - 110
Nickel	ug/L	1.00	50.2	50.0	100.	90 - 110
Antimony	ug/L	1.00	48.7	50.0	97.4	90 - 110
Copper	ug/L	1.00	49.3	50.0	98.6	90 - 110
Lead	ug/L	1.00	49.4	50.0	98.8	90 - 110
Manganese	ug/L	1.00	46.4	50.0	92.7	90 - 110

Matrix Spike

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	234.	250.(250.)	93.8	75 - 125
Barium	ug/L	5.00	246.	262.(250.)	93.9	75 - 125
Chromium	ug/L	5.00	241.	250.(250.)	96.3	75 - 125
Nickel	ug/L	5.00	228.	250.(250.)	91.2	75 - 125
Antimony	ug/L	5.00	235.	250.(250.)	93.9	75 - 125
Copper	ug/L	5.00	222.	250.(250.)	89.0	75 - 125
Lead	ug/L	5.00	224.	250.(250.)	89.7	75 - 125
Manganese	ug/L	5.00	216.	253.(250.)	85.4	75 - 125



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Matrix Spike Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	242.	250.(250.)	96.9	75 - 125
Barium	ug/L	5.00	245.	262.(250.)	93.2	75 - 125
Chromium	ug/L	5.00	246.	250.(250.)	98.5	75 - 125
Nickel	ug/L	5.00	235.	250.(250.)	94.0	75 - 125
Antimony	ug/L	5.00	233.	250.(250.)	93.2	75 - 125
Copper	ug/L	5.00	227.	250.(250.)	90.6	75 - 125
Lead	ug/L	5.00	223	250.(250.)	89.2	75 - 125
Manganese	ug/L	5.00	217.	253.(250.)	85.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.8	50.0	97.7	90 - 110
Barium	ug/L	1.00	48.1	50.0	96.1	90 - 110
Chromium	ug/L	1.00	50.0	50.0	100.	90 - 110
Nickel	ug/L	1.00	51.9	50.0	104.	90 - 110
Antimony	ug/L	1.00	48.0	50.0	96.0	90 - 110
Copper	ug/L	1.00	50.9	50.0	102.	90 - 110
Lead	ug/L	1.00	48.6	50.0	97.3	90 - 110
Manganese	ug/L	1.00	45.7	50.0	91.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.8	50.0	97.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.5	50.0	99.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.1	50.0	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.4	50.0	98.8	90 - 110
Barium	ug/L	1.00	50.6	50.0	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	50.4	50.0	101.	90 - 110



TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Reactive Silica by SM4500-Si D

Batch 02Si11A

2/4/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-002 Silica	mg/L	02/04/2011	25.0	0.350	1.00	22.8

Method Blank

Parameter	Unit	DF	Result
Silica	mg/L	1.00	ND

Duplicate

Lab ID = 993448-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Silica	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.864	0.800	108.	90 - 110

Matrix Spike

Lab ID = 993448-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Silica	mg/L	1.00	0.381	0.400(0.400)	95.3	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.431	0.400	108.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.406	0.400	102.	90 - 110

Total Dissolved Solids by SM 2540 C

Batch 02TDS11F

2/8/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Total Dissolved Solids	mg/L	02/07/2011	1.00	0.434	250.	3890

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993428-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	3070	3120	1.62	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	484	500.	96.8	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/12/2011

Total Dissolved Solids by SM 2540 C

Batch: 04TDS11C

4/8/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
993429-002 Total Dissolved Solids	mg/L	04/08/2011	1.00	0.434	125	4820	J

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4940	4820	2.36	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	485	500.	97.0	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/12/2011

Total Organic Carbon (T/DOC) SM 5310 C

Batch 02TOC11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-002 Total Organic Carbon	mg/L	02/08/2011 21:08	1.00	0.0250	0.300	0.790

Method Blank

Parameter	Unit	DF	Result
Total Organic Carbon	mg/L	1.00	ND

Duplicate

Lab ID = 993355-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Organic Carbon	mg/L	1.00	1.92	1.81	5.79	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	21.9	20.0	109.	90 - 110

Matrix Spike

Lab ID = 993520-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	21.3	20.7(20.0)	103.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	10.6	10.0	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	10.4	10.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	10.4	10.0	104.	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/12/2011

Total Phosphate, SM 4500-PB,E

Batch 02TP11A

2/9/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-002 Phosphate, Total As P	mg/L	02/09/2011	1.00	0.00300	0.0200	ND

Method Blank

Parameter	Unit	DF	Result
Phosphate, Total As P	mg/L	1.00	ND

Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Phosphate, Total As P	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.109	0.100	109.	90 - 110

Matrix Spike

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0641	0.0650(0.0650)	98.6	75 - 125

Matrix Spike Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0631	0.0650(0.0650)	97.1	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0601	0.0600	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0662	0.0650	102.	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/12/2011

Metals by EPA 200.8, Dissolved

Batch 020411C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-002 Manganese	ug/L	02/04/2011 22:32	5.00	0.210	1.0	9.0

Method Blank

Parameter	Unit	DF	Result
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	5.00	2.80	3.01	7.34	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.4	50.0	92.7	90 - 110

Matrix Spike

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	216.	253.(250.)	85.4	75 - 125

Matrix Spike Duplicate

Lab ID = 993429-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	217.	253.(250.)	85.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	45.7	50.0	91.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.8	50.0	93.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.0	50.0	91.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	45.8	50.0	91.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.9	50.0	93.9	90 - 110

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Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
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Project Number: 408401.01.DM
Printed 4/12/2011
Metals by 200.7, Dissolved

Batch 021711B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-002 Iron	ug/L	02/17/2011 16:57	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate

Lab ID = 993540-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5040	5000	101.	90 - 110

Matrix Spike

Lab ID = 993540-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1910	2000(2000)	95.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5050	5000	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5100	5000	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5080	5000	102.	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2210	2000	111.	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2090	2000	104.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2040	2000	102.	80 - 120



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/12/2011

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2160	2000	108.	80 - 120

Turbidity by SM 2130 B

Batch 02TUC11C

2/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Turbidity	NTU	02/02/2011	1.00	0.0140	0.100	ND
993429-002 Turbidity	NTU	02/02/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.70	8.00	96.2	90 - 110

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.80	8.00	97.5	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/12/2011

Ammonia Distillation by SM4500-NH3 B,C

Batch 02NH3-E11A

2/4/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993429-001 Ammonia as N	mg/L	02/04/2011	1.00	0.0630	0.500	ND
993429-002 Ammonia as N	mg/L	02/04/2011	1.00	0.0630	0.500	ND

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.5	10.0	105.	90 - 110

Matrix Spike

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.70	6.00(6.00)	95.0	75 - 125

Matrix Spike Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.76	6.00(6.00)	96.0	75 - 125

MRCCS - Secondary


Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.76	6.00	96.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.89	6.00	98.2	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services



Batch: 02TDS11F
Date Calculated: 2/8/11

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)



Analyst Signature

Reviewer Printed Name



Reviewer Signature

TDS/EC CHECK

Date Calculated: 2/8/11

[illegible]



Batch: 04TDS11C

Date Calculated: 4/12/11

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name _____

Reviewer Signature _____

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 04TDS11C

Date Calculated: 4/12/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
994431-11	937	0.61	609.05	0.93
994431-12	909	0.61	590.85	0.93
994496-1	2560	0.66	1664	1.01
994496-2	1330	0.58	864.5	0.90
994496-3	2780	0.71	1807	1.09
994136	7480	0.61	4862	0.93
994259	7400	0.61	4810	0.94
994537-1	730	0.59	474.5	0.91
994537-2	1002	0.61	651.3	0.93
993429-2	8120	0.57	5278	0.87
994496-3D	2780	0.71	1807	1.09
LCS				
993429-2	8120	0.59	5278	0.91
993429-2D	8120	0.61	5278	0.94



TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B

Calculations

E2 London

Date of Analysis: 2/2/11
 Start of Analysis:
 Date Sampled:

Analytical Batch: 02 ALK02A
 Matrix: Water
 Date Calculated: 2/2/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrat Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrat Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as CaCO3 (ppm)	CO3 Alkalinity as CaCO3 (ppm)	OH Alkalinity as CaCO3 (ppm)	Low Alkalinity as CaCO3 (<20ppm)
BLANK	7.02	50	0.02		0.0	0.05		1.0	5	ND	ND	ND	ND	
QC1	7.94	50	0.02		0.0	3.00		60.0	5	60.0	60.0	ND	ND	
QC2	8.01	50	0.02		0.0	3.10		62.0	5	62.0	62.0	ND	ND	
PE1	8.27	50	0.02		0.0	4.50		90.0	5	90.0	90.0	ND	ND	
PE2	8.28	50	0.02		0.0	4.50		90.0	5	90.0	90.0	ND	ND	
993303-7	8.09	50	0.02		0.0	5.00		100.0	5	100.0	100.0	ND	ND	
933303-20	8.72	50	0.02	0.5	10.0	3.65		73.0	5	73.0	53.0	20	ND	
993403-2	7.71	50	0.02		0.0	7.55		151.0	5	151.0	151.0	ND	ND	
993403-2	7.28	50	0.02		0.0	8.70		174.0	5	174.0	174.0	ND	ND	
993403-3	7.29	50	0.02		0.0	11.20		224.0	5	224.0	224.0	ND	ND	
993404-7	8.04	50	0.02		0.0	4.90		98.0	5	98.0	98.0	ND	ND	
993406-1	9.99	5	0.02	2.4	480.0	4.50		900.0	50	900.0	ND	840	60	
993406-2	11.12	5	0.02	6.5	1290.0	12.25		2450.0	50	2450.0	ND	2320	130	
993403-2 DUP	7.28	50	0.02		0.0	8.80		176.0	5	176.0	176.0	ND	ND	
993403-3 MS	9.95	50	0.02	2.0	40.0	16.00		320.0	5	320.0	240.0	80	ND	
993403-3 MS	9.90	50	0.02	2.1	41.0	16.10		322.0	5	322.0	240.0	82	ND	
LCS1	10.25	50	0.02	2.3	45.0	5.10		102.0	5	102.0	12.0	90	ND	
LCS2												ND		

Calculations as follows:

$$T \text{ or } P = \left(\frac{A \times N \times 50000}{mL \text{ sample}} \right)$$

$$\text{Low Alkalinity: as mg/L CaCO}_3 = \frac{(2 \times B - C) \times N \times 50000}{mL \text{ sample}}$$

ND: Not Detected (below the reporting limit)

Where:

T = Total Alkalinity, mg CaCO3/L

P = Phenolphthalein Alkalinity, mg CaCO3/L

A = mL standard acid used

N = normality of standard acid

Where: B = mL titrant to first recorded pH

C = total mL titrant to reach pH 0.3 unit lower

N = normality of standard acid

LCS: Laboratory Control Standard

LCS2: Laboratory Control Standard Duplicate

MS: Matrix Spike

MSD: Matrix Spike Duplicate

JORDAN
 Analyst Printed Name
 Analyst Signature

[Signature]
 Reviewer Printed Name
 Reviewer Signature

[Signature]
 Reviewer Signature

Rec'd 02/01/11
Lab#: 993429

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

CHAIN OF CUSTODY RECORD

[IM3] Plant-WDR-294

COC Number

TURNAROUND TIME 10 Days

DATE 02/01/11

PAGE 1 OF 1

993429

COMPANY	CH2M HILL /E2	DATE		TIME	DESCRIPTION	COMMENTS														
PROJECT NAME	PG&E Topock IM3	02/01/11		10:30	SC-700B-WDR-294	Cr(VI) (218.6) Lab Filtered	Alkalinity (2320-B)	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Total P (4500-P)	Anions (300.0) F, NO3, SO4	TOC (6310 C)	Dissolved Metals (200.7) Fe, Mn lab filtered	NO2 (4500-NO2B)	NO3 (4500-Si Carb)	NUMBER OF CONTAINERS	COMMENTS
PHONE	530-229-3303 FAX 530-339-3303	02/01/11		10:30	SC-100B-WDR-294	X	X	X	X	X	X	X	X	X	X	X	X	X	4	pu = 2 } 200.7
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612																	9	pu = 2 }	
P.O. NUMBER	408401.01.DM																			
SAMPLERS (SIGNATURE)																				
SAMPLE I.D.																				
<div>ALERT !!</div> <div>Level III QC</div>																				TOTAL NUMBER OF CONTAINERS
																				13

CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
	Rafael David	Company/ Agency	2-1-11 15:30
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
	Rafael David	Company/ Agency	2-1-11 15:30
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
	Rafael David	Company/ Agency	2-1-11 15:30
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
	Rafael David	Company/ Agency	2-1-11 15:30
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
	Rafael David	Company/ Agency	2-1-11 15:30
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
	Rafael David	Company/ Agency	2-1-11 15:30

SAMPLE CONDITIONS

RECEIVED ☒ COOL ☐ WARM ☐ 3.6 °C
CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

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

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
01/28/11	993376-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
01/28/11	993377-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
01/28/11	993378-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
01/28/11	993379-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
01/28/11	993380-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
01/28/11	993381	9.5	N/A	N/A	N/A	SB
02/02/11	993428-1	7.0	5.00	9.5	8:50	SB
02/02/11	993429-1	7.0	5.00	9.5	8:55	SB
↓	↓ -2	↓	↓	↓	9:00	↓
02/02/11	993430	7.0	5.00	9.5	9:05	SB
02/02/11	993431-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓

SB

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
993382	solid	-	02/03/11	M.M	yes	TTLC
993453-2	-	-	↓	↓	↓	TTLC
↓ -3	-	-	↓	M.M	yes	↓
↓ -4	-	-	↓	↓	↓	↓
993464	- ✓	-	02/03/11	M.M	yes	TTLC
993470	>1	<2	02/03/11	M.M	yes	-
993301(-45, 10, 14)	<1	<2	2/3/11	KK	yes	-
993428 (1-2)	<1	<2	2/3/11	KK	No	-
993429 (1-2)	<1	<2			No	-
993431 (1-11)	<1	<2			No	-
993432 (1-4)	<1	<2			No	-
993433 (1-8, 10)	<1	<2			No	-
993436 (1-3-10)	<1	<2			No	-
993437 (1-8)	<1	<2			No	-
993438 (1-10)	<1	<2			No	-
993439 (1-10)	<1	<2			No	-
993440 (1-8, 10)	<1	<2			No	-
993441 (1-9)	<1	<2			No	-
993442 (1-3)	<1	<2			No	-
993044 (1-6)	<1	<2	1/25/11		No	-
993096 (1-6)	<1	<2	1/25/11		No	-
993506 (1-3)	<1	<2	2/6/11	↓	No	-
993486	<1	<2	2/9/11	ES	No	-
993513	<1	<2				
993514	<1	<2				
993515 (16, 20)	<1	<2				ignoring 9.47
993572	<1	<2				
993564	↓	↓				
993565	↓	↓				
993566	↓	↓				
993567	↓	↓				
993568	↓	↓				
993569	>1	↓			yes	3010A
993587 (16, 20) solid	-	-	02/10/11	M.M	yes	TTLC
993502 (1-2)	<1	<2	2/7/11	KK	No	-
993609	<1	<2	2/11/11	KK	No	-
993607	>1	>2	↓	↓	yes	3010A
993609	>1	>2	↓	↓	yes	3010A
993621	>1	>2	↓	↓	yes	3010A
993621 (Hy bottle)	<1	<2	↓	↓	No	-
993619	<1	<2	↓	↓	No	-
993597 (1-4)	<1	>2	↓	↓	No	@ 30 am
993589 (1-3)	<1	>2	↓	↓	No	@ 30 am
993625 (1-5)	<1	<2	↓	↓	No	-
993493 (1-9)	<1	<2	2/10/11	KK	No	-
993353 (1-3) KK	<1	<2	2/2/11	KK	No	-
993378	<1	<2	2/2/11	KK	No	-
993489 (1-8)	<1	<2	2/5/11	KK	No	-
993490 (1-12)	<1	<2	2/5/11	KK	No	-



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: CHAM-HILL

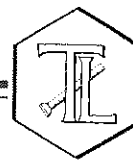
Lab # 993429

Date Delivered: 02/01/11 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?
Temperature (if yes)? 3.6°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
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: _____

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

March 15, 2011

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-295 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 993563

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-295 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 8, 2011, 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.

