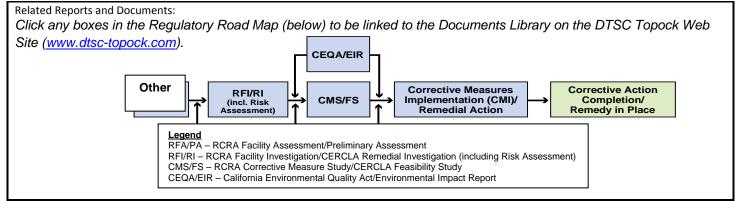
Topock Project I	Executive Abstract
Document Title:	Date of Document: April 15, 2011
Topock IM3 WDR First Quarter 2011 Monitoring Report	Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)
Submitting Agency/Authored by: Regional Water Quality Control Board	PG&E
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Priority Status: HIGH MED LOW Is this time critical? Yes No Type of Document: Draft Report Letter Memo Other / Explain:	Action Required: Information Only Review & Comment Return to: By Date: Other / Explain:
What does this information pertain to? Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA) RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment) Corrective Measures Study (CMS)/Feasibility Study (FS) Corrective Measures Implementation (CMI)/Remedial Action California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR) Interim Measures Other / Explain:	Is this a Regulatory Requirement? Yes No If no, why is the document needed?
What is the consequence of NOT doing this item? What is the consequence of DOING this item?	Other Justification/s: Permit Other / Explain:
Submittal of this report is a compliance requirement of Regional Water Board Waste Discharge Requirements/Order No. R7-2006-0060	
Brief Summary of attached document:	
This report covers the Interim Measure No. 3 (IM3) groundwater 2011 period. The groundwater monitoring results for wells OW-CW-3M/D, and CW-4M/D will be submitted under separate cov Written by: PG&E	
Recommendations:	
This report is for your information only.	
How is this information related to the Final Remedy or Regulator	pry Requirements:
The IM3 WDR First Quarter 2011 Monitoring Report is related t Regional Water Board Waste Discharge Requirements/Order No	o the Interim Measure, and is designed to monitor compliance with p. R7-2006-0060.
Other requirements of this information?	
None.	



Version 9



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

No. C68986 Exp. 12/11

This report was prepared under the supervision of a

California Certified Professional Engineer

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 Laboratories, Inc.

WDR Waste Discharge Requirements

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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.

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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.

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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.

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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.

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- **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.

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• **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.

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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.

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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

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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.

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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: _	Schmin
Name:	Curt Russell
Company: _	Pacific Gas and Electric Company
Title:	Topock Site Manager
Date:	April 15, 2011

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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.

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^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

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^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:

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^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	uency										Мс	nthly												
Un	lytes its ^b MDL	TDS mg/L 0.434	Turbidity NTU 0.0140	Specific Conductance µmhos/cm 0.0380	Field ^c pH pH units	Chromium µg/L 0.0950	Hexavalent Chromium µg/L 2.20	Aluminium μg/L 1.00	Ammonia (as N) mg/L 0.0020	Antimony µg/L 0.190	Arsenic µg/L 0.260	Barium μg/L 0.185	Boron mg/L 0.0050	Copper µg/L 0.305	Fluorio mg/L 0.0250	de Lead μg/L 0.0950	Manganese μg/L 0.210	Molybdenum µg/L 0.300	Nickel μg/L 0.240	Nitrate (as N) mg/L 0.0550	Nitrite (as N) mg/L 0.00020	Sulfate mg/L 1.00	lron μg/L 3.00	Zinc µg/L 1.32
Sample ID Date	MDL	0.434	0.0140	0.0380		0.0930	2.20	1.00	0.0020	0.190	0.200	0.103	0.0030	0.303	0.0230	0.0930	0.210	0.300	0.240	0.0550	0.00020	1.00	3.00	1.32
SC-100B-WDR-290 1/4/20	011	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 I	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 2/1/20	011	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 I	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 3/1/20	011	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.

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	Ave. Monthly	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
Limits ^b	Max Daily	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 Sampli	ing Frequency			Weekly												Monthly	<i>'</i>							
	Analytes	TDS	Turbidity	Specific Conductanc	Field ⁶ e 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
	MDLd	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-29	on 1///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	30 17472011	250	0.100	2.00		1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	` ,	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0
SC-700B-WDR-29	91 1/11/2011	4290	ND (0.100)	7460	7.10	ND (1.00)	0.430										2.60							
RL RL		250	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-29	92 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-29	93 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-29	94 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-29	95 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-29	96 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-29	97 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-29	98 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-29	99 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-30	00 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-30	01 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-30	02 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							

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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.
- 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.

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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 Frequence	у										Quarter	ly										
Analytes Units ^b	TDS mg/L	Specific Conductance µmhos/cm	Field ^c pH pH units	Chromium mg/L	Hexavalent Chromium mg/L	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Cobalt mg/L	Copper mg/L	Fluoride mg/L	Lead mg/L	Molybdenum mg/L	n Mercury mg/L	Nickel mg/L	Selenium mg/L	Silver mg/L	Thallium mg/L	Vanadium mg/L	Zinc mg/L
Sample ID Date	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		0.00020	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) 0.139	ND (0.0010)	ND (0.0100)	0.0319	ND (0.005	0) ND (0.001	0) 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

\\\Zinfande\\\Proj\\PacificGasElectricCo\\TopockProgram\\Database\\Tuesdai\\\M3WDR\\M3_WDR_Qtrly.mdb\\rpt_qtrlyReverseOsmosis pkumar2 04/11/2011 09:30:33

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^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 I	requency										Qua	arterly								
	Analytes	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
	Units ^D	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
Sample ID	MDL Date	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
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

		Sampler	Sample	Sample		Analysis		Analysis	_ Lab
Location	Sample ID	Name	Date	Time	Lab	Method	Parameter	Date	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	В	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	В	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	ВА	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	РВ	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-WE	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 Atthawi
					TLI	EPA 200.7	AL	4/6/2011	Ethel Suico
					TLI	EPA 200.7	В	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	РВ	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	В	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	В	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	РВ	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

		Sampler	Sample	Sample		Analysis		Analysis	Lab
Location	Sample ID	Name	Date	Time	Lab	Method	Parameter	Date	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	В	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	lordan 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	РВ	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
					FIELD	HACH	PH	1/4/2011	Ron Phelps
					TLI	SM2540C	TDS	1/6/2011	Jenny Tankunakorn
nase Seperator	SC-Sludge-WDR-290	C.Knight	1/4/2011	12:09:00 PM	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 Seperator	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).

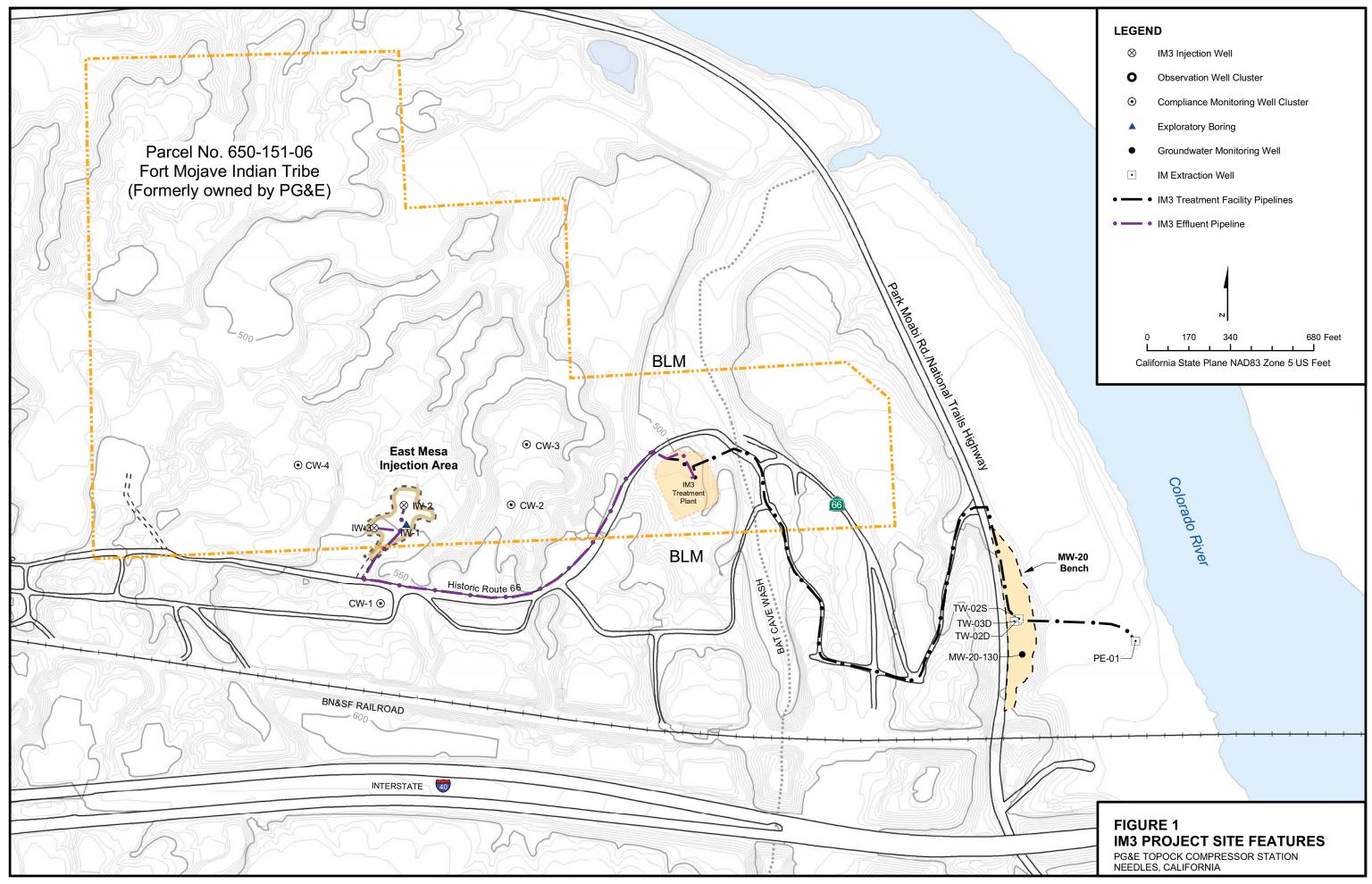
SC-100B = Sampling location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

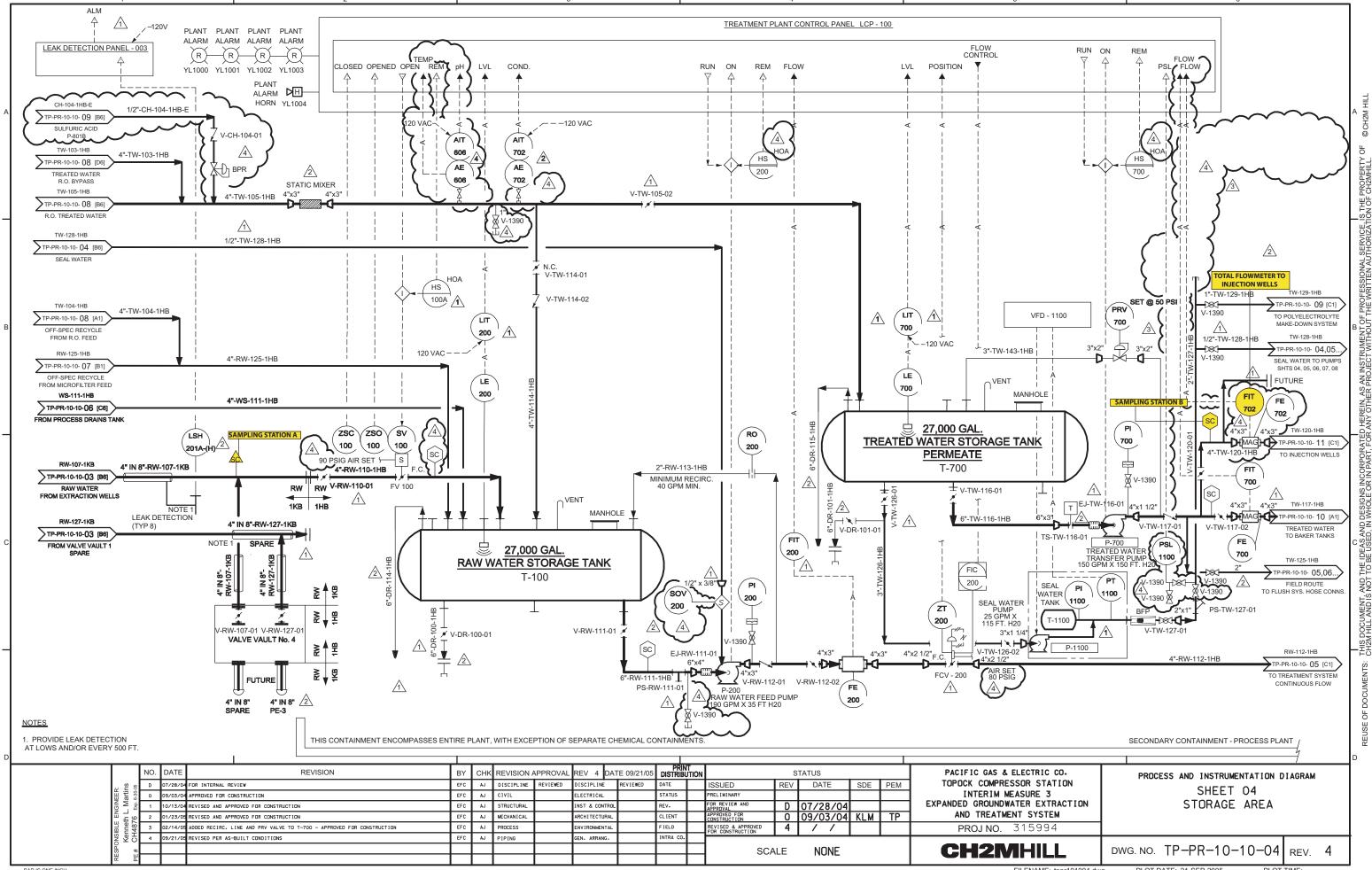
SC-701 = Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID TP-PR-10-10-08).

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 =	рН
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