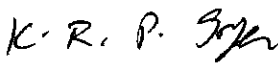
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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.: 408401.01.DM

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

Laboratory No.: 993563

Date: March 15, 2011

Collected: February 8, 2011

Received: February 8, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Kim Luck
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Laboratory No.: 993563

Date Received: February 8, 2011

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993563-001	SC-700B-WDR-295	E120.1	NONE	2/8/2011	15:15	EC	7200	umhos/cm	2.00
993563-001	SC-700B-WDR-295	E200.8	NONE	2/8/2011	15:15	Chromium	ND	ug/L	1.0
993563-001	SC-700B-WDR-295	E200.8	NONE	2/8/2011	15:15	Manganese	4.3	ug/L	1.0
993563-001	SC-700B-WDR-295	E218.6	LABFLT	2/8/2011	15:15	Chromium, hexavalent	0.25	ug/L	0.20
993563-001	SC-700B-WDR-295	SM2130B	NONE	2/8/2011	15:15	Turbidity	ND	NTU	0.100
993563-001	SC-700B-WDR-295	SM2540C	NONE	2/8/2011	15:15	Total Dissolved Solids	4040	mg/L	250

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.

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Laboratory No. 993563

Page 1 of 7

Printed 3/15/2011

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Samples Received on 2/8/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-295	993563-001	02/08/2011 15:15	Water

Specific Conductivity - EPA 120.1

Batch 02EC11B

2/9/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993563-001 Specific Conductivity	umhos/cm	02/09/2011	1.00	0.0380	2.00	7200

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 993435-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	3800	3800	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	712.	706.	101	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704.	706.	99.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	715.	706.	101	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	994.	999.	99.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	991.	999.	99.2	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

008



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Chrome VI by EPA 218.6

Batch 02CrH110

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993563-001 Chromium, Hexavalent	ug/L	02/10/2011 07:41	1.05	0.0210	0.20	0.25

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993492-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	10.6	10.6	0.376	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.02	5.00	100	90 - 110

Matrix Spike

Lab ID = 993492-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.38	6.48(5.30)	98.1	90 - 110

Matrix Spike

Lab ID = 993492-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.63	1.68(1.06)	95.4	90 - 110

Matrix Spike

Lab ID = 993492-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	17.9	17.6(10.6)	103	90 - 110

Matrix Spike

Lab ID = 993492-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.73	8.53(5.30)	104	90 - 110

Matrix Spike

Lab ID = 993492-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	16.1	16.0(10.6)	101	90 - 110

Matrix Spike

Lab ID = 993492-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	16.2	16.9(10.6)	93.3	90 - 110

Matrix Spike

Lab ID = 993493-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	17.0	17.8(10.6)	92.3	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Matrix Spike						Lab ID = 993493-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.43	8.84(5.30)	92.3	90 - 110
Matrix Spike						Lab ID = 993493-008
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.42	8.68(5.30)	95.2	90 - 110
Matrix Spike						Lab ID = 993559-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.57	1.49(1.06)	108	90 - 110
Matrix Spike						Lab ID = 993563-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.11	5.75(5.25)	107	90 - 110
Matrix Spike						Lab ID = 993563-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.26	1.31(1.06)	95.6	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.92	5.00	98.5	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.84	10.0	98.4	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.53	10.0	95.3	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Metals by EPA 200.8, Total

Batch 031211A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993563-001 Chromium	ug/L	03/12/2011 19:45	5.00	0.0950	1.0	ND
Manganese	ug/L	03/12/2011 19:45	5.00	0.210	1.0	4.3

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	4.17	3.67	12.8	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.6	10.0	106	90 - 110
Manganese	ug/L	1.00	10.4	10.0	104	90 - 110

Matrix Spike

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	51.6	50.0(50.0)	103	75 - 125
Manganese	ug/L	5.00	52.4	53.7(50.0)	97.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	90 - 110
Manganese	ug/L	1.00	10.8	10.0	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.0	10.0	110	90 - 110
Manganese	ug/L	1.00	10.8	10.0	108	90 - 110

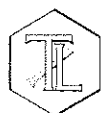
Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.5	10.0	115	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.8	10.0	118	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	11.6	10.0	116.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	11.6	10.0	116	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 02TDS11H

2/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993563-001 Total Dissolved Solids	mg/L	02/10/2011	1.00	0.434	250.	4040

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993548-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	922.	922.	0	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	494.	500.	98.8	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Turbidity by SM 2130 B

Batch: 02TUC11E

2/9/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993563-001 Turbidity	NTU	02/09/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993563-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.100	0.0980	2.02	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.73	8.00	96.6	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.81	8.00	97.6	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.


fo- Mona Nassimi

Manager, Analytical Services



E2 5C

4

Total Dissolved Solids by SM 2540 C**Calculations**

Batch: 02TDS11H

Date Calculated: 2/10/11

Laboratory Number	Sample volume, ml	Initial weight, g	1st Final weight, g	2nd Final weight, g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight, g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	105.2862	105.2868	105.2868	0.0000	No	0.0006	6.0	25.0	ND	1
993543	1000	112.3138	112.3229	112.3225	0.0004	No	0.0087	8.7	2.5	8.7	1
993548-1	50	112.3599	112.4139	112.4139	0.0000	No	0.0540	1080.0	50.0	1080.0	1
993548-2	100	104.2439	104.2950	104.2949	0.0001	No	0.0510	510.0	25.0	510.0	1
993548-3	50	110.8455	110.8745	110.8744	0.0001	No	0.0289	578.0	50.0	578.0	1
993548-4	50	69.5790	69.6104	69.6103	0.0001	No	0.0313	626.0	50.0	626.0	1
993548-5	50	67.2490	67.2880	67.288	0.0000	No	0.0390	780.0	50.0	780.0	1
993548-6	100	110.6334	110.6818	110.6814	0.0004	No	0.0480	480.0	25.0	480.0	1
993548-7	50	74.5565	74.6099	74.6098	0.0001	No	0.0533	1066.0	50.0	1066.0	1
993548-8	50	67.7792	67.8260	67.826	0.0000	No	0.0468	936.0	50.0	936.0	1
993548-9	50	115.2457	115.297	115.2969	0.0001	No	0.0512	1024.0	50.0	1024.0	1
993548-10	50	103.4165	103.4627	103.4626	0.0001	No	0.0461	922.0	50.0	922.0	1
993548-10DU	50	72.4759	72.5222	72.522	0.0002	No	0.0461	922.0	50.0	922.0	1
993563	10	110.7140	110.7545	110.7544	0.0001	No	0.0404	4040.0	250.0	4040.0	1
993597-1	100	104.8965	104.9472	104.9471	0.0001	No	0.0506	506.0	25.0	506.0	1
993597-2	50	100.6838	100.7149	100.7146	0.0003	No	0.0308	616.0	50.0	616.0	1
993597-3	100	109.3958	109.4455	109.4451	0.0004	No	0.0493	493.0	25.0	493.0	1
993597-4	100	111.1366	111.1864	111.186	0.0004	No	0.0494	494.0	25.0	494.0	1
993610	1000	110.7991	110.8005	110.8001	0.0004	No	0.0010	1.0	2.5	ND	1
LCS	100	92.1015	92.1510	92.1509	0.0001	No	0.0494	494.0	25.0	494.0	1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL = reporting limit.

ND = not detected (below the reporting limit)

Luck

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS11H

Date Calculated: 2/10/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
993543	15.23	0.57	9.8995	0.88
993548-1	1683	0.64	1093.95	0.99
993548-2	898	0.57	583.7	0.87
993548-3	994	0.58	646.1	0.89
993548-4	1112	0.56	722.8	0.87
993548-5	1270	0.61	825.5	0.94
993548-6	856	0.56	556.4	0.86
993548-7	1552	0.69	1008.8	1.06
993548-8	1491	0.63	969.15	0.97
993548-9	1629	0.63	1058.85	0.97
993548-10	1514	0.61	984.1	0.94
993548-10DUP	1514	0.61	984.1	0.94
993563	7112	0.57	4622.8	0.87
993597-1	862	0.59	560.3	0.90
993597-2	1073	0.57	697.45	0.88
993597-3	831	0.59	540.15	0.91
993597-4	808	0.61	525.2	0.94
993610	8.7	ND	5.655	ND

Lee

ht

Rec'd 02/08/11
Lab#: 993563

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-295]

COC Number

10 Days

TURNAROUND TIME

DATE 02/08/11

PAGE 1 OF 1

993563

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		408401.01.DM	TEAM	1	SAMPLERS (SIGNATURE)		<i>Chris Lentz</i>	SAMPLE I.D.		SC-700B-WDR-295	DATE	02/08/11	TIME	15:15	DESCRIPTION	Water	C6 (218.6) Lab Filtered		X	Total Metals (200.7) Cr, Mn		X	X	Specific Conductance (120.1)		X	X	TDS (SM2540C)		X	Turbidity (SM2130)		X	NUMBER OF CONTAINERS		3	COMMENTS		pH = 6 (200.7)	TOTAL NUMBER OF CONTAINERS		3
---------	----	--------------	--	-------------	-------	--	----------------	-----	----------------	---------	--	---	-------------	--	--------------	------	---	----------------------	--	--------------------	-------------	--	-----------------	------	----------	------	-------	-------------	-------	-------------------------	--	---	-----------------------------	--	---	---	------------------------------	--	---	---	---------------	--	---	--------------------	--	---	----------------------	--	---	----------	--	----------------	----------------------------	--	---

ALERT!!
Level III QC

For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD										SAMPLE CONDITIONS								
Signature (Relinquished)	<i>Chris Lentz</i>	Printed Name	Chris Lentz	Company/ Agency	Om 1	Date/ Time	02-08-11 15:30	RECEIVED	COOL	<input checked="" type="checkbox"/>	WARM	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	TEMP	62°F
Signature (Received)	<i>Robert Smith</i>	Printed Name	Robert Smith	Company/ Agency	T.L.I.	Date/ Time	2-8-11 15:30	CUSTODY SEALED	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	SPECIAL REQUIREMENTS:					
Signature (Relinquished)	<i>Robert Smith</i>	Printed Name	Robert Smith	Company/ Agency	T.L.I.	Date/ Time	2-8-11 15:30											
Signature (Received)	<i>Linda Shuler</i>	Printed Name	Linda Shuler	Company/ Agency	TLT	Date/ Time	2/8/11 2:30											
Signature (Relinquished)		Printed Name		Company/ Agency		Date/ Time												
Signature (Received)		Printed Name		Company/ Agency		Date/ Time												

Method EPA 218.6 and SW 7199 Sample pH Log

al.

Turbidity/pH Check

[illegible]



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 993563

Date Delivered: 02/08/11 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?
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 ☒ N/A
12. Were samples pH checked? pH = See C. or L. ☒ 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: Shoben

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Established 1931

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www.truesdail.com

March 15, 2011

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-296 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 993705

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-296 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 15, 2011, 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.

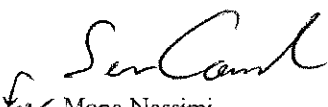
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

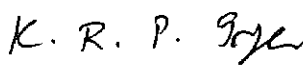
The matrix spike for sample SC-700B-WDR-296 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the result from the 5x dilution agreed with that of the straight run, the data from the straight run 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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Established 1931

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.: 408401.01.DM

14201 FRANKLIN AVENUE
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(714) 730-6239 · FAX (714) 730-6462
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Laboratory No.: 993705

Date: March 15, 2011

Collected: February 15, 2011

Received: February 15, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Kim Luck
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 993705
Date Received: February 15, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993705-001	SC-700B-WDR-296	E120.1	NONE	2/15/2011	13:19	EC	7150	umhos/cm	2.00
993705-001	SC-700B-WDR-296	E200.8	NONE	2/15/2011	13:19	Chromium	ND	ug/L	1.0
993705-001	SC-700B-WDR-296	E200.8	NONE	2/15/2011	13:19	Manganese	3.7	ug/L	1.0
993705-001	SC-700B-WDR-296	E218.6	LABFLT	2/15/2011	13:19	Chromium, hexavalent	ND	ug/L	0.20
993705-001	SC-700B-WDR-296	SM2130B	NONE	2/15/2011	13:19	Turbidity	0.112	NTU	0.100
993705-001	SC-700B-WDR-296	SM2540C	NONE	2/15/2011	13:19	Total Dissolved Solids	4080	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Note: The following "Significant Figures" rule has been applied to all results:

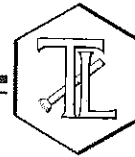
Results below 0.01ppm will have two (2) significant figures.