FILENAME: PR-10-03.dgn

PLOT DATE: 11/19/2009

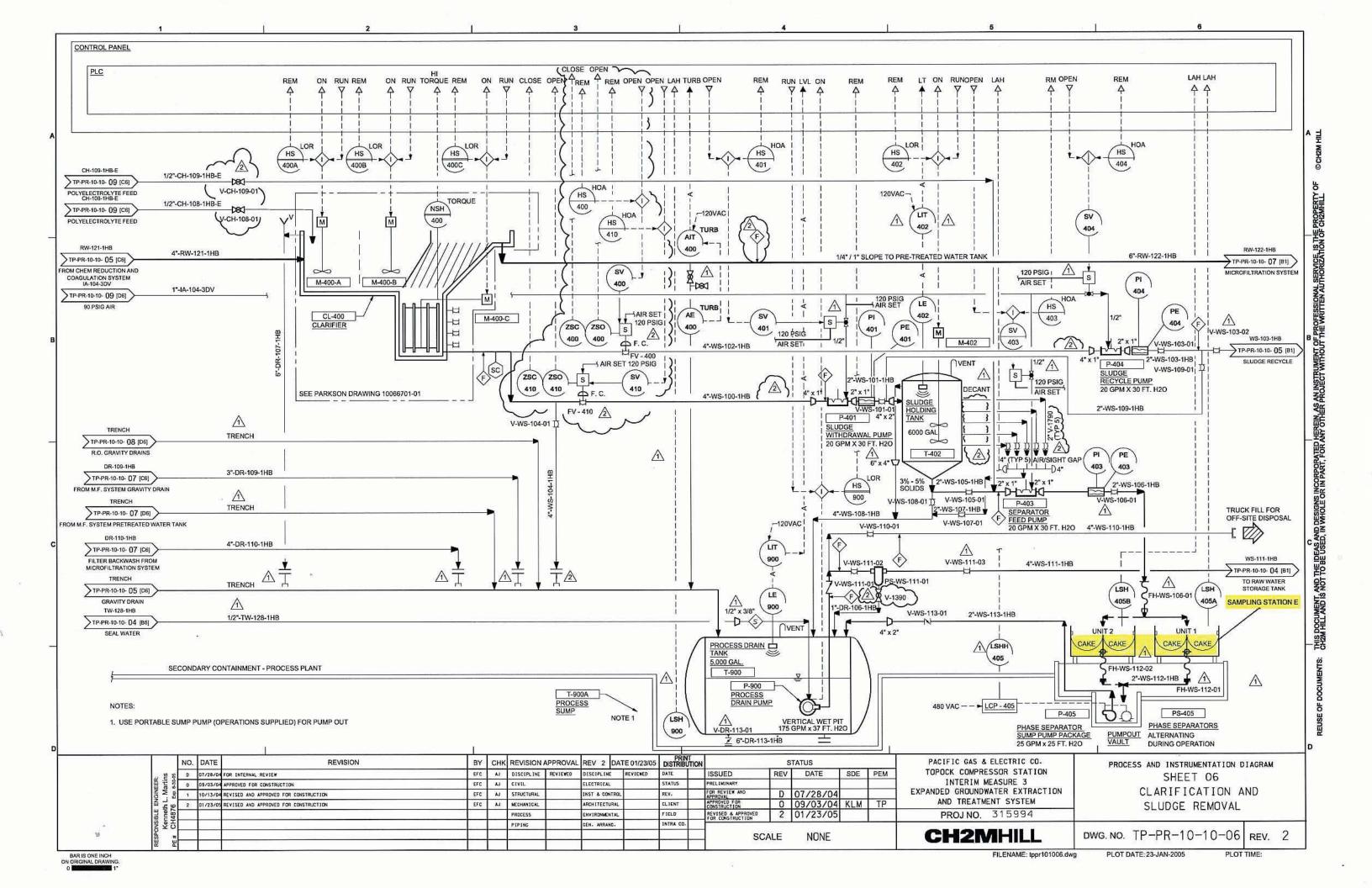
PLOT TIME: 10:27:54 AM

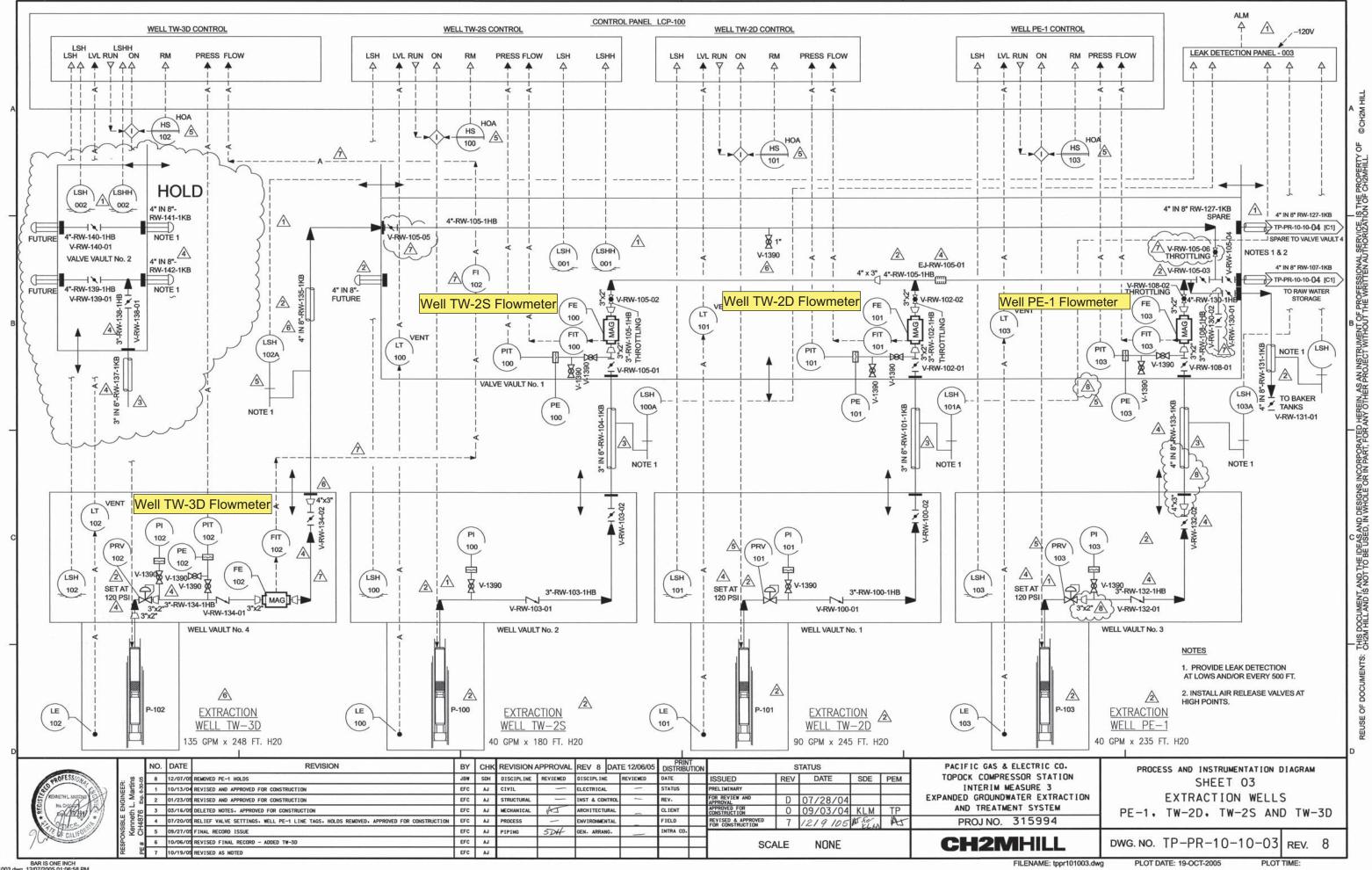
BAR IS ONE INCH ON ORIGINAL DRAWING.

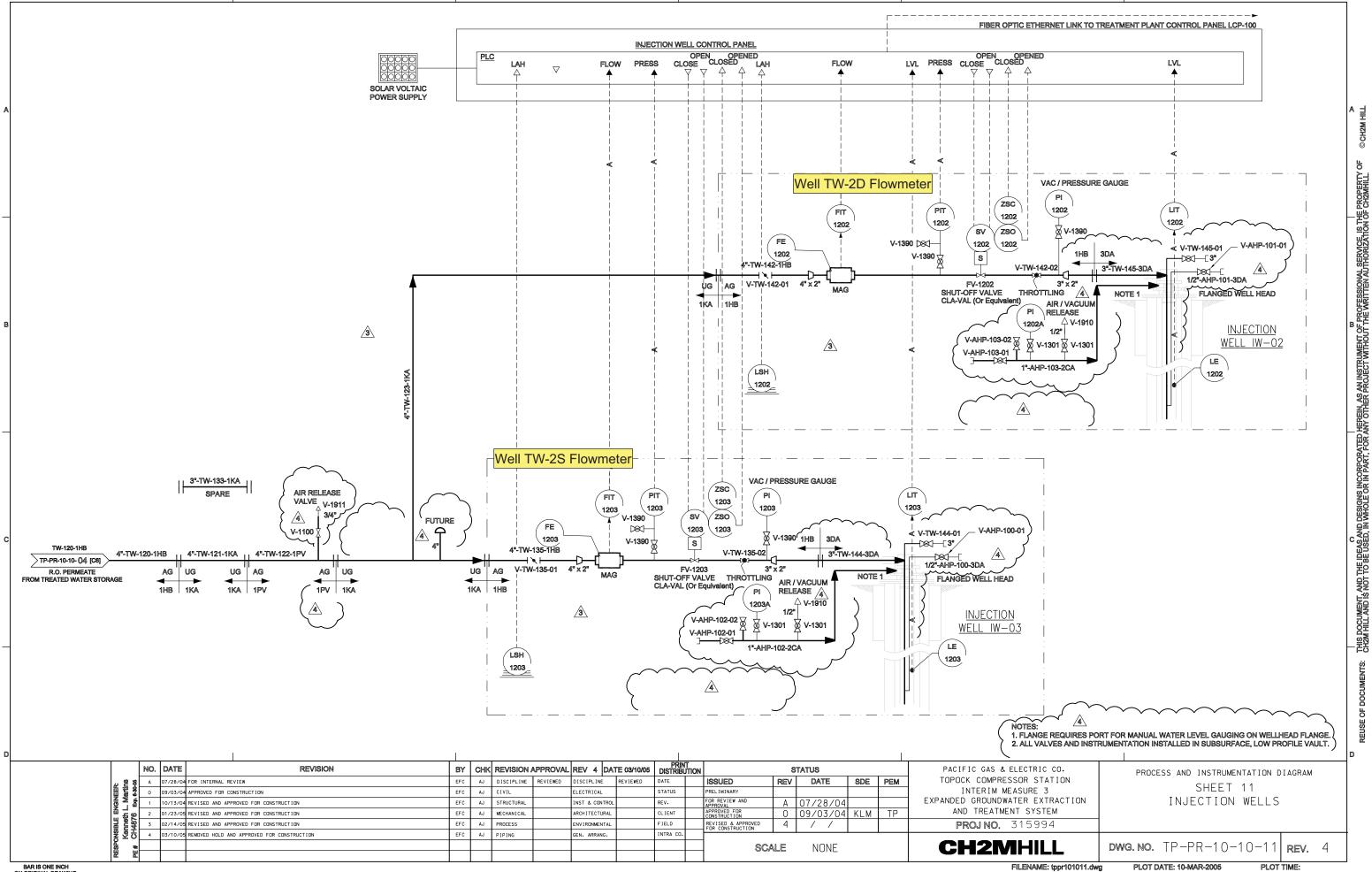
TO SEAL WATER TRUNK LINE PR-10-03 (HS 701 1 1/2" TW-154-1HB THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE. IS THE PROPERTY CHZM HILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CHZMHILL. LOCATED IN CHEMICAL STORAGE AREA LOCATED NEAR EXISTING RO PR-10-03 -1/2" CH-112-1HB TO PRIMARY RO FROM P-2301 HCI ACID PUMP /-1/2" CH-114-1HB HYDRO-CHLORIC ACID (HCI) ☐ HCI ACID TOTE ☐ PUMP SKID SEE CROWN ANTISCALANT FEED PUMP SKID SEE CROWN SECONDARY RO PRIMARY RO ANTI-SCALANT CHEMICAL DRUM ANTI-SCALANT CHEMICAL DRUM 1A-102-3DV 1"-1A-108-3DV TP-PR-10-10-09(06) 90 PSIG AIR 1/4" CH-115-1HB FROM P-2402 120VAC 1 1/2" TW-152-1HB TO PRIMARY RO FROM P-2401 ANTI-SCALANT FEED PUMP RECYCLE COND COND 701 701 ST STAGE RO CONCENTATE V-1390 1 1/2"-TW-148-1HB PR-10-03 2"x1 1/2" NO SECONDARY REVERSE OSMOSIS SKID SEE CROWN SOLUTION DWG: PS-0689-08 1 1/2" TW-149-1HB T-2601 SECONDARY 1" TW-146-1HB SECONDAR RO FEED TANK SEE CROWN RO FEED PUMP SEE _x 701 (NOTE 3) TO T-603 TANK (LE) CROWN DWG PS-0689-07 V-1390 1 1/2" TW-151-1HB SAMPI ING 701 Ô ∩ VENT STATION D PR-10-03 O CONCENTRATE 701 CLOSE FROM PRIMARY RO FLOWMETER Oběv 5 T-701 FE 8000 GAL. 701 SEAL WATER TS-TW-111-01 ፵፫ T 6"x1 1/2" ▼ 3"x1" 3"x1" V-TW-112-01 V-TW-112-03 **RECORD DRAWINGS** SOV V-TW-112-03 701 J PORCELLA 6"-TW-111-1HB P-107 THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS, THEY ARE △ 1/2"x3/8" SEAL WATER RO CONCENTRATE TP-PR-10-10-08 [B6] NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TRANSFER PUMP 80 GPM X 85 FT H20 TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR 1" TW-147-1HB OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS. TW-112-1RB TP-PR-10-10 [C1] TO TRENCH DRAIN RO CONCENTRATE REVISION BY CHK PRINT DISTRIBUTION DATE REVISION APPROVAL REV 0 DATE 10/02/09 STATUS PACIFIC GAS & ELECTRIC CO. PROCESS AND INSTRUMENTATION DIAGRAM REV DATE TOPOCK COMPRESSOR STATION A 2/12/09 INTERNAL REVIEW DISCIPLINE REVIEWED DISCIPLINE REVIEWED ISSUED SDE PEM REVERSE OSMOSIS SYSTEM 2/12/09 JP INTERIM MEASURE 3 ORIGINALLY STAMPED /12/09 CLIENT REVIEW ELECTRICAL STATUS PREL [M] NARY R REVIEW AND SHEET TWO OF TWO 4/01/09 FOR REVIEW AND APPROVA PLANT PERFORMANCE IMPROVEMENTS 4/01/09 AND SIGNED BY: PPROVED FOR ONSTRUCTION JOHN PORCELLA 1/17/09 FINAL RECORD ISSUE JR MECHAN1CAL ARCH | TECTURAL LIENT CALIFORNIA PE NO. C70145 PROCESS FIELD **PROJ NO.** 362032 0 10/02/09 ON 04-01-2009 INTRA CO PIPING SJ GEN. ARRANG. **CH2M**HILL DWG. NO. PR-10-04 SCALE NONE 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

COND

RUN ON FLOW







BAR IS ONE INCH ON ORIGINAL DRAWING





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. gger

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Soil Sample Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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

Project Name: PG&E Topock Project

Attention: Shawn Duffy

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



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Laboratory No.: 992958

Date Received: January 4, 2011

Analytical Results Summary

		to a second of
SM 2540 B % Moisture	%	52,0
EPA 300.0 Nitrate as N	mg/kg	Q.
EPA 300.0 Fluoride	mg/kg	11.8
SW 7199 Hexavalent Chromium	mg/kg	44.0
Sample Time		30 12:09
Sample I.D.		992958 SC-Sludge-WDR-290 12:09 44.0
<u>Lab I.D.</u>		992958

ND: Non Detected (below reporting limit)

Result above or equal to 0.01ppm will have three (3) significant figures. Note: The following "Significant Figures" rule has been applied to all results: Results below 0.01ppm will have two (2) significant figures. mg/L: Milligrams per liter.

Quality Control data will always have three (3) significant figures

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Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

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

P.O. No.: 408401.01 DM

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

Analytical Results Summary

Total Metal Analyses as Requested METALS ANALYSIS:

Lab I.D.	Lab i.D. Sample iD	Date of Analysis: Time Coll.		Antimony SW 6010B 01/26/11 mg/kg	Arsenic SW 6010B 01/26/11 mg/kg	Barium SW 6010B 01/26/11 mg/kg	Beryllium SW 6010B 01/26/11 mg/kg	Cadmium SW 6010B 01/26/11 mg/kg	Chromium SW 6010B 01/26/11 mg/kg	Cobalt SW 6010B 01/26/11 mg/kg	Copper SW 6010B 01/26/11 mg/kg	Lead SW 6010B 01/26/11 mg/kg
992958	SC-Sludge-W	SCSludge-WDR-290 12:09	TO THE STREET, THE WORKSON TO STREET, THE	ON	ON.	67.4	ON	Q	4540	4.61	21.7	4.15
tab I.D.	Sample ID	Date of Analysis: Time Coll.	Manganese SW 6010B 01/26/11 mg/kg	Mercury SW 6020 01/27/11 mg/kg	Molybdenum SW 6010B 01/26/11 mg/kg	Nickel SW 6010B 01/26/11 mg/kg	Selenium SW 6010B 01/26/11 mg/kg	Silver SW 6010B 01/26/11 mg/kg	Thallium SW 6010B 01/26/11 mg/kg	Vanadium SW 6010B 01/26/11 mg/kg	Zinc SW 6010B 01/26/11 mg/kg	
992958	SC-Sludge-W	SC-Sludge-WDR-290 12:09	370	QN	ON	20.1	17,8	Q	4.80	62.5	14.4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

ND: Not detected, or below limit of detection

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

REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) 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

Analytical Batch: 01CrH11V

Investigation:

Hexavalent Chromium by IC Using Method SW 7199

Analytical Results Hexavalent Chromium

TLI I.D.	<u>Field I.D.</u>	Sample Time	Run Time	<u>Units</u>	DF	RL	<u>Results</u>
992958	SC-Sludge-WDR-29	0 12:09	15:05	mg/kg	5.00	4.17	44.0

QA/QC Summary

QC STD I.I). 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

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) 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 11, 2011

Analytical Batch: 01SOLID11C

Investigation:

Total Solids by SM 2540 B

REPORT

Analytical Results % Moisture

TLI I.D.	Field I.D.	Sample Time	<u>Units</u>	Results
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.