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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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 993705

Page 1 of 9

Printed 3/15/2011

Samples Received on 2/15/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-296	993705-001	02/15/2011 13:19	Water

Specific Conductivity - EPA 120.1

Batch 02EC11D

2/22/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993705-001 Specific Conductivity	umhos/cm	02/22/2011	1.00	0.0380	2.00	7150

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Lab ID = 993720-003 Acceptance Range
Specific Conductivity	umhos	1.00	48.0	48.0	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	693.	706.	98.2	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	695.	706.	98.4	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703.	706.	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	998.	999.	99.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1000	999.	100	90 - 110

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Chrome VI by EPA 218.6

Batch 02CrH11V

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993705-001 Chromium, Hexavalent	ug/L	02/16/2011 10:14	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993562-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	212	210	0.953	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.96	5.00	99.2	90 - 110

Matrix Spike

Lab ID = 993562-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.14	5.25(5.25)	97.9	90 - 110

Matrix Spike

Lab ID = 993562-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.06(1.06)	103	90 - 110

Matrix Spike

Lab ID = 993562-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.06(1.06)	104	90 - 110

Matrix Spike

Lab ID = 993562-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	411	420(210.)	95.8	90 - 110

Matrix Spike

Lab ID = 993562-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.46	5.25(5.25)	104	90 - 110

Matrix Spike

Lab ID = 993562-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.970	1.06(1.06)	91.5	90 - 110

Matrix Spike

Lab ID = 993562-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.825	1.06(1.06)	77.8	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Matrix Spike						Lab ID = 993562-013
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	149	144(78.8)	106	90 - 110
Matrix Spike						Lab ID = 993562-014
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	10.5	316	307(158)	106	90 - 110
Matrix Spike						Lab ID = 993562-015
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	59.4	58.4(52.5)	102	90 - 110
Matrix Spike						Lab ID = 993705-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.22(1.06)	103	90 - 110
Matrix Spike						Lab ID = 993705-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.31	5.46(5.25)	97.2	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.96	5.00	99.2	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.68	10.0	96.8	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103	95 - 105

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 7 of 9

Project Number: 408401.01.DM

Printed 3/15/2011

Metals by EPA 200.8, Total

Batch 031211A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993705-001 Chromium	ug/L	03/12/2011 18:57	5.00	0.0950	1.0	ND
Manganese	ug/L	03/12/2011 18:57	5.00	0.210	1.0	3.7

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	4.17	3.67	12.8	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.6	10.0	106	90 - 110
Manganese	ug/L	1.00	10.4	10.0	104	90 - 110

Matrix Spike

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	51.6	50.0(50.0)	103	75 - 125
Manganese	ug/L	5.00	52.4	53.7(50.0)	97.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	90 - 110
Manganese	ug/L	1.00	10.8	10.0	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.0	10.0	110	90 - 110
Manganese	ug/L	1.00	10.8	10.0	108	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.5	10.0	115	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.8	10.0	118	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	11.6	10.0	116	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	11.6	10.0	116	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 02TDS111

2/17/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993705-001 Total Dissolved Solids	mg/L	02/17/2011	1.00	0.434	250.	4080

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4100	4080	0.489	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	496.	500.	99.2	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 3/15/2011

Turbidity by SM 2130 B

Batch 02TUC11G

2/16/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993705-001 Turbidity	NTU	02/16/2011	1.00	0.0140	0.100	0.112

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.114	0.112	1.77	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.83	8.00	97.9	90 - 110

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.78	8.00	97.2	90 - 110

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.98	8.00	99.8	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.



Mona Nassimi

Manager, Analytical Services

15073

TURNAROUND TIME

DATE 02/15/11

[IM3Plant-WDR-296]

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

[illegible]

**For Sample Conditions
See Form Attached**

ALERT!!
Level III QC

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	°F 3.9
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
SPECIAL REQUIREMENTS:							
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

Turbidity/pH Check

[illegible]



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 993705

Date Delivered: 02/15/11 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?
Temperature (if yes)? 3-9°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 COC ☒ 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: _____



TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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14201 FRANKLIN AVENUE
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April 2, 2011

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-297 PROJECT,
GROUNDWATER MONITORING, TLI NO.: 993799

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-297 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 22, 2011, 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 and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.


Total Dissolved Chromium, for sample SC-700B-WDR-297, was re-analyzed due to the discrepancy between the Total Chromium and Hexavalent Chromium results. The result from the re-analysis is reported.

The sample result for sample SC-700B-WDR-297 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 result from the 5x dilution agreed with that of 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.


to - 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: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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Laboratory No.: 993799

Date: March 17, 2011

Collected: February 22, 2011

Received: February 22, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Nathan Atthawimol
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 993799
Date Received: February 22, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993799-001	SC-700B-WDR-297	E120.1	NONE	2/22/2011	13:00	EC	7430	umhos/cm	2.00
993799-001	SC-700B-WDR-297	E200.8	NONE	2/22/2011	13:00	Chromium	ND	ug/L	1.0
993799-001	SC-700B-WDR-297	E200.8	NONE	2/22/2011	13:00	Manganese	3.0	ug/L	1.0
993799-001	SC-700B-WDR-297	E218.6	LABFLT	2/22/2011	13:00	Chromium, hexavalent	0.26	ug/L	0.20
993799-001	SC-700B-WDR-297	SM2130B	NONE	2/22/2011	13:00	Turbidity	ND	NTU	0.100
993799-001	SC-700B-WDR-297	SM2540C	NONE	2/22/2011	13:00	Total Dissolved Solids	4320	mg/L	250

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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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Laboratory No. 993799

Page 1 of 7

Printed 3/17/2011

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Samples Received on 2/22/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-297	993799-001	02/22/2011 13:00	Water

Specific Conductivity - EPA 120.1

Batch 02EC11E

2/28/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993799-001 Specific Conductivity	umhos/cm	02/28/2011	1.00	0.0380	2.00	7430

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7430	7430	0	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	701.	706.	99.3	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705.	706.	99.9	90 - 110

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	697.	706.	98.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	999.	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	998.	999.	99.9	90 - 110

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011


Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
Page 2 of 7
Project Number: 408401.01.DM
Printed 3/17/2011
Chrome VI by EPA 218.6

Batch 02CrH11AA

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993799-001 Chromium, Hexavalent	ug/L	02/23/2011 09:20	1.05	0.0210	0.20	0.26

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	0.464	0.459	1.08	0 - 20

Duplicate

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	0.267	0.257	3.82	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.79	5.00	95.8	90 - 110

Matrix Spike

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.56	5.71(5.25)	97.1	90 - 110

Matrix Spike

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.24	1.32(1.06)	92.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.30	5.00	106	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.89	10.0	98.9	95 - 105



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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 3 of 7

Project Number: 408401.01.DM

Printed 3/17/2011

Metals by EPA 200.8, Total

Batch 031211A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993799-001 Manganese	ug/L	03/12/2011 19:31	5.00	0.210	1.0	3.0

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	4.17	3.67	12.8	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.6	10.0	106	90 - 110
Manganese	ug/L	1.00	10.4	10.0	104	90 - 110

Matrix Spike

Lab ID = 993705-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	51.6	50.0(50.0)	103	75 - 125
Manganese	ug/L	5.00	52.4	53.7(50.0)	97.5	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	90 - 110
Manganese	ug/L	1.00	10.8	10.0	108	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.0	10.0	110	90 - 110
Manganese	ug/L	1.00	10.8	10.0	108	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

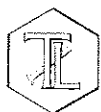
Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

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**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 4 of 7****Project Number: 408401.01.DM****Printed 3/17/2011****Interference Check Standard A**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.5	10.0	115	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.8	10.0	118	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	11.6	10.0	116	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	11.6	10.0	116	80 - 120



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 7

Project Number: 408401.01.DM

Printed 3/17/2011

Metals by EPA 200.8, Total

Batch 031511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993799-001 Chromium	ug/L	03/15/2011 21:15	5.00	0.0950	1.0	ND

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

Duplicate

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.84	10.0	98.4	90 - 110

Matrix Spike

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	53.6	50.0(50.0)	107	75 - 125

Matrix Spike Duplicate

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	51.6	50.0(50.0)	103	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	11.0	10.0	110	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.5	10.0	105	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.3	10.0	103	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.67	10.0	96.7	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 6 of 7

Project Number: 408401.01.DM

Printed 3/17/2011

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.89	10.0	98.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.68	10.0	96.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.2	10.0	102	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.4	10.0	104	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 02TDS11K

2/25/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993799-001 Total Dissolved Solids	mg/L	02/22/2011	1.00	0.434	250.	4320

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993520-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1110	1150	3.54	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	488.	500.	97.6	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 7 of 7

Project Number: 408401.01.DM

Printed 3/17/2011

Turbidity by SM 2130 B

Batch 02TUC11N

2/23/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993799-001 Turbidity	NTU	02/23/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993799-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.80	8.00	97.5	90 - 110

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.50	8.00	93.8	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Mona Nassimi

Manager, Analytical Services

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS11K
Date Calculated: 2/28/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
993776-1	1.454	ND	0.9451	ND
993776-2	689	0.63	447.85	0.97
993776-2MS	689	1.35	447.85	2.07
993776-2MSD	689	1.33	447.85	2.04
993776-3	835	0.62	542.75	0.96
993520-3	2500	0.69	1625	1.06
993520-4	1860	0.62	1209	0.95
993799	7430	0.58	4829.5	0.89
993520-4D	1860	0.60	1209	0.92
LCS				
QC1				
QC2				
QC3				
PE1				
PE2				
PE3				





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CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-297]

993799

COC Number

TURNAROUND TIME 10 Days

DATE 02/22/11 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 408401.01.DM	TEAM 1	SAMPLERS (SIGNATURE) 	DATE 02/22/11	TIME 1300	DESCRIPTION Water	SAMPLE ID. SC-700B-WDR-297
C6 (218.6) Lab Filtered											
Total Metals (200.7) Cr, Mn											
Specific Conductance (120.1)											
TDS (SM2540C)											
Turbidity (SM2130)											
Rec'd 02/22/11 s2d 993799											
COMMENTS											
NUMBER OF CONTAINERS											
3											
TOTAL NUMBER OF CONTAINERS											
3											

ALERT!!
Level III QC

For Sample Condition:
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD											
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL	WARM	SAMPLE CONDITIONS				
	Rafael Davila	DM	2-22-11 1530	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.1 °C / 5.1 °F				
Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED	YES	NO	SPECIAL REQUIREMENTS:				
Rafael Davila	Rafael	DM	2-22-11 1530	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time								
Rafael Davila	Rafael	DM	2-22-11 1530								
Signature (Received)	Printed Name	Company/Agency	Date/Time								
	DM	DM	2/22/11 21:20								
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time								
	DM	DM	2/22/11 21:20								
Signature (Received)	Printed Name	Company/Agency	Date/Time								
	DM	DM	2/22/11 21:20								

Turbidity/pH Check

[illegible]

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]



Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 993799

Date Delivered: 02/22/11 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?
Temperature (if yes) 5.1 °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
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: Luda

ALERT!!
Level III QC

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
SC-700B	2-1-11	10:30	2-1-11	10:35	METER #1	2-1-11	4:15	-54.6	Kaw Phillips	7.2

Notes:

SC-100B	2-1-11	10:30	2-1-11	10:40	METER #1	2-1-11	4:15	-54.6	Kaw Phillips	7.4
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Notes:

SC-700B	2-8-11	15:15	2-8-11	15:24	METER #1	2-8-11	02:00	-54.7	C. Knight	7.0
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Notes:

SC-700B	2-15-11	13:19	2-15-11	13:28	METER #1	2-15-11	04:00	-54.8	C. Knight	7.0
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Notes:

SC-700B	2-22-11	13:00	2-22-11	13:04	METER #1	2-22-11	03:00	-55.0	Kaw Phillips	7.0
---------	---------	-------	---------	-------	----------	---------	-------	-------	--------------	-----

Notes:

SC-700B	2-22-11	13:00	2-22-11	13:04	METER #1	2-22-11	03:00	-55.0	Kaw Phillips	7.0
---------	---------	-------	---------	-------	----------	---------	-------	-------	--------------	-----

Notes:

SC-700B	2-22-11	13:00	2-22-11	13:04	METER #1	2-22-11	03:00	-55.0	Kaw Phillips	7.0
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Notes:

Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4

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

April 6, 2011

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-298 PROJECT, GROUNDWATER
MONITORING,
TLI No.: 993921

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-298 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 1, 2011, 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 result and associated matrix spike for sample SC-700B-WDR-298 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 result from the 5x dilution agrees with that of 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.

Mona Nassimi
for Mona Nassimi
Manager, Analytical Services

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

TRUESDAIL LABORATORIES, INC.

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Established 1931

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.: 408401.01.DM

14201 FRANKLIN AVENUE
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Laboratory No.: 993921

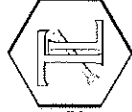
Date: April 6, 2011

Collected: March 1, 2011

Received: March 1, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani / Nathan Atthawimol
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Iordan Stavrev
SM 4500-Si D	Soluble Silica	Kim Luck
SM 4500-P B,E	Total Phosphorus	Jenny Tankunakorn
SM 5310C	Total Organic Carbon	Jenny Tankunakorn
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	Jenny Tankunakorn
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

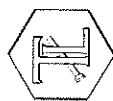
Attention: Shawn Duffy

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 993921
Date Received: March 1, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993921-001	SC-700B-WDR-298	E120.1	NONE	3/1/2011	13:00	EC	7450	umhos/cm	2.00
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011	13:00	Aluminum	ND	ug/L	50.0
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011	13:00	Barium	13.9	ug/L	10.0
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011	13:00	BORON	999	ug/L	200
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011	13:00	Iron	ND	ug/L	20.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Antimony	ND	ug/L	10.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Arsenic	ND	ug/L	1.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Chromium	2.2	ug/L	1.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Copper	ND	ug/L	5.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Lead	ND	ug/L	10.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Manganese	2.5	ug/L	1.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Molybdenum	16.7	ug/L	10.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Nickel	ND	ug/L	10.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011	13:00	Zinc	ND	ug/L	10.0
993921-001	SC-700B-WDR-298	E218.6	LABFLT	3/1/2011	13:00	Chromium, hexavalent	ND	ug/L	0.20
993921-001	SC-700B-WDR-298	E300	NONE	3/1/2011	13:00	Fluoride	1.77	mg/L	0.500
993921-001	SC-700B-WDR-298	E300	NONE	3/1/2011	13:00	Nitrate as N	3.02	mg/L	1.00
993921-001	SC-700B-WDR-298	E300	NONE	3/1/2011	13:00	Sulfate	503	mg/L	25.0
993921-001	SC-700B-WDR-298	SM2130B	NONE	3/1/2011	13:00	Turbidity	ND	NTU	0.100
993921-001	SC-700B-WDR-298	SM2540C	NONE	3/1/2011	13:00	Total Dissolved Solids	4350	mg/L	250
993921-001	SC-700B-WDR-298	SM4500NH3D	NONE	3/1/2011	13:00	Ammonia-N	ND	mg/L	0.500
993921-001	SC-700B-WDR-298	SM4500NO2B	NONE	3/1/2011	13:00	Nitrite as N	ND	mg/L	0.0050



TRUESDAIL LABORATORIES, INC.