Mona Nassimi, Manager

Analytical Services

Laboratory

Number

EXCELLENCE IN INDEPENDENT TESTING



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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

QC STD I.D.

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

QC Within

Analytical Batch: 01AN11D

Acceptance

limito

Investigation:

Fluoride by Ion Chromatography using EPA 300.0

Analytical Results Fluoride

TLI I.D. Field I.D. Sample Time Run Time Units <u>DF</u> RL Results 992958 SC-Sludge-WDR-290 12:09 13:48 mg/kg 1.00 4.17 11.8

Concentration

QA/QC Summary

Duplicate

Relative

Percent

	Duplic		92932-10	ND	Com	ND	Difference 0.00%	imits ≤ 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, Manager Analytical Services

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REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) 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

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 8.33 ND

QA/QC Summary

Duplicate

	Duplic		Number 92932-10	Concentra	Cone	entration ND	Percent Difference 0.00%	limits ≤ 20%	Control 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
					76					

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.

Mona Nassimi, Manager Analytical Services

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REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000 Oakland, CA 94612

Attention: Shawn Duffy

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

SC-Sludge-WDR-290	Time Colle	ected:	12:09		LAB ID	: 992958	
	Reported					Date	Time
Method	Value	DF	Units	RL	Batch	Analyzed	Analyzed
SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	67.4	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	4540	10.0	mg/kg	10.4	012611B-Th	01/26/11	16:34
SW 6010B	4.61	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	21,7	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	4.15	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	370	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
	ND	10.0	mg/kg	0.207	012711A	01/27/11	15:32
SW 6010B	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
SW 6010B	20.1	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
	11.8	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
	ND	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
	4.80	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
en la la maria de la compania de la	62.5	2.00	mg/kg	2.07	012611B-Th	01/26/11	16:34
and the second s			·	2.07	012611B-Th	01/26/11	16:34
	Method SW 6010B	Method Reported Value SW 6010B ND SW 6010B ND SW 6010B 67.4 SW 6010B ND SW 6010B ND SW 6010B 4540 SW 6010B 4.61 SW 6010B 21.7 SW 6010B 370 SW 6010B 370 SW 6010B ND SW 6010B ND SW 6010B 11.8 SW 6010B ND SW 6010B 4.80 SW 6010B 62.5	Method Reported Value DF SW 6010B ND 2.00 SW 6010B 4540 10.0 SW 6010B 4.61 2.00 SW 6010B 21.7 2.00 SW 6010B 4.15 2.00 SW 6010B 370 2.00 SW 6010B ND 2.00 SW 6010B ND 2.00 SW 6010B 20.1 2.00 SW 6010B 11.8 2.00 SW 6010B ND 2.00 SW 6010B ND 2.00 SW 6010B 4.80 2.00 SW 6010B 62.5 2.00	Reported Value DF Units SW 6010B ND 2.00 mg/kg SW 6010B A540 10.0 mg/kg SW 6010B 4.61 2.00 mg/kg SW 6010B 21.7 2.00 mg/kg SW 6010B 4.15 2.00 mg/kg SW 6010B 370 2.00 mg/kg SW 6010B ND 2.00 mg/kg SW 6010B ND 2.00 mg/kg SW 6010B 20.1 2.00 mg/kg SW 6010B 11.8 2.00 mg/kg SW 6010B ND 2.00 mg/kg SW 6010B 4.80 2.00 mg/kg SW 6010B 62.5 2.00 mg/kg	Reported Value DF Units RL SW 6010B ND 2.00 mg/kg 2.07 SW 6010B 4540 10.0 mg/kg 2.07 SW 6010B 4.61 2.00 mg/kg 2.07 SW 6010B 21.7 2.00 mg/kg 2.07 SW 6010B 4.15 2.00 mg/kg 2.07 SW 6010B 370 2.00 mg/kg 2.07 SW 6010B ND 2.00 mg/kg 2.07 SW 6010B ND 2.00 mg/kg 2.07 SW 6010B 11.8 2.00 mg/kg 2.07 SW 6010B ND 2.00 mg/kg 2.07 SW	Method Value DF Units RL Batch SW 6010B ND 2.00 mg/kg 2.07 012611B-Th SW 6010B ND 2.00 mg/kg 2.07 012611B-Th SW 6010B 67.4 2.00 mg/kg 2.07 012611B-Th SW 6010B ND 2.00 mg/kg 2.07 012611B-Th SW 6010B ND 2.00 mg/kg 2.07 012611B-Th SW 6010B 4540 10.0 mg/kg 2.07 012611B-Th SW 6010B 4.61 2.00 mg/kg 2.07 012611B-Th SW 6010B 21.7 2.00 mg/kg 2.07 012611B-Th SW 6010B 4.15 2.00 mg/kg 2.07 012611B-Th SW 6010B 370 2.00 mg/kg 2.07 012611B-Th SW 6010B ND 2.00 mg/kg 2.07 012611B-Th SW 6010B ND 2.00 mg/kg 2.07	Reported Value DF

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

EXCELLENCE IN INDEPENDENT TESTING

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000 Oakland, CA 94612

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

Established 1931

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

Laboratory No.: 992958

Reported: February 9, 2011 Collected: January 4, 2011

Received: January 4, 2011

Quality Control/Quality Assurance Report

			DIGES	DIGESTED BLANK		MRCCS				MRCVS			
						Observed	TRUE	%	Control	Observed	TRUE	%	Control
Parameter	Method	Batch	Units	Blank	R	Value	Vafue	Rec	Limits	Value	Value	Rec	Limits %
Antimony	SW 6010B	012611B-Th	mg/kg	N O	2.00	5.32	5.00	106%	90-110%	5,39	5.00	108%	90-110%
Arsenic	SW 6010B	012611B-Th	mg/kg	Ož	0.500	5.27	5.00	105%	90-110%	5.17	5.00	103%	90-110%
Barium	SW 6010B	012611B-Th	mg/kg	S	1.00	5.20	5.00	104%	90-110%	5.38	5.00	108%	90-110%
Beryllium	SW 6010B	012611B-Th	mg/kg	9	1.00	4.99	5.00	99.8%	90-110%	4.90	5.00	98.0%	90-110%
Cadmium	SW 6010B	012611B-Th	mg/kg	S	0.500	5.15	5.00	103%	90-110%	4.95	5.00	%0.66	90-110%
Chromium	SW 6010B	012611B-Th	mg/kg	Q	1.00	5.07	5.00	101%	90-110%	4.56	5.00	91.2%	90-110%
Cobalt	SW 6010B	012611B-Th	mg/kg	ON	1.00	5,05	5.00	101%	90-110%	5.01	5.00	100%	90-110%
Copper	SW 6010B	012611B-Th	mg/kg	ON	1.00	5.12	5.00	102%	90-110%	5.20	5.00	104%	90-110%
Lead	SW 6010B	012611B-Th	mg/kg	9	1.00	4.98	5.00	99.6%	90-110%	4.78	5.00	95.6%	90-110%
Manganese	SW 6010B	012611B-Th	mg/kg	S	1.00	5.07	5.00	101%	90-110%	5.36	5.00	107%	90-110%
Mercury	SW 6020	012711A	mg/kg	2	0.100	0.00187	0.00200	93.5%	90-110%	0.00211	0.00200	106%	90-110%
Molybdenum	SW 6010B	012611B-Th	mg/kg	2	1.00	5,19	5.00	104%	90-110%	5.18	5.00	104%	90-110%
Nickel	SW 6010B	012611B-Th	mg/kg	S	1.00	5.14	5.00	103%	90-110%	4.89	5.00	97.8%	90-110%
Selenium	SW 6010B	012611В-Тһ	mg/kg	Q	1.00	5.19	5.00	104%	90-110%	5.25	5.00	105%	90-110%
Silver	SW 6010B	012611B-Th	mg/kg	Q	1.00	5.07	5.00	101%	90-110%	5.44	5.00	109%	90-110%
Thailium	SW 6010B	012611B-Th	mg/kg	2	2.00	5.10	5.00	102%	90-110%	5.00	5.00	100%	90-110%
Vanadium	SW 6010B	012611B-Th	mg/kg	Ñ	1.00	5.01	5.00	100%	90-110%	5.32	5.00	106%	90-110%
Zinc	SW 6010B	012611B-Th	mg/kg	2	2.00	5.08	5.00	102%	90-110%	4.58	5.00	91.6%	90-110%
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Control	80-120%	80-120%		80-120%	80-120%	80-120%	80-120%		80-120%	80-120%	
% 86.5	98.0%	99.0%	97.0%	98.0%	101%	100%	103%	%0.66	90.5%	100%	!
ics Theo	2.00	2.00	2.00	2.00	2.00	2.00	0.00200	2.00	2.00	2.00	
ICS Obs.	1.96	1.98	1,94	1.96	2.01	2.00	0.00205	1.98	1,81	2.00	
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Method	SW 6010B	SW 6010B	SW 6010B	SW 6010B	SW 6010B	SW 6010B	SW 6020	SW 6010B	SW 6010B	SW 6010B	
Parameter	Arsenic	Cadmium	Сhromium	Cobalt	Copper	Manganese	Mercury	Nickel	Silver	Zinc	