Report Continued

Revision 1; April 8, 2011

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
993921-002	SC-100B-WDR-298	E120.1	NONE	3/1/2011	13:00	EC	8120	umhos/cm	2.00
993921-002	SC-100B-WDR-298	E200.7	NONE	3/1/2011	13:00	Aluminum	ND	ug/L	50.0
993921-002	SC-100B-WDR-298	E200.7	NONE	3/1/2011	13:00	Barium	27.2	ug/L	10.0
993921-002	SC-100B-WDR-298	E200.7	NONE	3/1/2011	13:00	BORON	1040	ug/L	200
993921-002	SC-100B-WDR-298	E200.7	NONE	3/1/2011	13:00	Iron	ND	ug/L	20.0
993921-002	SC-100B-WDR-298	E200.7	LABFLT	3/1/2011	13:00	Iron	ND	ug/L	20.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Antimony	ND	ug/L	10.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Arsenic	3.2	ug/L	1.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Chromium	1050	ug/L	2.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Copper	ND	ug/L	5.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Lead	ND	ug/L	10.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Manganese	9.9	ug/L	1.0
993921-002	SC-100B-WDR-298	E200.8	LABFLT	3/1/2011	13:00	Manganese	10.0	ug/L	1.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Molybdenum	18.4	ug/L	10.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Nickel	ND	ug/L	10.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Zinc	ND	ug/L	10.0
993921-002	SC-100B-WDR-298	E218.6	LABFLT	3/1/2011	13:00	Chromium, hexavalent	991	ug/L	21.0
993921-002	SC-100B-WDR-298	E300	NONE	3/1/2011	13:00	Fluoride	2.31	mg/L	0.500
993921-002	SC-100B-WDR-298	E300	NONE	3/1/2011	13:00	Nitrate as N	3.22	mg/L	1.00
993921-002	SC-100B-WDR-298	E300	NONE	3/1/2011	13:00	Sulfate	558	mg/L	25.0
993921-002	SC-100B-WDR-298	SM2130B	NONE	3/1/2011	13:00	Turbidity	ND	NTU	0.100
993921-002	SC-100B-WDR-298	SM2320B	NONE	3/1/2011	13:00	Alkalinity	154	mg/L	5.00
993921-002	SC-100B-WDR-298	SM2320B	NONE	3/1/2011	13:00	Bicarbonate	154	mg/L	5.00
993921-002	SC-100B-WDR-298	SM2320B	NONE	3/1/2011	13:00	Carbonate	ND	mg/L	5.00
993921-002	SC-100B-WDR-298	SM2540C	NONE	3/1/2011	13:00	Total Dissolved Solids	4760	mg/L	250
993921-002	SC-100B-WDR-298	SM4500NH3D	NONE	3/1/2011	13:00	Ammonia-N	ND	mg/L	0.500
993921-002	SC-100B-WDR-298	SM4500NO2B	NONE	3/1/2011	13:00	Nitrite as N	ND	mg/L	0.0050
993921-002	SC-100B-WDR-298	SM4500-PB_E	NONE	3/1/2011	13:00	Total Phosphorous-P	ND	mg/L	0.0200
993921-002	SC-100B-WDR-298	SM4500SI	NONE	3/1/2011	13:00	Soluble Silica	22.8	mg/L	1.00
993921-002	SC-100B-WDR-298	SM5310C	NONE	3/1/2011	13:00	Total Organic Carbon	0.383	mg/L	0.300

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.

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from: Truesdail Laboratories.

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www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 993921

Page 1 of 39

Printed 4/6/2011

Samples Received on 3/1/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-298	993921-001	03/01/2011 13:00	Water
SC-100B-WDR-298	993921-002	03/01/2011 13:00	Water

Anions By I.C. - EPA 300.0

		Batch 03AN11C				
Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Nitrate as Nitrogen	mg/L	03/02/2011 19:44	5.00	0.0550	1.00	3.02
Sulfate	mg/L	03/02/2011 20:09	50.0	1.00	25.0	503.
993921-002 Nitrate as Nitrogen	mg/L	03/02/2011 19:57	5.00	0.0550	1.00	3.22
Sulfate	mg/L	03/02/2011 20:21	50.0	1.00	25.0	558.

Method Blank

Parameter	Unit	DF	Result
Sulfate	mg/L	1.00	ND
Nitrate as Nitrogen	mg/L	1.00	ND

Duplicate

Lab ID = 993889-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Sulfate	mg/L	50.0	247.	245	0.888	0 - 20
Nitrate as Nitrogen	mg/L	50.0	55.3	55.0	0.613	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	20.0	20.0	99.9	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.96	4.00	99.0	90 - 110

Matrix Spike

Lab ID = 993889-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sulfate	mg/L	50.0	748.	745(500.)	100.	85 - 115
Nitrate as Nitrogen	mg/L	50.0	161.	155(100.)	106.	85 - 115

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

017



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Anions By I.C. - EPA 300.0

Batch 03AN11D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Fluoride	mg/L	03/03/2011 12:52	5.00	0.0250	0.500	1.77
993921-002 Fluoride	mg/L	03/03/2011 13:04	5.00	0.0250	0.500	2.31
Method Blank						
Parameter	Unit	DF	Result			
Fluoride	mg/L	1.00	ND			
Duplicate				Lab ID = 993834-001		
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	1.00	ND	0.00	0	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.13	4.00	103.	90 - 110
Matrix Spike				Lab ID = 993834-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	1.00	1.97	2.00(2.00)	98.6	85 - 115
Matrix Spike Duplicate				Lab ID = 993834-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	1.00	2.12	2.00(2.00)	106.	85 - 115
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.13	4.00	103.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.13	3.00	104.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.14	3.00	105.	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Nitrite SM 4500-NO2 B

Batch 03NO211C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Nitrite as Nitrogen	mg/L	03/03/2011 12:18	1.00	0.000200	0.0050	ND
993921-002 Nitrite as Nitrogen	mg/L	03/03/2011 12:19	1.00	0.000200	0.0050	ND

Method Blank

Parameter	Unit	DF	Result
Nitrite as Nitrogen	mg/L	1.00	ND

Duplicate

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0392	0.0400	98.0	90 - 110

Matrix Spike

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0206	0.0200(0.0200)	103	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0196	0.0200	98.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0203	0.0200	102.	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Alkalinity by SM 2320B

Batch 03ALK11A

3/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Alkalinity as CaCO ₃	mg/L	03/02/2011	1.00	1.68	5.00	154
Bicarbonate (Calculated)	mg/L	03/02/2011	1.00	0.153	5.00	154
Carbonate (Calculated)	mg/L	03/02/2011	1.00	0.153	5.00	ND

Method Blank

Parameter	Unit	DF	Result
Alkalinity as CaCO ₃	mg/L	1.00	ND

Duplicate

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	31.0	32.0	3.17	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	101	100.	101	90 - 110

Matrix Spike

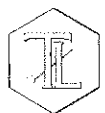
Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	133	132(100.)	101	75 - 125

Matrix Spike Duplicate

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Alkalinity as CaCO ₃	mg/L	1.00	131	132(100.)	99.0	75 - 125



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Specific Conductivity - EPA 120.1

Batch 03EC11B

3/3/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Specific Conductivity	umhos/cm	03/03/2011	1.00	0.0380	2.00	7450
993921-002 Specific Conductivity	umhos/cm	03/03/2011	1.00	0.0380	2.00	8120

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	8180	8120	0.736	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	717	706	102.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	718	706	102.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703	706	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1030	999	103.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995	999	99.6	90 - 110


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Printed 4/6/2011
Chrome VI by EPA 218.6

Batch 03CrH11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Chromium, Hexavalent	ug/L	03/02/2011 12:51	1.05	0.0210	0.20	ND
993921-002 Chromium, Hexavalent	ug/L	03/02/2011 13:01	105	2.20	21.0	991.

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 993920-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	13.1	12.9	1.26	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.09	5.00	102.	90 - 110

Matrix Spike

Lab ID = 993920-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	29.6	29.3(16.4)	102.	90 - 110

Matrix Spike

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.58	5.25(5.25)	106.	90 - 110

Matrix Spike

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1.17(1.06)	103.	90 - 110

Matrix Spike

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2060	2040(1050)	102.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.11	5.00	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104.	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104.	95 - 105



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Project Number: 408401.01.DM

Printed 4/6/2011

Metals by EPA 200.7, Total

Batch 030911A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Iron	ug/L	03/09/2011 14:06	1.00	3.00	20.0	ND
993921-002 Iron	ug/L	03/09/2011 14:24	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5080	5000	102.	90 - 110

Matrix Spike

Lab ID = 993921-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1860	2000(2000)	93.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5100	5000	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4970	5000	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4950	5000	99.0	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1980	2000	99.0	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2000	2000	100.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2030	2000	102.	80 - 120



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Metals by EPA 200.7, Total

Batch 033011A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Aluminum	ug/L	03/30/2011 17:57	1.00	2.83	50.0	ND
Barium	ug/L	03/30/2011 17:57	1.00	2.25	10.0	13.9
Boron	ug/L	03/30/2011 17:57	1.00	5.00	200.	999.

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Boron	ug/L	1.00	ND

Duplicate

Lab ID = 993300-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	953.	940.	1.37	0 - 20
Barium	ug/L	1.00	48.5	51.3	5.61	0 - 20
Boron	ug/L	1.00	338.	316	6.58	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4900	5000	98.0	90 - 110
Barium	ug/L	1.00	4920	5000	98.4	90 - 110
Boron	ug/L	1.00	4950	5000	99.0	90 - 110

Matrix Spike

Lab ID = 993300-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	3230	2940(2000)	114.	75 - 125
Barium	ug/L	1.00	2080	2050(2000)	101.	75 - 125
Boron	ug/L	1.00	2390	2320(2000)	104.	75 - 125

Matrix Spike Duplicate

Lab ID = 993300-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	3160	2940(2000)	111.	75 - 125
Barium	ug/L	1.00	2160	2050(2000)	106.	75 - 125
Boron	ug/L	1.00	2440	2320(2000)	106.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4870	5000	97.5	90 - 110
Barium	ug/L	1.00	5000	5000	100.0	90 - 110
Boron	ug/L	1.00	5060	5000	101.	90 - 110


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Batch 040611A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Aluminum	ug/L	04/06/2011 12:44	1.00	2.83	50.0	ND
Barium	ug/L	04/06/2011 12:44	1.00	2.25	10.0	27.2
Boron	ug/L	04/06/2011 12:44	1.00	5.00	200.	1040

Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Boron	ug/L	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	ND	0.00	0	0 - 20
Barium	ug/L	1.00	26.8	27.2	1.48	0 - 20
Boron	ug/L	1.00	1010	1040	2.63	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4760	5000	95.3	90 - 110
Barium	ug/L	1.00	5070	5000	101.	90 - 110
Boron	ug/L	1.00	4990	5000	99.8	90 - 110

Matrix Spike

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2040	2000(2000)	102.	75 - 125
Barium	ug/L	1.00	2120	2030(2000)	105.	75 - 125
Boron	ug/L	1.00	3240	3040(2000)	110.	75 - 125

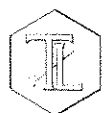
Matrix Spike Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2190	2000(2000)	110.	75 - 125
Barium	ug/L	1.00	2280	2030(2000)	112.	75 - 125
Boron	ug/L	1.00	3070	3040(2000)	102.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4920	5000	98.3	90 - 110
Barium	ug/L	1.00	5070	5000	101.	90 - 110
Boron	ug/L	1.00	5070	5000	101.	90 - 110



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Metals by EPA 200.8, Total

Batch 032811A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Antimony	ug/L	03/28/2011 23:10	5.00	0.190	10.0	ND
Chromium	ug/L	03/28/2011 23:17	10.0	0.190	2.0	1050
Copper	ug/L	03/28/2011 23:10	5.00	0.305	5.0	ND
Lead	ug/L	03/28/2011 23:10	5.00	0.0950	10.0	ND
Molybdenum	ug/L	03/28/2011 23:10	5.00	0.660	10.0	18.4

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	996.	1050	5.30	0 - 20
Antimony	ug/L	5.00	ND	0.00	0	0 - 20
Copper	ug/L	5.00	ND	0.00	0	0 - 20
Lead	ug/L	5.00	ND	0.00	0	0 - 20
Molybdenum	ug/L	5.00	18.4	18.4	0.00	0 - 20

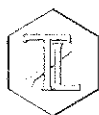
Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.1	50.0	102.	90 - 110
Antimony	ug/L	1.00	47.1	50.0	94.1	90 - 110
Copper	ug/L	1.00	50.5	50.0	101.	90 - 110
Lead	ug/L	1.00	46.6	50.0	93.1	90 - 110
Molybdenum	ug/L	1.00	48.0	50.0	96.1	90 - 110

Matrix Spike

Lab ID = 994222-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	252	252.(250.)	100.0	75 - 125
Antimony	ug/L	5.00	230.	250.(250.)	91.9	75 - 125
Copper	ug/L	5.00	250.	250.(250.)	100.	75 - 125
Lead	ug/L	5.00	230.	250.(250.)	92.0	75 - 125
Molybdenum	ug/L	5.00	244.	250.(250.)	97.6	75 - 125



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Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0.00		
Copper	ug/L	1.00	50.5	50.0	101.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	51.0	50.0	102.	80 - 120
Lead	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0.00		

Serial Dilution

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	50.0	960.	1050	8.92	0 - 10



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Metals by EPA 200.8, Total

Batch 032911B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Arsenic	ug/L	03/29/2011 23:09	5.00	0.260	1.0	ND
Chromium	ug/L	03/29/2011 23:09	5.00	0.0950	1.0	2.2
Manganese	ug/L	03/29/2011 23:09	5.00	0.210	1.0	2.5
Molybdenum	ug/L	03/29/2011 23:09	5.00	0.660	10.0	16.7
Nickel	ug/L	03/29/2011 23:09	5.00	0.240	10.0	ND
Zinc	ug/L	03/29/2011 23:09	5.00	1.32	10.0	ND
993921-002 Arsenic	ug/L	03/29/2011 23:36	5.00	0.260	1.0	3.2
Manganese	ug/L	03/29/2011 23:36	5.00	0.210	1.0	9.9
Nickel	ug/L	03/29/2011 23:36	5.00	0.240	10.0	ND
Zinc	ug/L	03/29/2011 23:36	5.00	1.32	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Arsenic	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Nickel	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