			LABORATO	LABORATORY CONTROL SAMI	SAMPLES		SAMPLE DUPLICATES	CATES			
Parameter	Method	Units	rcs	CS	%	Control	SAMPLE	SAMPLE	DUP	%	Precision
			Obs.	Theo.	Rec.	Limits	Q	RESULT	RESULT	RPD	Limits %
Antimony	SW 6010B	mg/kg	103	100	103%	85-115%	992958	ND	QN	0.00%	<20
Arsenic	SW 6010B	mg/kg	101	100	101%	85-115%	992958	S	2	0.00%	075
Barium	SW 6010B	mg/kg	103	100	103%	85-115%	992958	67.4	67.4	0.06%	220
Beryllium	SW 6010B	mg/kg	, 40 40	100	104%	85-115%	992958	NO ON	QN	%00°D	~220 ~230
Cadmium	SW 6010B	mg/kg	102	100	102%	85-115%	992958	QN	QN	%DO:0	000
Chromium	SW 6010B	mg/kg	101	100	101%	85-115%	992958	4540	4770	4 94%	250
Cobalt	SW 6010B	mg/kg	100	100	100%	85-115%	992958	4.61	4.61	0.05%	000
Copper	SW 6010B	т9/кд	103	100	103%	85-115%	992958	21.7	22.8	4.68%	√20
Lead	SW 6010B	тд/кд	97.9	100	97.9%	85-115%	992958	4.15	3.55	15.6%	000
Manganese	SW 6010B	mg/kg	104	100	104%	85-115%	992958	370	372	0.67%	> 020
Mercury	SW 6020	mg/kg	0.107	0.100	107%	85-115%	992958	QN	Q.	00.0	925
Malybdenum	SW 6010B	mg/kg	101	100	101%	85-115%	992958	2	S	%00.0	000
Nickel	SW 6010B	mg/kg	102	100	102%	85-115%	992958	20.1	20.5	1.81%	200
Selenium	SW 6010B	mg/kg	97.3	100	97.3%	85-115%	992958	11.8	11.7	U 23%	000
Silver	SW 6010B	тв/кв	102	100	102%	85-115%	992958	2	2	%00.0	520 (20
Thallium	SW 6010B	mg/kg	100	100	100%	85-115%	992958	4.80	4.62	3.76%	- C
Gadium	SW 6010B	mg/kg	101	100	101%	85-115%	992958	62.5	62.1	%09'0	200
Zinc	SW 6010B	mg/kg	101	100	101%	85-115%	992958	14.4	12.0	17.9%	025
7							THE CASE OF THE CONTRACTOR OF				***************************************