Duplicate

Lab ID = 994222-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	1.23	1.31	6.54	0 - 20
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Nickel	ug/L	5.00	ND	0.00	0	0 - 20
Zinc	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	37.7	38.1	1.06	0 - 20
Molybdenum	ug/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	53.3	50.0	107.	90 - 110
Chromium	ug/L	1.00	53.6	50.0	107.	90 - 110
Nickel	ug/L	1.00	51.3	50.0	103.	90 - 110
Zinc	ug/L	1.00	50.9	50.0	102.	90 - 110
Manganese	ug/L	1.00	50.0	50.0	100.	90 - 110
Molybdenum	ug/L	1.00	50.1	50.0	100.	90 - 110



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Metals by EPA 200.8, Total

Batch 040511A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Antimony	ug/L	04/05/2011 19:29	5.00	0.190	10.0	ND
Copper	ug/L	04/05/2011 19:29	5.00	0.305	5.0	ND
Lead	ug/L	04/05/2011 19:29	5.00	0.0950	10.0	ND

Method Blank

Parameter	Unit	DF	Result
Antimony	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Antimony	ug/L	5.00	ND	0.00	0	0 - 20
Copper	ug/L	5.00	ND	0.00	0	0 - 20
Lead	ug/L	5.00	ND	0.00	0	0 - 20

Lab ID = 993921-001

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	52.2	50.0	104.	90 - 110
Copper	ug/L	1.00	51.4	50.0	103.	90 - 110
Lead	ug/L	1.00	52.0	50.0	104.	90 - 110

Matrix Spike

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Antimony	ug/L	5.00	206.	250.(250.)	82.2	75 - 125
Copper	ug/L	5.00	210.	250.(250.)	84.0	75 - 125
Lead	ug/L	5.00	194.	250.(250.)	77.8	75 - 125

Lab ID = 993921-001

Matrix Spike Duplicate

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Antimony	ug/L	5.00	208.	250.(250.)	83.2	75 - 125
Copper	ug/L	5.00	208.	250.(250.)	83.2	75 - 125
Lead	ug/L	5.00	195.	250.(250.)	77.8	75 - 125

Lab ID = 993921-001

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	52.0	50.0	104.	90 - 110
Copper	ug/L	1.00	52.7	50.0	105.	90 - 110
Lead	ug/L	1.00	51.8	50.0	104.	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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Revised

3/4/2011

Reactive Silica by SM4500-Si D

Batch 03SI11A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Silica	mg/L	03/04/2011	25.0	0.350	1.00	22.8

Method Blank

Parameter	Unit	DF	Result
Silica	mg/L	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Silica	mg/L	25.0	23.1	22.8	1.17	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.748	0.800	93.5	90 - 110

Matrix Spike

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Silica	mg/L	25.0	33.5	32.8(10.0)	107.	75 - 125

Matrix Spike Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Silica	mg/L	25.0	33.9	32.8(10.0)	111.	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.381	0.400	95.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silica	mg/L	1.00	0.373	0.400	93.2	90 - 110



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Total Dissolved Solids by SM 2540 C

Batch 03TDS11B

3/3/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Total Dissolved Solids	mg/L	03/03/2011	1.00	0.434	250.	4350
993921-002 Total Dissolved Solids	mg/L	03/03/2011	1.00	0.434	250.	4760

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993872-010

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	251	260.	3.52	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	518	500.	104.	90 - 110

Total Organic Carbon (T/DOC) SM 5310 C

Batch 03TOC11I

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Total Organic Carbon	mg/L	03/05/2011 09:30	1.00	0.0250	0.300	0.383

Method Blank

Parameter	Unit	DF	Result
Total Organic Carbon	mg/L	1.00	ND
Dissolved Organic Carbon	mg/L	1.00	ND

Duplicate

Lab ID = 993872-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Organic Carbon	mg/L	1.00	5.00	5.00	0.0200	0 - 20
Dissolved Organic Carbon	mg/L	1.00	5.00	5.00	0.00	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	8.63	9.30	92.8	90 - 110
Dissolved Organic Carbon	mg/L	1.00	8.63	9.30	92.8	90 - 110

Matrix Spike

Lab ID = 993872-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Total Organic Carbon	mg/L	1.00	15.5	13.3(10.0)	122	75 - 125
Dissolved Organic Carbon	mg/L	1.00	15.5	13.3(10.0)	122.	75 - 125



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Total Phosphate, SM 4500-PB,E

Batch 03TP11B

3/4/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Phosphate, Total As P	mg/L	03/04/2011	1.00	0.00300	0.0200	ND

Method Blank

Parameter	Unit	DF	Result
Phosphate, Total As P	mg/L	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Phosphate, Total As P	mg/L	1.00	ND	0.0198	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0988	0.100	98.8	90 - 110

Matrix Spike

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0813	0.0848(0.0650)	94.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0598	0.0600	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Phosphate, Total As P	mg/L	1.00	0.0653	0.0650	100.	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Ammonia Nitrogen by SM4500-NH3D

Batch 03NH3-E11A

3/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Ammonia as N	mg/L	03/02/2011	1.00	0.00200	0.500	ND
993921-002 Ammonia as N	mg/L	03/02/2011	1.00	0.00200	0.500	ND

Method Blank

Parameter	Unit	DF	Result
Ammonia as N	mg/L	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Ammonia as N	mg/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.7	10.0	107.	90 - 110

Matrix Spike

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.54	6.00(6.00)	92.4	75 - 125

Matrix Spike Duplicate

Lab ID = 993921-002

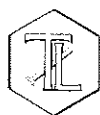
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.50	6.00(6.00)	91.7	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.52	6.00	92.0	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.61	6.00	93.5	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Metals by EPA 200.8, Dissolved

Batch 032911B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Manganese	ug/L	03/29/2011 23:50	5.00	0.210	1.0	10.0

Method Blank

Parameter	Unit	DF	Result
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 994222-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Manganese	ug/L	5.00	37.7	38.1	1.06	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.0	50.0	100.	90 - 110

Matrix Spike

Lab ID = 994222-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	300.	288.(250.)	105.	75 - 125

Matrix Spike Duplicate

Lab ID = 994222-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Manganese	ug/L	5.00	274.	288.(250.)	94.2	75 - 125

MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.0	50.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.8	50.0	95.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.8	50.0	93.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.8	50.0	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.7	50.0	97.4	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Metals by 200.7, Dissolved

Batch 030911A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-002 Iron	ug/L	03/09/2011 14:30	1.00	3.00	20.0	ND

Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5080	5000	102.	90 - 110

Matrix Spike

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1860	2000(2000)	92.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5100	5000	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4970	5000	99.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4950	5000	99.0	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1980	2000	99.0	80 - 120

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2000	2000	100.	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2030	2000	102.	80 - 120



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2020	2000	101.	80 - 120

Turbidity by SM 2130 B

Batch 03TUC11C

3/2/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
993921-001 Turbidity	NTU	03/02/2011	1.00	0.0140	0.100	ND
993921-002 Turbidity	NTU	03/02/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 993921-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0.00	0	0 - 20

Lab Control Sample


Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.71	8.00	96.4	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.60	8.00	95.0	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services

E2 Condon



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 03TDS11B

Date Calculated: 3/8/11

Laboratory Number	Sample volume, ml	Initial weight, g	1st Final weight, g	2nd Final weight, g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight, g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	111.6504	111.6504	111.6504	0.0000	No	0.0000	0.0	25.0	ND	1
993872-1	100	112.9002	112.9263	112.9263	0.0000	No	0.0261	261.0	25.0	261.0	1
993872-2	100	102.8490	102.8768	102.8768	0.0000	No	0.0278	278.0	25.0	278.0	1
993872-3	100	111.5210	111.5452	111.5452	0.0000	No	0.0242	242.0	25.0	242.0	1
993872-4	100	75.1428	75.1665	75.1665	0.0000	No	0.0237	237.0	25.0	237.0	1
993872-5	100	111.1889	111.2107	111.2107	0.0000	No	0.0218	218.0	25.0	218.0	1
993872-6	100	104.2456	104.268	104.268	0.0000	No	0.0224	224.0	25.0	224.0	1
993872-7	100	115.2465	115.2694	115.2694	0.0000	No	0.0229	229.0	25.0	229.0	1
993872-8	100	67.7319	67.755	67.755	0.0000	No	0.0231	231.0	25.0	231.0	1
993872-9	100	75.7751	75.7988	75.7988	0.0000	No	0.0237	237.0	25.0	237.0	1
993872-10	100	110.4348	110.4608	110.4608	0.0000	No	0.0260	260.0	25.0	260.0	1
993872-10D	100	78.4058	78.4309	78.4309	0.0000	No	0.0251	251.0	25.0	251.0	1
LCS	100	112.3579	112.4097	112.4097	0.0000	No	0.0518	518.0	25.0	518.0	1
993903	20	48.1855	48.2891	48.2891	0.0000	No	0.1036	518.0	125.0	518.0	1
993918	50	47.6375	47.7489	47.7489	0.0000	No	0.1114	2228.0	50.0	2228.0	1
993920-1	20	50.6088	50.6727	50.6727	0.0000	No	0.0639	3195.0	125.0	3195.0	1
993920-2	10	68.2408	68.2946	68.2946	0.0000	No	0.0538	5380.0	250.0	5380.0	1
993921-1	10	67.8105	67.854	67.854	0.0000	No	0.0435	4350.0	250.0	4350.0	1
993921-2	10	68.7328	68.7804	68.7804	0.0000	No	0.0476	4760.0	250.0	4760.0	1
993927	400	165.1107	165.1127	165.1127	0.0000	No	0.0020	5.0	6.3	ND	1
993933-11	100	50.2146	50.2568	50.2568	0.0000	No	0.0422	422.0	25.0	422.0	1
993952-9	100	72.4258	72.4858	72.4858	0.0000	No	0.0600	600.0	25.0	600.0	1
993952-10	100	73.1444	73.2036	73.2036	0.0000	No	0.0592	592.0	25.0	592.0	1
LCS											1

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)


Analyst Printed Name


Analyst Signature


Reviewer Printed Name


Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS11B

Date Calculated: 3/8/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
993872-1	340	0.77	221	1.18
993872-2	350	0.79	227.5	1.22
993872-3	292	0.83	189.8	1.28
993872-4	308	0.77	200.2	1.18
993872-5	262	0.83	170.3	1.28
993872-6	272	0.82	176.8	1.27
993872-7	278	0.82	180.7	1.27
993872-8	279	0.83	181.35	1.27
993872-9	314	0.75	204.1	1.16
993872-10	322	0.81	209.3	1.24
993872-10D	322	0.78	209.3	1.20
LCS				
993903	6380	0.81	4147	1.25
993918	2880	0.77	1872	1.19
993920-1	5190	0.62	3373.5	0.95
993920-2	8830	0.61	5739.5	0.94
993921-1	7420	0.59	4823	0.90
993921-2	8120	0.59	5278	0.90
993927	7.17	ND	4.6605	ND
993933-11	684	0.62	444.6	0.95
993952-9	938	0.64	609.7	0.98
993952-10	886	0.67	575.9	1.03





TRUESDAIL LABORATORIES, INC.

Alkalinity by SM 2320B
Calculations

E2 Cordon

Date of Analysis: 3/2/11
Start of Analysis:
Date Sampled:Analytical Batch: 03ALK11A
Matrix: Water
Date Calculated: 3/2/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO ₃	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO ₃	RL, ppm	Total Alkalinity Reported Value	HCO ₃ Alkalinity as CaCO ₃ (ppm)	CO ₃ Alkalinity as CaCO ₃ (ppm)	OH Alkalinity as CaCO ₃ (ppm)	Low Alkalinity as CaCO ₃ (<20ppm)
BLANK	7.08	50	0.02		0.0	0.05		1.0	5	ND	ND	ND	ND	
993920-1	7.85	50	0.02		0.0	5.30		106.0	5	106.0	106.0	ND	ND	
993920-2	6.43	50	0.02		0.0	0.10		2.0	5	ND	ND	ND	ND	
993920-3	6.30	50	0.02		0.0	0.15		3.0	5	ND	ND	ND	ND	
993920-4	5.82	50	0.02		0.0	0.20		4.0	5	ND	ND	ND	ND	
993920-5	6.05	50	0.02		0.0	0.10		2.0	5	ND	ND	ND	ND	
993920-6	5.95	50	0.02		0.0	0.10		2.0	5	ND	ND	ND	ND	
993920-7	6.40	50	0.02		0.0	0.10		2.0	5	ND	ND	ND	ND	
993927-20	7.77	50	0.02		0.0	4.60		92.0	5	92.0	92.0	ND	ND	
993934-1	6.96	50	0.02		0.0	7.70		154.0	5	154.0	154.0	ND	ND	
993934-2	6.86	50	0.02		0.0	8.20		164.0	5	164.0	164.0	ND	ND	
993943	7.41	50	0.02		0.0	5.95		119.0	5	119.0	119.0	ND	ND	
993979-20	7.96	50	0.02		0.0	4.75		95.0	5	95.0	95.0	ND	ND	
993921-1	7.32	50	0.02		0.0	1.60		32.0	5	32.0	32.0	ND	ND	
993921-2	7.67	50	0.02		0.0	7.70		154.0	5	154.0	154.0	ND	ND	
993921-1 DUP	7.29	50	0.02		0.0	1.55		31.0	5	31.0	31.0	ND	ND	
993921-1 MS	9.91	50	0.02	2.0	40.0	5.55		133.0	5	133.0	53.0	80	ND	
993921-1 MSD	9.91	50	0.02	2.0	40.0	5.55		131.0	5	131.0	51.0	80	ND	
LCST	10.40	50	0.02	2.3	45.0	5.05		101.0	5	101.0	11.0	90	ND	
LCST												ND		

Calculations as follows:

$$T \text{ or } P = \left(\frac{A \times N \times 50000}{\text{mL sample}} \right)$$

$$\text{Low Alkalinity:} = \frac{(2 \times B - C) \times N \times 50000}{\text{mL sample}}$$

ND: Not Detected (below the reporting limit)
LCS: Laboratory Control Standard
LCSD: Laboratory Control Standard Duplicate
MS: Matrix Spike
MSD: Matrix Spike DuplicateWhere:
T = Total Alkalinity, mg CaCO₃/L
P = Phenolphthalein Alkalinity, mg CaCO₃/L
A = mL standard acid used
N = normality of standard acidWhere:
B = mL titrant to first recorded pH
C = total mL titrant to reach pH 0.3 unit lower
N = normality of standard acidAnalyst Printed Name
Analyst SignatureReviewer Printed Name
Reviewer Signature