TRUESDAIL

Sample Spike Total Amt. Theo. MS % Units Result DF Level of Spike Value Obs. Rec. 3 mg/kg 0.00 2.00 207 414 414 472 114% 4 0.00 2.00 207 414 444 441 107% 8 mg/kg 0.00 2.00 207 414 444 441 107% 8 mg/kg 0.00 2.00 207 414 444 435 105% 9 mg/kg 0.00 2.00 207 414 414 435 105% 1 mg/kg 4.61 2.00 207 414 414 435 101% 7 1 mg/kg 4.61 2.00 207 414 416 426 437 434 434 434 434 434 434 434 434 434 434 43	MATRIX SPIKE	чКЕ										Acciliant
Parameter Method Units Result DF Lavel of Spike Value Obs. Rec. Antilinony SW 6010B mg/kg 0.00 2.00 207 414 414 472 114% Arsenic SW 6010B mg/kg 0.00 2.00 207 414 414 431 107% Barlum SW 6010B mg/kg 674 2.00 207 414 434 441 435 105% Barlum SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Chromium SW 6010B mg/kg 4.61 2.00 207 414 419 432 101% Copper Cobatt SW 6010B mg/kg 4.61 2.00 207 414 419 421 101% Copper SW 6010B mg/kg 4.51 2.00 207 414 418 404 96.4% Maruganese					Sample		Spike	Total Amt.	Theo	S.	*	Control
Antimony SW 6010B mg/kg 0.00 2.00 207 414 414 472 114% A Assenic SW 6010B mg/kg 0.00 2.00 207 414 414 417 107% Barlum SW 6010B mg/kg 67.4 2.00 207 414 482 485 103% Berylium SW 6010B mg/kg 67.4 2.00 207 414 435 105% Cadmlum SW 6010B mg/kg 4.61 2.00 207 414 435 415% Choper SW 6010B mg/kg 4.61 2.00 207 414 419 421 101% Copper SW 6010B mg/kg 4.64 10.0 207 414 419 42 101% Copper SW 6010B mg/kg 4.15 2.00 207 414 419 42 101% Molybdaum SW 6010B mg/kg 2.17 2.00 207	Sample ID	Parameter	Method	Units	Resuft	DF	Level	of Spike	Value	Obs.	Rec.	Limits %
Arsenic SW 6010B mg/kg 0.00 2.00 207 414 414 441 107% I Barlium SW 6010B mg/kg 67.4 2.00 207 414 482 485 103% Cadmium SW 6010B mg/kg 0.00 2.00 207 414 414 435 417 Cadmium SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Chomium SW 6010B mg/kg 4.51 2.00 207 414 414 435 101% Cobalt SW 6010B mg/kg 4.51 2.00 207 414 419 424 101% Copper SW 6010B mg/kg 4.15 2.00 207 414 444 101% Mainganese SW 6010B mg/kg 0.00 2.00 207 414 414 414 101% Mickel SW 6010B mg/kg 0.00 2.0	992958	Antimony	SW 6010B	mg/kg	00.0	2.00	207	414	414	472	114%	75,125%
Bardum SW 6010B mg/kg 67.4 2.00 207 414 482 485 103% Beryllium SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Cadmium SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Chromium SW 6010B mg/kg 4540 10.0 207 414 414 435 101% Cobalt SW 6010B mg/kg 4.61 2.00 207 414 419 421 101% Copbert SW 6010B mg/kg 2.17 2.00 207 414 419 421 101% Manganese SW 6010B mg/kg 2.17 2.00 207 414 414 414 101% Manganese SW 6010B mg/kg 3.00 2.00 207 414 414 414 107% Molybdenum SW 6010B mg/kg <	992958	Arsenic	SW 6010B	mg/kg	0.00	2.00	207	414	414	441	107%	75_125%
Beryllium SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Cadmium SW 6010B mg/kg 0.00 2.00 207 414 414 392 94.7% Chromium SW 6010B mg/kg 4540 1.0 207 414 414 432 94.7% Cobalt SW 6010B mg/kg 4.51 2.00 207 414 419 421 101% Copper SW 6010B mg/kg 21.7 2.00 207 414 419 421 101% Manganese SW 6010B mg/kg 21.7 2.00 207 414 418 404 98.4% Mercury SW 6010B mg/kg 0.00 10.0 207 414 414 434 107% Nickel SW 6010B mg/kg 0.00 2.00 207 414 414 444 107% Nickel SW 6010B mg/kg 0.	992958	Barium	SW 6010B	mg/kg	67.4	2.00	207	414	482	495	103%	75 12592
Cadmium SW 6010B mg/kg 4.540 1.00 207 414 414 392 94.7% Chromium SW 6010B mg/kg 4540 10.0 207 2071 6611 6221 81.2% Cobalit SW 6010B mg/kg 4.61 2.00 207 414 4.66 421 101% Copper SW 6010B mg/kg 21.7 2.00 207 414 4.66 433 99.4% Lead SW 6010B mg/kg 21.7 2.00 207 414 4.66 433 99.4% Manganese SW 6010B mg/kg 3.00 2.00 207 414 4.06 40.4	992958	Beryllium	SW 6010B	mg/kg	0.00	2.00	207	414	414	435	105%	75 125%
Chromium SW 6010B mg/kg 4540 10.0 207 2071 6611 6221 81.2% Cobalt SW 6010B mg/kg 4.61 2.00 207 414 419 421 101% Copper SW 6010B mg/kg 21.7 2.00 207 414 436 423 99.4% Manganese SW 6010B mg/kg 3.70 2.00 207 414 418 404 98.4% Marcuny SW 6010B mg/kg 0.00 10.0 2.07 414 414 444 107% Molybdenum SW 6010B mg/kg 0.00 2.00 207 414 414 444 107% Nickel SW 6010B mg/kg 0.00 2.00 207 414 434 496 96.9% Silver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Thaillium SW 6010B mg/kg	992958	Cadmium	SW 6010B	mg/kg	0.00	2.00	207	414	414	303	767 70	75 4250
Cobalit SW 6010B mg/kg 4.61 2.00 207 414 419 421 101% Copper Copper SW 6010B mg/kg 21.7 2.00 207 414 418 421 101% Lead SW 6010B mg/kg 4.15 2.00 207 414 418 404 96.4% Manganese SW 6010B mg/kg 370 2.00 207 414 418 404 96.4% Mercury SW 6010B mg/kg 0.00 2.00 207 414 414 414 107% Nickel SW 6010B mg/kg 0.00 2.00 207 414 434 434 434 436	992958	Chromium	SW 6010B	mg/kg	4540	10.0	207	2071	6611	6224	24.20	75 1050
Copper Copper SW 6010B mg/kg 21.7 2.00 207 414 436 433 99.4% Lead SW 6010B mg/kg 4.15 2.00 207 414 418 404 98.4% Manganese SW 6010B mg/kg 370 2.00 207 414 418 404 98.4% Mercury SW 6010B mg/kg 0.00 2.00 207 414 414 444 107% Nickel SW 6010B mg/kg 2.01 2.07 414 434 434 99.8% Selenium SW 6010B mg/kg 11.8 2.00 207 414 414 435 105% Silver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Vanadium SW 6010B mg/kg 6.25 2.00 207 414 477 481 101%	992958	Cobalt	SW 6010B	mg/kg	4.61	2.00	207	414	410	1270	40.10	0/.C71-C/
Lead SW 6010B mg/kg 4.15 2.00 207 414 418 404 98.4% Manganese SW 6010B mg/kg 370 2.00 207 414 418 404 98.4% Mercury SW 6010B mg/kg 0.00 2.07 2.07 2.07 2.08 101% Nickel SW 6010B mg/kg 2.01 2.00 207 414 444 107% Silver SW 6010B mg/kg 11.8 2.00 207 414 426 412 96.6% Silver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Thallium SW 6010B mg/kg 4.80 2.00 207 414 414 435 105% Vanadium SW 6010B mg/kg 4.80 2.00 207 414 477 481 101% Vanadium SW 6010B mg/kg 4.60 2.00 <td< td=""><td>992958</td><td>Copper</td><td>SW 6010B</td><td>mg/kg</td><td>21.7</td><td>2.00</td><td>207</td><td>414</td><td>5.7</td><td>124</td><td>%10.2 70.40</td><td>75-1278</td></td<>	992958	Copper	SW 6010B	mg/kg	21.7	2.00	207	414	5.7	124	%10.2 70.40	75-1278
Manganese SW 6010B mg/kg 370 2 00 207 414 784 781 99.4% Mercury SW 6020 mg/kg 0.00 10.0 0.207 2.07 2.07 2.07 2.08 101% Molybdenum SW 6010B mg/kg 0.00 2.00 207 414 414 444 107% Nickel SW 6010B mg/kg 20.1 2.00 207 414 434 434 99.8% Selenlum SW 6010B mg/kg 11.8 2.00 207 414 426 412 96.6% Silver SW 6010B mg/kg 4.80 2.00 207 414 414 435 105% Vanadium SW 6010B mg/kg 4.80 2.00 207 414 477 481 101% Zinc Zinc 207 414 477 481 101%	992958	Lead	SW 6010B	ma/ka	4 15	2 00	207		0.44	700	64.60	%C7 -C/
Mercury SW 6020 mg/kg 0.00 10.0 0.207 2.07 2.07 2.08 101% Molybdenum SW 6010B mg/kg 0.00 2.00 207 414 414 444 107% Nickel SW 6010B mg/kg 2.01 2.00 207 414 434 434 99.8% Selenium SW 6010B mg/kg 11.8 2.00 207 414 426 412 96.6% Silver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Vanadium SW 6010B mg/kg 4.80 2.00 207 414 477 481 101% Zinc SW 6010B mg/kg 4.60 2.00 207 414 477 481 101%	992958	Manganese	SW 6010B	ma/ka	370	2006	202		0 7	1	%4.08 %	%571-c/
Molybdenum SW 6010B mg/kg 0.00 2.00 207 414 414 444 107% Nickel SW 6010B mg/kg 2.01 2.00 207 414 434 434 43.98% Selenium SW 6010B mg/kg 11.8 2.00 207 414 426 412 96.6% Silver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Vanadium SW 6010B mg/kg 4.80 2.00 207 414 477 481 101% Zinc SW 6010B mg/kg 4.80 2.00 207 414 477 481 101%	992958	Mercury	SW 6020	mo/kn	5.00	2 0	7000	+1+	104	187	99.4%	75-125%
Nickel 207 414 444 107% Selenium SW 6010B mg/kg 20.1 2.00 207 414 434 434 99.6% Sliver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Thallium SW 6010B mg/kg 4.80 2.00 207 414 419 439 105% Vanadium SW 6010B mg/kg 62.5 2.00 207 414 477 481 101% Zinc SW 6010B mg/kg 44.4 2.00 207 414 477 481 101%	992958	Molybdenum	SW 6010B	mo/ko	000	200	202	6,U;	2.07	2 .08	301%	75-125%
Selenium SW 6010B mg/kg 11.8 2.00 207 414 426 412 96.6% Silver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Thallium SW 6010B mg/kg 4.80 2.00 207 414 419 439 105% Vanadium SW 6010B mg/kg 62.5 2.00 207 414 477 481 101% Zinc Zinc Zinc 200 207 414 477 481 101%	992958	Nickel	SW 6010B	ma/ka	20.1	200	202	† † † † † † † † † † † † † † † † † † †	4 4	444	%/01 %/01	75-125%
Silver SW 6010B mg/kg 0.00 2.00 207 414 414 435 105% Thallium SW 6010B mg/kg 4.80 2.00 207 414 419 439 105% Vanadium SW 6010B mg/kg 62.5 2.00 207 414 477 481 101% Zinc Zinc 200 207 414 477 481 101%	992958	Selenium	SW 6010B	ma/ka		2 00	202	414	404	40.4	88.8%	75-125%
Thaillum SW 6010B mg/kg 4.80 2.00 207 414 419 439 105% Vanadium SW 6010B mg/kg 62.5 2.00 207 414 477 481 101% Zinc Zinc 200 207 414 477 481 101%	992958	Silver	SW 6010B	ma/ka	00'0	2.00	207	7.77	777	412	80.0%	75-125%
Vanadium SW 6010B mg/kg 62.5 2.00 207 414 477 481 101% Zinc SW 6010B mg/kg 414 2.00 207 414 477 481 101%	992928	Thallium	SW 6010B	ma/kg	4.80	200	202	414	† ¢	C 6	0,001	%671-67
Zinc SW 6010R mailta 1414	992958	Vanadium	SW 6010B	mg/kg	62.5	2.00	207	414	777	453	100%	27 4076
	992958	Zinc	SW 6010B	mo/ka	44.4	00 6	200	**************************************		1	8 :	%C71-C)

ND: Not detected, or below limit of detection.

DF: Dilution Factor

TRUESDAIL LABORATORIES, INC. Respectfully submitted,

Mona Nassimi, Manager Analytical Services



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		2.07
Thallium	2,304	2.00	52.0	4.7999	4.80		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:

Sampleww = Sample result in wet weight

F	Ł,	JESD	AIL.	LABO	RAT	ORIES,	INC.