068

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>
<i>Scott McDaniel</i>	Scott McDaniel	Ch2mhill	3-1-11 15:10			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>
<i>Rafael Davila</i>	Rafael Davila	T-L-I	3-1-11 15:10			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:		
<i>Rafael Davila</i>	Rafael Davila	T-L-I	3-1-11 21:30	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			
<i>L. Shabazz</i>	L. Shabazz	T-L-I	3/1/11 21:30			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time			
<i>L. Shabazz</i>	L. Shabazz	T-L-I	3/1/11 21:30			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			
<i>L. Shabazz</i>	L. Shabazz	T-L-I	3/1/11 21:30			

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
993843	<1	72	2/25/11	ES	NO	yes w/ 2:30 p.m.
993839(1-8)	<1	<2				-1 digested
↓ 840(1-4)						
↓ 841(1-9)						
993866-1	<1	<2	2/25/11	KK	YES	
993867	<1	<2	↓	↓	↓	
993868(1-2)	<1	<2	↓	↓	↓	
993892(1-19)	<1	<2	2/15/11	KK	NO	
993853(1-2)	<1	72	2/28/11	ES	NO	yes w/ 4:00 p.m.
T/D 993871(1-7)	71	72			yes for total	
↓ 872(1-10)	↓		↓	↓	↓	
↓ 873(1-6)	↓		↓	↓	↓	
993869(1-6)	71	<2	3/1/11	ES	yes	(1-4 SRC)(5,6 no A)
993886	<1	<2			NO	
↓ 887						
↓ 889						
993897(1-10)		72				yes w/ 2:30 p.m.
993919(1-2)	71	<2	3/2/11	M.M	yes	
993953	71	<2	3/2/11	M.M	yes	
993997(1-68)	<1	<2	01/31/11	KK	NO	
993922(1-11)	<1	<2	02/02/11	KK	NO	
993966	71	<2	3/7/11	ES	yes	
993967	<1	<2			NO	
969	<1	<2			↓	
970	<1	<2			↓	
983	71	<2			yes	
988	<1	<2			NO	
999	<1	<2			↓	
994000	71	<2			yes	
993969(1-8)	<1	<2	3/7/11	ES	yes	30/0A
993990(1-9)	<1	<2			↓	
993991(1-3)	<1	<2			↓	
994005(16,23)	<1	72	3/7/11	ES	NO	yes w/ 4:30 p.m.
993705	<1	72	3/8/11	ES	NO	yes w/ 2:00 p.m.
993799	<1	72			↓	
993920(1-2)	<1	72			↓	
T/D 993921(1-2)	<1	<2			↓	yes for Dissolved 2:00 p.m.
994023	<1	<2	3/8/11	ES	NO	
994024						
994025						
994026						
027	↓	↓	↓	↓	↓	
028	71	<2	N	↓	yes	
006(16 gms)		TTC	↓	↓		
994039	<1	<2	3/9/11	ES	NO	
994040(1-3)	<1	72			↓	yes w/ 11:30
993560(2-12)	<1	<2	3/8/11	KK	NO	
993561(1-9)	<1	<2	3/8/11	KK	NO	
993323(1-9)	<1	<2	2/6/11	KK	NO	



Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 993921

Date Delivered: 03/01/11 Time: 2:30 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: Ludg

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

April 5, 2011

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-299 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 994045

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-299 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 8, 2011, 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 and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

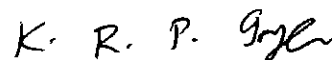
The sample duplicate and matrix spike for sample SC-700B-WDR-299 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the sample duplicate and matrix spike recoveries were within acceptable limits, the data is accepted.

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.


fo - Mona Nassimi
Manager, Analytical Services



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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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.: 408401.01.DM

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

Laboratory No.: 994045

Date: April 5, 2011

Collected: March 8, 2011

Received: March 8, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Laboratory No.: 994045
Date Received: March 8, 2011

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994045-001	SC-700B-WDR-299	E120.1	NONE	3/8/2011	13:30	EC	7480	umhos/cm	2.00
994045-001	SC-700B-WDR-299	E200.8	NONE	3/8/2011	13:30	Chromium	ND	ug/L	1.0
994045-001	SC-700B-WDR-299	E200.8	NONE	3/8/2011	13:30	Manganese	4.2	ug/L	1.0
994045-001	SC-700B-WDR-299	E218.6	LABFLT	3/8/2011	13:30	Chromium, hexavalent	ND	ug/L	0.20
994045-001	SC-700B-WDR-299	SM2130B	NONE	3/8/2011	13:30	Turbidity	ND	NTU	0.100
994045-001	SC-700B-WDR-299	SM2540C	NONE	3/8/2011	13:30	Total Dissolved Solids	4230	mg/L	250

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.

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 Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 994045

Page 1 of 6

Printed 4/5/2011

Samples Received on 3/8/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-299	994045-001	03/08/2011 13:30	Water

Specific Conductivity - EPA 120.1

Batch 03EC11C

3/11/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994045-001 Specific Conductivity	umhos/cm	03/11/2011	1.00	0.0380	2.00	7480

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 994045-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7490	7480	0.134	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705	706	99.8	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	707	706	100.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703	706	99.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1000	999	100.	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 6

Project Number: 408401.01.DM

Printed 4/5/2011

Chrome VI by EPA 218.6

Batch 03CrH11D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994045-001 Chromium, Hexavalent	ug/L	03/09/2011 17:09	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 994045-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	ND	0.180	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101.	90 - 110

Matrix Spike

Lab ID = 994045-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.24(1.06)	101.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.07	5.00	101.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102.	95 - 105


Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
Page 3 of 6
Project Number: 408401.01.DM
Printed 4/5/2011
Metals by EPA 200.8, Total

Batch 040111A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994045-001 Chromium	ug/L	04/01/2011 19:15	5.00	0.0950	1.0	ND
Manganese	ug/L	04/01/2011 19:15	5.00	0.210	1.0	4.2

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 994045-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	4.07	4.24	4.07	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.9	90 - 110
Manganese	ug/L	1.00	47.6	50.0	95.2	90 - 110

Matrix Spike

Lab ID = 994045-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	230.	250.(250.)	92.0	75 - 125
Manganese	ug/L	5.00	222.	254.(250.)	86.9	75 - 125

Matrix Spike Duplicate

Lab ID = 994045-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	229.	250.(250.)	91.6	75 - 125
Manganese	ug/L	5.00	223.	254.(250.)	87.6	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	98.1	90 - 110
Manganese	ug/L	1.00	48.7	50.0	97.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.2	50.0	102.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.6	50.0	103.	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 6

Project Number: 408401.01.DM

Printed 4/5/2011

Total Dissolved Solids by SM 2540 C

Batch 03TDS11C

3/10/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994045-001 Total Dissolved Solids	mg/L	03/10/2011	1.00	0.434	250.	4230

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 994029-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1180	1140	3.45	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	494	500.	98.8	90 - 110

Turbidity by SM 2130 B

Batch 03TUC11I

3/9/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994045-001 Turbidity	NTU	03/09/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 994045-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.75	8.00	96.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.77	8.00	97.1	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project


Page 6 of 6

Project Number: 408401.01.DM

Printed 4/5/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.


Mona Nassimi
Manager, Analytical Services

Calculations

Date Calculated: 3/15/11

[illegible]
$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

C = mL of sample filtered.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

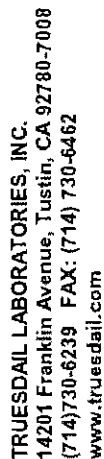
Reviewer Signature

TDS/EC CHECK

Date Calculated: 3/15/11

[illegible]

A handwritten signature in black ink, appearing to be "A." followed by a long horizontal stroke extending to the right.



COC Number

TURNAROUND TIME 10 Days
DATE 03/08/11 PAGE 1

UAM3Plant-WDR-299]

30406

COMPANY		PROJECT NAME		PHONE		FAX		ADDRESS		P.O. NUMBER		SAMPLERS (SIGNATURE)		SAMPLE I.D.		DATE		TIME		DESCRIPTION		COMMENTS	
E2		PG&E Topock		(530) 229-3303		(530) 339-3303		155 Grand Ave Ste 1000 Oakland, CA 94612		408401.01.DM				SC-700B-WDR-299		03/08/11		13:30		Water		Rec'd 03/08/11 994045	
																						NUMBER OF CONTAINERS	
																						TOTAL NUMBER OF CONTAINERS	
																						3	
																						3	
																						6	
																						200	
																						3	
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ALERT!!

**For Sample Conditions
See Form Attached**

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>
<i>[Signature]</i>			3-8-11 15:30			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			
<i>Rafael David</i>			3-8-11 15:30			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time			
<i>Rafael David</i>			3-8-11 21:30			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			
<i>Andres...</i>			3-8-11 21:30			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			

RECEIVED

CUSTODY SEALED

YES ☐ NO ☐

COOL ☒ WARM ☐

40°C °F

SPECIAL REQUIREMENTS:

035

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

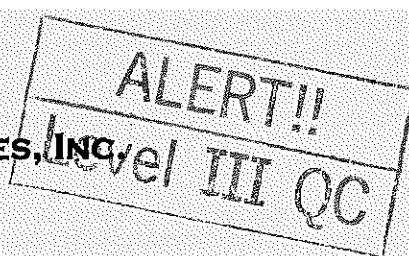
Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
03/07/11	993990-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
03/07/11	993991-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
03/09/11	994044	7.0	5.00	9.5	9:10	SB
3/9/11	994045	7.0	5.00	9.5	12:30	MLH
03/10/11	994062-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
↓	↓ -11	↓	↓	↓	↓	↓
↓	↓ -12	↓	↓	↓	↓	↓
↓	↓ -13	↓	↓	↓	↓	↓
↓	↓ -14	↓	↓	↓	↓	↓
↓	↓ -15	↓	↓	↓	↓	↓
↓	↓ -16	↓	↓	↓	↓	↓
↓	↓ -17	↓	↓	↓	↓	↓

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994062(1-7)	<1	<2	3/11/11	ES	yes	3010 A
994069(1-7)	↓	↓	↓	↓	↓	↓
994071	(2)	<2	3/14/11	ES	yes	3010 A
994092	<1	<2	↓	↓	NO	↓
994093	↓	↓	↓	↓	↓	↓
993503	<1	<2	030911	KK	NO	↓
993799	<1	<2	↓	↓	↓	↓
993705	<1	<2	↓	↓	↓	↓
993626 (1-18)	<1	<2	031111	↓	↓	↓
994118	>1	<2	3/15/11	ES	yes	↓
994119	<1	<2	↓	↓	↓	↓
994136	<1	>2	3/17/11	ES	NO	yes @ 1:00 p.m.
994152	<1	<2	↓	↓	NO	↓
994157	<1	<2	↓	↓	yes	3010 A
994158	<1	<2	↓	↓	↓	↓
994161	<1	<2	↓	↓	NO	↓
994174	>1	<2	3/18/11	M.M	yes	3010 A
994175	>1	<2	↓	↓	↓	↓
994176	>1	<2	↓	↓	↓	↓
994180	>1	<2	↓	↓	↓	↓
Total/994063(1-4)	<1	<2	3/21/11	ES	NO	↓
994183(1-3)	<1	>2	↓	↓	NO	yes @ 3:00 p.m.
994199	>1	<2	↓	↓	yes	↓
994211	↓	↓	↓	↓	↓	↓
994212	↓	↓	↓	↓	↓	↓
994207	<1	TTC	↓	↓	yes	TTC
994210	<1	<2	↓	↓	NO	↓
211	↓	↓	↓	↓	↓	↓
994208(1-2)	<1	<2	↓	↓	↓	↓
994212(1-2)	>1	<2	↓	↓	yes	↓
213	↓	↓	↓	↓	↓	↓
214(1-2)	↓	↓	↓	↓	↓	↓
215(1-4)	↓	↓	↓	↓	↓	↓
994240	>1	<2	3/22/11	ES	yes	↓
994222(1-2)	<1	<2	↓	↓	yes	↓
994223(1-4)	<1	<2	↓	↓	↓	↓
994241	<1	<2	↓	↓	NO	↓
994242	↓	↓	↓	↓	↓	↓
243	↓	↓	↓	↓	↓	↓
244	↓	↓	↓	↓	↓	↓
245	↓	↓	↓	↓	↓	↓
994257(1-3)	↓	>2	↓	↓	↓	yes @ 3:30 p.m.
994258	>1	<2	↓	↓	yes	↓
994259	<1	>2	3/24/11	ES	N	yes @ 12:30 p.m.
994279	<1	<2	↓	↓	NO	↓
994045	<1	>2	3/27/11	M.M	NO	yes @ 15:50 p.m.
994094(1-2)	<1	<2	3/24/11	M.M	NO	↓
994296	>1	<2	↓	M.M	yes	↓



TRUESDAIL LABORATORIES, INC.



Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 994045

Date Delivered: 03/08/11 Time: 2:30 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 = 8.0 p.p.m. ☒ 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: Linda

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

April 12, 2011

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-300 PROJECT,
GROUNDWATER MONITORING, TLI NO.: 994136

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-300 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 15, 2011, 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 sample result and associated matrix spike for sample SC-700B-WDR-300 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 agreed with those of the straight run, the data from the straight run is reported.


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

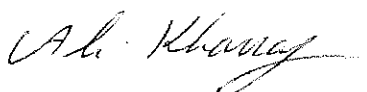
Sample SC-700B-WDR-300 was re-analyzed for Total Dissolved Solids, past the method specified holding time, at the request of Mr. Shawn Duffy. The result from the re-analysis is reported.

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


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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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.: 408401.01.DM

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

Laboratory No.: 994136

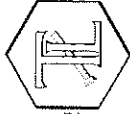
Date: April 1, 2011

Collected: March 15, 2011

Received: March 15, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 994136
Date Received: March 15, 2011
Revision 1; April 12, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994136-001	SC-700B-WDR-300	E120.1	NONE	3/15/2011	14:30	EC	7490	umhos/cm	2.00
994136-001	SC-700B-WDR-300	E200.8	NONE	3/15/2011	14:30	Chromium	ND	ug/L	1.0
994136-001	SC-700B-WDR-300	E200.8	NONE	3/15/2011	14:30	Manganese	1.6	ug/L	1.0
994136-001	SC-700B-WDR-300	E218.6	LABFLT	3/15/2011	14:30	Chromium, hexavalent	0.23	ug/L	0.20
994136-001	SC-700B-WDR-300	SM2130B	NONE	3/15/2011	14:30	Turbidity	ND	NTU	0.100
994136-001	SC-700B-WDR-300	SM2540C	NONE	3/15/2011	14:30	Total Dissolved Solids	4540	mg/L	250

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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Established 1931

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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 994136

Page 1 of 6

Printed 4/2/2011

Samples Received on 3/15/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix			
SC-700B-WDR-300	994136-001	03/15/2011 14:30	Water			
Specific Conductivity - EPA 120.1		Batch 03EC11G	3/16/2011			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
994136-001 Specific Conductivity	umhos/cm	03/16/2011	1.00	0.0380	2.00	7490

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 994136-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7460	7490	0.401	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	701	706	99.3	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	697	706	98.7	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	708	706	100.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995	996	99.9	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 6

Project Number: 408401.01.DM

Printed 4/2/2011

Chrome VI by EPA 218.6

Batch 03CrH11G

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994136-001 Chromium, Hexavalent	ug/L	03/17/2011 14:50	1.05	0.0210	0.20	0.23

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 994157-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	3.73	3.78	1.41	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.07	5.00	101.	90 - 110

Matrix Spike

Lab ID = 994063-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.05	9.06(5.30)	99.8	90 - 110

Matrix Spike

Lab ID = 994063-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	15.7	15.7(10.6)	100.	90 - 110

Matrix Spike

Lab ID = 994063-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	6.90	6.85(5.30)	101.	90 - 110

Matrix Spike

Lab ID = 994063-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.98	9.03(5.30)	99.0	90 - 110

Matrix Spike

Lab ID = 994136-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.90	6.06(5.25)	96.9	90 - 110

Matrix Spike

Lab ID = 994136-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.35	1.29(1.06)	105.	90 - 110

Matrix Spike

Lab ID = 994157-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.06	9.08(5.30)	99.7	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 4 of 6

Project Number: 408401.01.DM

Printed 4/2/2011

Metals by EPA 200.8, Total

Batch 032911B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994136-001 Chromium	ug/L	03/29/2011 16:53	5.00	0.0950	1.0	ND
Manganese	ug/L	03/29/2011 16:53	5.00	0.210	1.0	1.6

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 994094-023

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	53.6	50.0	107.	90 - 110
Manganese	ug/L	1.00	50.0	50.0	100.	90 - 110

Matrix Spike

Lab ID = 994094-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	252.	250.(250.)	101.	75 - 125
Manganese	ug/L	5.00	218.	250.(250.)	87.2	75 - 125

Matrix Spike Duplicate

Lab ID = 994094-023

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	249.	250.(250.)	99.7	75 - 125
Manganese	ug/L	5.00	214.	250.(250.)	85.8	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.9	50.0	97.7	90 - 110
Manganese	ug/L	1.00	51.0	50.0	102.	90 - 110

MRCVS - Primary

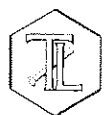
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.4	90 - 110
Manganese	ug/L	1.00	48.7	50.0	97.4	90 - 110

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project
Project Number: 408401.01.DM

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Printed 4/12/2011
Revised

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0.00		

Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0.00		

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.6	50.0	97.2	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.5	50.0	97.0	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.2	50.0	98.4	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.1	50.0	96.1	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 04TDS11C

4/8/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994136-001 Total Dissolved Solids	mg/L	04/08/2011	1.00	0.434	250.	4540

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4940	4820	2.36	0 - 5

Lab ID = 993429-002

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	485	500.	97.0	90 - 110

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 6 of 6

Project Number: 408401.01.DM

Printed 4/2/2011

Turbidity by SM 2130 B

Batch 03TUC11L

3/16/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994136-001 Turbidity	NTU	03/16/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 994136-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0.00	0	0 - 20

Lab Control Sample

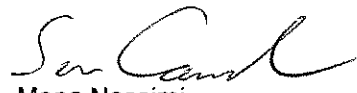
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.75	8.00	96.9	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.70	8.00	96.2	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 
Mona Nassimi
Manager, Analytical Services

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS11E

Date Calculated: 3/23/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
994136	7480	0.84	4862	1.29
994141-1	10.9	ND	7.085	ND
994141-2	6	ND	3.9	ND
994201	69.6	0.72	45.24	1.11
994202	67	0.69	43.55	1.06
994221	118	0.70	76.7	1.08
MDL1				
MDL2				
MDL3				
MDL4				
994136D	7480	0.84	4862	1.29
LCS				
MDL5				
MDL6				
MDL7				



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 04TDS11C

Date Calculated: 4/12/11

[illegible]

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

Where: A = weight of dish + residue in grams.

θ = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

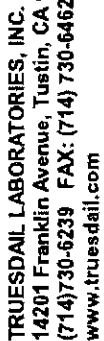
ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature _____



[IM3Plant-WDR-300]

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

COC Number

TURNAROUND TIME

DATE 03/15/11

PAGE 1 OF 1

994136

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	408401.01.DM	SAMPLERS (SIGNATURE)	DATE	03/15/11	TIME	14:30	DESCRIPTION	Water
<div style="display: flex; justify-content: space-between;"> <div> <p>Rec'd 03/15/11</p> <p>994136</p> </div> <div> <p>NUMBER OF CONTAINERS</p> <p>3</p> </div> </div>																		
<div style="display: flex; justify-content: space-between;"> <div> <p>Cr6 (218.6) Lab Filtered</p> <p>Total Metals (200.7) Cr, Mn</p> <p>Specific Conductance (120.1)</p> <p>TDS (SM2540C)</p> <p>Turbidity (SM2130)</p> </div> <div> <p>x</p> <p>x</p> <p>x</p> <p>x</p> <p>x</p> </div> </div>																		
<div style="display: flex; justify-content: space-between;"> <div> <p>SC-700B-WDR-300</p> </div> <div> <p>3</p> </div> </div>																		
<div style="display: flex; justify-content: space-between;"> <div> <p>SAMPLE I.D.</p> </div> <div> <p>PH = 6-200.7</p> </div> </div>																		
<div style="display: flex; justify-content: space-between;"> <div> <p>TOTAL NUMBER OF CONTAINERS</p> </div> <div> <p>3</p> </div> </div>																		

ALERT!!

Level III QC

**For Sample Conditions
See Form Attached**

CHAIN OF CUSTODY SIGNATURE RECORD

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	4.2°C.F
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994062(1-7)	<1	<2	3/11/11	ES	yes	3010 A
994069(1-7)	↓	↓	↓	↓	↓	↓
994071	71	<2	3/14/11	ES	yes	3010 A
994092	<1	<2	↓	↓	NO	↓
994093	↓	↓	↓	↓	↓	↓
993503	<1	<2	030911	KL	NO	↓
993799	<1	<2	↓	↓	↓	↓
993705	<1	<2	↓	↓	↓	↓
993626(1-18)	21	<2	031111	↓	↓	↓
994118	>1	<2	3/15/11	ES	yes	↓
994119	<1	<2	↓	↓	↓	↓
994136	<1	>2	3/17/11	ES	NO	yes @ 1:00 p.m.
994152	<1	<2	↓	↓	NO	↓
994157	<1	<2	↓	↓	yes	3010 A
994158	<1	<2	↓	↓	↓	↓
994161	<1	<2	↓	↓	NO	↓
994174	>1	<2	3/18/11	M.M	yes	3010 A
994175	>1	<2	↓	↓	↓	↓
994176	>1	<2	↓	↓	↓	↓
994180	>1	<2	↓	↓	↓	↓
Total 994063(1-4)	<1	<2	3/21/11	ES	NO	↓
994183(1-3)	<1	>2	↓	↓	NO	yes @ 3:00 p.m.
994194	>1	<2	↓	↓	yes	↓
994211	↓	↓	↓	↓	↓	↓
994212	↓	↓	↓	↓	↓	↓
994207	↓	TTC	↓	↓	yes	TTC
994210	<1	<2	↓	↓	NO	↓
211	↓	↓	↓	↓	↓	↓
994208(1-2)	<1	<2	↓	↓	yes	↓
994212(1-2)	>1	<2	↓	↓	yes	↓
213	↓	↓	↓	↓	↓	↓
214(1-2)	↓	↓	↓	↓	↓	↓
215(1-4)	↓	↓	↓	↓	↓	↓
994240	>1	<2	3/22/11	ES	yes	yes
994222(1-2)	<1	<2	↓	↓	yes	↓
994223(1-4)	<1	<2	↓	↓	↓	↓
994241	<1	<2	↓	↓	NO	↓
994242	↓	↓	↓	↓	↓	↓
243	↓	↓	↓	↓	↓	↓
244	↓	↓	↓	↓	↓	↓
245	↓	↓	↓	↓	↓	↓
994257(1-3)	↓	>2	↓	↓	↓	yes @ 3:30 p.m.
994258	>1	<2	↓	↓	yes	↓
994259	<1	>2	3/24/11	ES	N	yes @ 12:30 p.m.
994279	<1	<2	↓	↓	NO	↓
994045	<1	>2	3/27/11	M.M	NO	yes @ 15:50 p.m.
994094(1-25)	<1	<2	3/24/11	M.M	NO	↓
994296	>1	<2	↓	M.M	yes	↓



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 994136

Date Delivered: 03/15/11 Time: 11:30 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)? 4.2° 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 Water
16. Comments: _____
17. Sample Check-In completed by Truesdail Log-In/Receiving: Linda

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

April 12, 2011

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-301 PROJECT,
GROUNDWATER MONITORING, TLI NO.: 994259

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-301 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 22, 2011, 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-301 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 agreed with those of the straight run, the data from the straight run is reported.


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

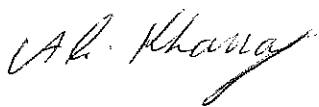
Sample SC-700B-WDR-301 was re-analyzed for Total Dissolved Solids, past the method specified holding time, at the request of Mr. Shawn Duffy. The result from the re-analysis is reported.

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

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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.: 408401.01.DM

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

Laboratory No.: 994259

Date: April 4, 2011

Collected: March 22, 2011

Received: March 22, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Maria Mangarova
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 994259

Date Received: March 22, 2011

Revision 1: April 12, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994259-001	SC-700B-WDR-301	E120.1	NONE	3/22/2011	14:00	EC	7380	umhos/cm	2.00
994259-001	SC-700B-WDR-301	E200.8	NONE	3/22/2011	14:00	Chromium	ND	ug/L	1.0
994259-001	SC-700B-WDR-301	E200.8	NONE	3/22/2011	14:00	Manganese	1.1	ug/L	1.0
994259-001	SC-700B-WDR-301	E218.6	LABFLT	3/22/2011	14:00	Chromium, hexavalent	ND	ug/L	0.20
994259-001	SC-700B-WDR-301	SM2130B	NONE	3/22/2011	14:00	Turbidity	ND	NTU	0.100
994259-001	SC-700B-WDR-301	SM2540C	NONE	3/22/2011	14:00	Total Dissolved Solids	4520 J	mg/L	250

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.

TRUESDAIL LABORATORIES, INC.

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Established 1931

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(714) 730-6239 · FAX (714) 730-6462
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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 994259

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Printed 4/5/2011

Samples Received on 3/22/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-301	994259-001	03/22/2011 14:00	Water

Specific Conductivity - EPA 120.1

Batch 03EC11K

3/31/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994259-001 Specific Conductivity	umhos/cm	03/31/2011	1.00	0.0380	2.00	7380

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 994286-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	55.7	55.5	0.360	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	703	706	99.6	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	707	706	100.	90 - 110

MRCVS - Primary

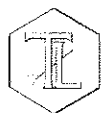
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	975	996	97.9	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	985	996	98.9	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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Client: E2 Consulting Engineers, Inc.
Project Name: PG&E Topock Project
Page 3 of 8
Project Number: 408401.01.DM
Printed 4/5/2011
Chrome VI by EPA 218.6

Batch 03CrH11J

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994259-001 Chromium, Hexavalent	ug/L	03/23/2011 13:19	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 994223-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	26.2	380.	384	1.02	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.26	5.00	105.	90 - 110

Matrix Spike

Lab ID = 994094-024

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1.16(1.06)	104.	90 - 110

Matrix Spike

Lab ID = 994094-025

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.19(1.06)	102.	90 - 110

Matrix Spike

Lab ID = 994222-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.40	1.36(1.06)	103.	90 - 110

Matrix Spike

Lab ID = 994222-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.31	1.27(1.06)	104.	90 - 110

Matrix Spike

Lab ID = 994223-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.47	1.50(1.06)	97.3	90 - 110

Matrix Spike

Lab ID = 994223-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.12	6.99(5.30)	102.	90 - 110

Matrix Spike

Lab ID = 994259-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.81	5.56(5.25)	105.	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/5/2011

Matrix Spike

Lab ID = 994259-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.30	1.23(1.06)	106.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.22	5.00	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102.	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102.	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.3	10.0	103.	95 - 105



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/5/2011

Metals by EPA 200.8, Total

Batch 032711A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994259-001 Chromium	ug/L	03/27/2011 19:58	5.00	0.0950	1.0	ND
Manganese	ug/L	03/27/2011 19:58	5.00	0.210	1.0	1.1

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 994259-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	1.11	1.11	0.270	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	52.7	50.0	105.	90 - 110
Manganese	ug/L	1.00	51.7	50.0	103.	90 - 110

Matrix Spike

Lab ID = 994259-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	262.	250.(250.)	105	75 - 125
Manganese	ug/L	5.00	230.	251.(250.)	91.6	75 - 125

Matrix Spike Duplicate

Lab ID = 994259-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	263.	250.(250.)	105.	75 - 125
Manganese	ug/L	5.00	230.	251.(250.)	91.4	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.7	50.0	103.	90 - 110
Manganese	ug/L	1.00	52.0	50.0	104.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.6	50.0	99.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.5	50.0	93.0	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/12/2011

Revised

Total Dissolved Solids by SM 2540 C

Batch 04TDS11C

4/8/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994259-001 Total Dissolved Solids	mg/L	04/08/2011	1.00	0.434	250.	4520 J

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 993429-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4940	4820	2.36	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	485	500.	97.0	90 - 110

Turbidity by SM 2130 B

Batch 03TUC110

3/23/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994259-001 Turbidity	NTU	03/23/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 994259-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.55	8.00	94.4	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.50	8.00	93.8	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/5/2011

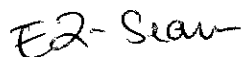
Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 

Mona Nassimi

Manager, Analytical Services



Calculations

Date Calculated: 3/28/11

[illegible]
$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

C = mL of sample filtered.

Jerry
Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature _____

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS11F

Date Calculated: 3/28/11

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
994226-1	317	0.71	206.05	1.09
994226-2	370	0.71	240.5	1.09
994226-3	300	0.81	195	1.25
994226-4	357	0.65	232.05	1.00
994226-5	312	0.74	202.8	1.13
994226-6	375	0.66	243.75	1.01
994226-7	324	0.10	210.6	0.15
994226-8	383	0.61	248.95	0.94
994226-9	310	0.58	201.5	0.89
994226-10	371	0.62	241.15	0.95
994226-10D	371	0.63	241.15	0.96
LCS				
994222-1	418	0.67	271.7	1.03
994225-1	3720	0.58	2418	0.89
994225-2	3880	0.59	2522	0.91
994259	7400	0.70	4810	1.08
994277	31.5	0.60	20.475	0.92



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 04TDS11C

Date Calculated: 4/12/11

[illegible]

Calculation as follows:

$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

Where: A = weight of dish + residue in grams.

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Jenny
Analyst Printed Name


Analyst Signature

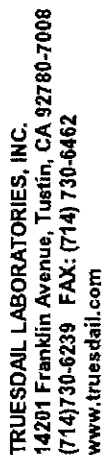
Seal
Reviewer Printed Name


Reviewer Signature

TDS/EC CHECK

Date Calculated: 4/12/11

[illegible]



COC Number

TURNAROUND TIME

[IM3Plant-WDR-301]

DATE 03/22/11 PAGE 1 OF 1

ALERT !!
Level II QC

**For Sample Conditions
See Form Attached**

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input checked="" type="checkbox"/>	WARM <input type="checkbox"/>	°F
<i>S. Kunguik</i>		C. Kunguik	3/22/11 15:15				40
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
<i>Rafael Davila</i>		T. L. F.	3-22-11 15:38				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
<i>Rafael Davila</i>		T. L. F.	3-22-11 21:30				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
<i>S. Kunguik</i>		Shobunig	3/22/11 21:30				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994062(1-7)	<1	<2	3/11/11	ES	yes	3010 A
994069(1-7)	↓	↓	↓	↓	↓	↓
994071	(2)	<2	3/14/11	ES	yes	3010 A
994092	<1	<2	↓	↓	NO	—
994093	↓	↓	↓	↓	↓	—
993503	<1	<2	030911	KE	NO	—
993799	<1	<2	↓	↓	↓	—
993705	<1	<2	↓	↓	↓	—
993626 (1-18)	<1	<2	031111	↓	↓	—
994118	>1	<2	3/15/11	ES	yes	—
994119	<1	<2	↓	↓	↓	—
994136	<1	>2	3/17/11	ES	NO	yes w/ 1:00 p.m.
994152	<1	<2	↓	↓	NO	—
994157	<1	<2	↓	↓	yes	3010 A
994158	<1	<2	↓	↓	↓	—
994161	<1	<2	↓	↓	NO	—
994184	>1	<2	3/18/11	M.M	yes	3010 A
994185	>1	<2	↓	↓	↓	—
994186	>1	<2	↓	↓	↓	—
994180	>1	<2	↓	↓	↓	—
Total/994063(1-4)	<1	<2	3/21/11	ES	NO	—
994183(1-3)	<1	>2	↓	↓	NO	yes w/ 3:00 p.m.
994199	>1	<2	↓	↓	yes	—
994211	↓	↓	↓	↓	↓	—
994212	↓	↓	↓	↓	↓	—
994203	<1	TTC	↓	↓	yes	TTC
994210	<1	<2	↓	↓	NO	—
211	↓	↓	↓	↓	↓	—
994208(1-2)	<1	<2	↓	↓	↓	—
994212(1-2)	>1	<2	↓	↓	yes	—
213	↓	↓	↓	↓	↓	—
214(1-2)	↓	↓	↓	↓	↓	—
215(1-4)	↓	↓	↓	↓	↓	—
994240	>1	<2	3/22/11	ES	yes	—
994222(1-2)	<1	<2	↓	↓	yes	—
994223(1-4)	<1	<2	↓	↓	↓	—
994241	<1	<2	↓	↓	NO	—
994242	↓	↓	↓	↓	↓	—
243	↓	↓	↓	↓	↓	—
244	↓	↓	↓	↓	↓	—
245	↓	↓	↓	↓	↓	—
994257(1-3)	↓	>2	↓	↓	↓	yes w/ 3:30 p.m.
994258	>1	<2	↓	↓	yes	—
994259	<1	>2	3/24/11	ES	N	yes w/ 12:30 p.m.
994279	<1	<2	↓	↓	NO	—
994045	<1	>2	3/27/11	M.M	NO	yes w/ 15:50 p.m.
994094(1-25)	<1	<2	3/24/11	M.M	NO	—
994296	>1	<2	↓	M.M	yes	—



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E 2

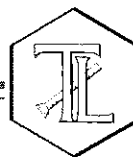
Lab # 994259

Date Delivered: 03/22/11 Time: 11:30 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: Linda

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

April 6, 2011

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-302 PROJECT, GROUNDWATER
MONITORING, TLI NO.: 994349

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-302 project groundwater monitoring for Hexavalent and Total Chromium, Total Manganese, 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 29, 2011, 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-302 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 agreed with those of the straight run, the data from the straight run is reported.

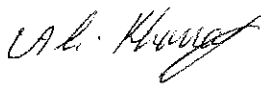
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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.: 408401.01.DM

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

Laboratory No.: 994349

Date: April 6, 2011

Collected: March 29, 2011

Received: March 29, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Maria Mangarova
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

Project Name: PG&E Topock Project
Project No.: 408401.01.DM
P.O. No.: 408401.01.DM

Laboratory No.: 994349
Date Received: March 29, 2011

Analytical Results Summary

Lab Sample ID	Field ID	Analysis		Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
		Method								
994349-001	SC-700B-WDR-302	E120.1		NONE	3/29/2011	8:00	EC	7630	umhos/cm	2.00
994349-001	SC-700B-WDR-302	E200.8		NONE	3/29/2011	8:00	Chromium	ND	ug/L	1.0
994349-001	SC-700B-WDR-302	E200.8		NONE	3/29/2011	8:00	Manganese	14.4	ug/L	1.0
994349-001	SC-700B-WDR-302	E218.6		LABFLT	3/29/2011	8:00	Chromium, hexavalent	ND	ug/L	0.20
994349-001	SC-700B-WDR-302	SM2130B		NONE	3/29/2011	8:00	Turbidity	ND	NTU	0.100
994349-001	SC-700B-WDR-302	SM2540C		NONE	3/29/2011	8:00	Total Dissolved Solids	4800	mg/L	250

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.

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Laboratory No. 994349

Page 1 of 6

Printed 4/6/2011

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Samples Received on 3/29/2011 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-302	994349-001	03/29/2011 08:00	Water

Specific Conductivity - EPA 120.1

Batch 03EC11J

3/30/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994349-001 Specific Conductivity	umhos/cm	03/30/2011	1.00	0.0380	2.00	7630

Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

Duplicate

Lab ID = 994214-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	56.4	56.6	0.354	0 - 10

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	708	706	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	709	706	100.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	704	706	99.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	987	996	99.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	984	996	98.8	90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Chrome VI by EPA 218.6

Batch 03CrH11K

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994349-001 Chromium, Hexavalent	ug/L	03/30/2011 13:31	1.05	0.0210	0.20	ND

Method Blank

Parameter	Unit	DF	Result
Chromium, Hexavalent	ug/L	1.00	ND

Duplicate

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	ND	0.118	0	0 - 20

Duplicate

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	ND	0.182	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.31	5.00	106.	90 - 110

Matrix Spike

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.50	5.43(5.25)	101.	90 - 110

Matrix Spike

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1.18(1.06)	103.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.32	5.00	106.	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102.	95 - 105



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Metals by EPA 200.8, Total

Batch 040611A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994349-001 Chromium	ug/L	04/06/2011 15:05	5.00	0.0950	1.0	ND
Manganese	ug/L	04/06/2011 15:05	5.00	0.210	1.0	14.4

Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

Duplicate

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	14.3	14.4	0.557	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.8	50.0	97.7	90 - 110
Manganese	ug/L	1.00	46.7	50.0	93.4	90 - 110

Matrix Spike

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	202	250.(250.)	80.8	75 - 125
Manganese	ug/L	5.00	214.	264.(250.)	79.6	75 - 125

Matrix Spike Duplicate

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	201.	250.(250.)	80.5	75 - 125
Manganese	ug/L	5.00	212	264.(250.)	79.0	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0	96.5	90 - 110
Manganese	ug/L	1.00	45.8	50.0	91.7	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.3	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0	96.4	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Total Dissolved Solids by SM 2540 C

Batch 04TDS11A

4/1/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994349-001 Total Dissolved Solids	mg/L	04/01/2011	1.00	0.434	250.	4800

Method Blank

Parameter	Unit	DF	Result
Total Dissolved Solids	mg/L	1.00	ND

Duplicate

Lab ID = 994386-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	270.	278	2.92	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	501	500.	100.	90 - 110

Turbidity by SM 2130 B

Batch 03TUC11R

3/30/2011

Parameter	Unit	Analyzed	DF	MDL	RL	Result
994349-001 Turbidity	NTU	03/30/2011	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 994349-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	ND	0.00	0	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.52	8.00	94.0	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.42	8.00	92.8	90 - 110



TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/6/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for 

Mona Nassimi

Manager, Analytical Services

Calculations

Date Calculated: 4/4/11

[illegible]
$$\text{Filterable residue (TDS), mg/L} = \left(\frac{A - B}{C} \right) \times 10^6$$

C = mL of sample filtered.

ND = not detected (below the reporting limit)


Analyst Signature

hipe
Reviewer Printed Name



Reviewer Signature

TDS/EC CHECK

Date Calculated: 4/4/11

[illegible]



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

[IM3] Plant-WDR-302]

COC Number

TURNAROUND TIME 5 Days

DATE 03/29/11

PAGE 1 OF 1

RUSH

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	408401.01.DM	TEAM	1	SAMPLERS (SIGNATURE)	C. Knight / Ron Phelps	SAMPLE I.D.	SC-700B-WDR-302	DATE	03/29/11	TIME	8:00	DESCRIPTION	Water	C6 (218.6) Lab Filtered	X	Total Metals (200.7) Cr, Mn	X	Specific Conductance (120.1)	X	TDS (SM2540C)	X	Turbidity (SM2130)	X	NUMBER OF CONTAINERS	3	COMMENTS	
																		TOTAL NUMBER OF CONTAINERS		DU = 5 (200.7)																	

ALERT!!
Level III QC

Rec'd 03/29/11
9 4 3 4 9 For Sample Conditions
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	C. Knight	Printed Name	C. Knight	Company/ Agency	CH2M HILL	Date/ Time	3-29-11 15:17
Signature (Received)	Ronald Davis	Printed Name	Ronald Davis	Company/ Agency	T-L-I	Date/ Time	3-29-11 15:30
Signature (Relinquished)	Ronald Davis	Printed Name	Ronald Davis	Company/ Agency	T-L-I	Date/ Time	3-29-11 21:30
Signature (Received)	Linda	Printed Name	Linda	Company/ Agency	TLI	Date/ Time	3/29/11 21:30
Signature (Relinquished)		Printed Name		Company/ Agency		Date/ Time	
Signature (Received)		Printed Name		Company/ Agency		Date/ Time	
SPECIAL REQUIREMENTS:				RECEIVED COOL <input checked="" type="checkbox"/> WARM <input type="checkbox"/> °F			
				CUSTODY SEALED YES <input type="checkbox"/> NO <input type="checkbox"/>			

Hexavalent Chromium

Method EPA 218.6 and SW 7199 Sample pH Log

ab

Turbidity/pH Check

Sample Number	Turbidity	pH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994287	<1	<2	3/25/11	ES	NO	-
288	↓	↓	↓	↓	↓	
994300(1-10)	↓	↓	↓	↓	↓	7.5-4.5
994303	71	<2	↓	↓	Yes	
994305(1-2)	71	<2	3/29/11	ES	Yes	
994308(1-2)	71	<2	↓	↓	↓	
994309	<1	<2	↓	↓	NO	
315	↓	↓	↓	↓	↓	
316	↓	↓	↓	↓	↓	
339	↓	↓	↓	↓	↓	
994340(1-12)	↓	72	↓	↓	↓	9/10/5:30 p.m.
994349	<1	72	3/30/11	ES	NO	9/10/10:00 a.m.
994353	>2	>2	3/3	KK	YES	-
994382	<1	<2	4/1/11	ES	Yes	3010A
T/D 994383	↓	↓	↓	↓	Yes for Diss.	↓
T/D 994384	↓	↓	↓	↓	NO	
T/D 994385	↓	↓	↓	↓	Yes	3010A
T/D 994386	↓	↓	↓	↓	↓	↓
994394	-	-	4/1/11	M.M	Yes	7/2C
994415(1-5)	>1	<2	4/5/11	KK	YES	8 -
994416(1-6)	>1	<2	↓	↓	YES	-
994417(1-6)	>1	<2	↓	↓	YES	-
994418(-1)	>1	<2	↓	↓	YES	-
994403	<1	<2	↓	↓	NO	-
994404	<1	<2	↓	↓	NO	-
994411	<1	<2	↓	↓	NO	-
994415-1-5	<1	<2	4/05/11	M.M	Yes	YES 1230 KK
994416-1-6	<1	<2	↓	↓	↓	↓
994417-1-6	<1	<2	↓	↓	↓	↓
994387	<1	<2	↓	↓	↓	↓
99448-1	<1	<2	↓	↓	↓	↓
99441-1-10	<1	<2	4/06/11	M.M	Yes	-
99442-1-8	<1	<2	4/06/11	↓	↓	-
994447	71	<2	↓	↓	↓	-
994448	↓	↓	↓	↓	↓	-
994449	↓	↓	↓	↓	↓	-
994450	↓	↓	↓	↓	↓	-
994451	↓	↓	↓	↓	↓	-
994452	↓	↓	↓	↓	↓	-



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 994349

Date Delivered: 03/29/11 Time: 11:30 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: Linda

ALERT!!
Level III CC

RUSH

Analytical Bench Log Book

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed.

Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
SC-700B	3-1-11	1300	3-1-11	1303	METER #1	3-1-11	1:10	-54.3	Ken Phelps	7.0

Notes:

SC-100B	3-1-11	1300	3-1-11	1306	METER #1	3-1-11	1:10	-54.3	Ken Phelps	7.3
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Notes:

SC-700B	3-8-11	1330	3-8-11	1335	METER #1	3-8-11	4:30	-54.5	Ken Phelps	7.0
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Notes:

SC-700B	3-15-11	1430	3-15-11	1433	METER #1	3-15-11	4:12	-54.4	Ken Phelps	6.9
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Notes:

SC-700B	3-22-11	1400	3-22-11	1404	METER #1	3-22-11	4:20	-54.0	Ken Phelps	7.0
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Notes:

SC-700B	3-29-11	8:00	3-29-11	8:09	METER #1	3-29-11	01:00	-54.5	Ken Phelps	7.1
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Notes:

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Notes:

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Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4