TOTAL SOLIDS BY SM 2540 B

Date of Analysis: 01/11/11

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

Lab No.	Dish Number	Weight of dish, g	Wt of wet sample, g	Wt of wet sample+ dish, 9	Wt of dried residue+dish,g	Wt of dried residue, g	% Total Solids	% Moisture
992958	3	1.3147	2.0385	3,3532	2.2932	0.9785	48.001	51.999
992968-6	1	1.3114	2.0192	3.3306	1.7996	0.4882	24.178	75.822
992968-6D	2	1.3116	2.0788	3.3904	1.8209	0.5093	24.500	75 500
			-			14.0 (2.65)		
····	······································						Confession (Free States of the St	
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						dina Sun Sun		

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

% Total Solids = (A - B) * 100

Weight of dried residue x 100
Weight of wet sample

Where:

A = Weight of dried Residue + Dish, g

B = Weight of dish, g

C = Weight of wet sample + Dish, g

G. Savani Analyst Name

Analyst Signature

Reviewer Name

Reviewer Signature

Rec'd 01/04/18

CHAIN OF CUSTODY RECORD

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

[IM3plant-WDR-290]

P

10 Days

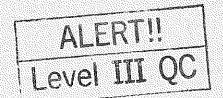
TURNAROUND TIME DATE 01/04/11

TOTAL NUMBER OF CONTAINERS COMMENTS NUMBER OF CONTAINERS X n Meleis (60108) Mn Metals (60108) Title 22, (includes Mercun) × Bioassay 96hr Acute 7 (0.00E) snoinA DESCRIPTION FAX 530-339-3303 Sludge (2:09 HWE. 01/04/11 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 PG&E Topock IM3 530-229-3303 CH2M HILL / E2 408401.01.DM SC-Sludge-WDR-290 SAMPLERS (SIGNATURE PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE

		Ċ	CHAIN OF CUSTODY SIGNATI		JRE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	shed) Claudit	aut.	Printed C. Knught	ht Company/	OMi	Date/ (-4-1/ Time (5:40	RECEIVED COOL II WARM II 4 °C °F
Signature (Received)	" Kalan)	Printed Name	Company/ Agency	T. K. T	Date/ 1 - 4 - //	CUSTODY SEALED YES NO
Signature (Relinquished)	Shed		Printed C	Company/	ナイナ	Date/	SPECIAL REQUIREMENTS:
Signature (Received)	The first	17.5	Printed Name	Company/ Agency	77	Date/ // /// Time //u /// > ; <	
Signature			Printed	Company		Date/ ' ///	<i>C</i>
(Keilinquisned)	sned)		Name	Agency		-ine	
Signature			Printed	Company/		Date/	
(Received)	J)		Name	Agency	i	Time	

Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>LL</u>	Lab # 9929.57
Date	e Delivered: <u>0/ /04</u> /11 Time: <u>2/ 30</u> By: □Mail ØFi	eld Service
1.	Was a Chain of Custody received and signed?	⊠ iYes □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
<i>5</i> .	Were all requested analyses understood and acceptable?	ÆYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? $\frac{\mathcal{U}^{\circ}\mathbf{C}}{\mathcal{U}}$	Æ[Yes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	ǾYes □No □N/A
8.	Were sample custody seals intact?	□Yes □No 反N/A
9.	Does the number of samples received agree with COC?	ØYes □No □N/A
10.	Did sample labels correspond with the client ID's?	ŻYes □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 ÞN/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	AYes □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: Diquid Drinking Water Ground V	Water □Waste Water Other
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Luda



EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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.

Mona Nassimi

Manager, Analytical Services

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwaters Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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	lordan 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



14201 FRANKLIN AVENUE - TUSTIN, CALIFORNIA 92780-7008 [714] 730-6239 - FAX [714] 730-6462 - www.truesdail.com

Established 1931

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

Attention: Shawn Duffy

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

Oakland, CA 94612

Project Name: PG&E Topock Project

Project No.: 408401.01.DM **P.O. No.:** 408401.01.DM

Analytical Results Summary

Ol olympia ID	<u> </u>	Analysis	Extraction	Sample	Sample		±	: : :	ā
can salliple ID	rield ID	Method	Method	Date	ıme	Farameter	Kesuit	Units	אר בי
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	Q	ng/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	9	ng/L	20.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Antimony	9	ng/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Arsenic	Q	ng/L	1.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Barium	11.3	ng/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Chromium	2	ug/L	1.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Copper	Q.	ug/L	5.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Lead	Q	ng/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	ng/L	10.0
992959-001	SC-700B-WDR-290	E200.8	NONE	1/4/2011	13:30	Nickel	2	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	ng/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	Q	NTC	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	Q	mg/L	0.500
992959-001	SC-700B-WDR-290	SM4500NO2B	NON	1/4/2011	13:30	Nitrite as N	9	mg/L	0.0050



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	R
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	Q	ng/L	50.0
992959-002	SC-100B-WDR-290	E200.7	NONE	1/4/2011	13:30	BORON	1070	ng/L	200
992959-002	SC-100B-WDR-290	E200.7	NONE	1/4/2011	13:30	Iron	2	ng/L	20.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Antimony	<u>Q</u>	ng/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	NON	1/4/2011	13:30	Banum	27.0	ug/L	10.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Chromium	992	ng/L	1.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Copper	Q	ng/L	5.0
992959-002	SC-100B-WDR-290	E200.8	NON	1/4/2011	13:30	Lead	Q	ng/L	10.0
992959-002	SC-100B-WDR-290	E200.8	NONE	1/4/2011	13:30	Manganese	10.0	ng/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	2	ng/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	Q	OTN.	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	Q.	mg/L	0.500
992959-002	SC-100B-WDR-290	SM4500NO2B	NONE	1/4/2011	13:30	Nitrite as N	Q	mg/L	0.0050



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	2	nd/L	50.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Antimony	QN	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	ng/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Cadmium	QN	ng/L	3.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Chromium	4.6	ng/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Cobalt	ND	ng/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Copper	NO	ng/L	5.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Lead	Q	ng/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Manganese	12.8	ng/L	1.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Mercury	Q.	ng/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	Q	ng/L	10.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Silver	Ω	ng/L	5.0
992959-003	SC-701-WDR-290	E200.8	NONE	1/4/2011	13:30	Thallium	Q	ng/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	ng/L	10.0
992959-003	SC-701-WDR-290	E218.6	LABFLT	1/4/2011	13:30	Chromium, hexavalent	2.5	ng/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.

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

Field ID				Lab ID	Col	llected	Matr	iv
SC-700B-WDR-290				992959-001		/2011 13:30		
SC-100B-WDR-290				992959-001		/2011 13:30 /2011 13:30	Wate Wate	
SC-701-WDR-290				992959-002		/2011 13:30 /2011 13:30	Wate	
				002000 000	0 1/0 1	,2011 10.00	vvac	5 1
Anions By I.C EPA 3	300.0		Batch	01AN11B				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
992959-001 Fluoride		mg/L	01/05	5/2011 11:53	5,00	0.0250	0.500	1.75
Nitrate as Nitr	rogen	mg/L	01/05	5/2011 11:53	5.00	0.0550	1.00	2.95
Sulfate		mg/L	01/05	5/2011 14:34	50.0	1.00	25.0	505
992959-002 Fluoride		mg/L	01/05	5/2011 12:05	5.00	0.0250	0.500	2.06
Nitrate as Nitr	rogen	mg/L	01/05	5/2011 12:05	5.00	0.0550	1.00	3.51
Sulfate		mg/L	01/05	5/2011 15:12	50.0	1.00	25.0	556
992959-003 Fluoride		mg/L	01/05	5/2011 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	F	RPD	Accepta	nce 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	



Client: E2 Consulting Engi	neers, Inc.		oject Name: oject Number	PG&E Topock Pro ; 408401,01,DM	nject	Page 2 of 31 Printed 2/12/2011
Lab Control Sample						
Parameter Fluoride Sulfate	Unit mg/L mg/L	DF 1.00 1.00	Result 4.04 20.1	Expected 4.00 20.0	Recovery 101 101	Acceptance Range 90 - 110 90 - 110
Nitrate as Nitrogen Matrix Spike	mg/L	1.00	3.97	4.00	99.3	90 - 110 Lab ID = 992959-001
Parameter Fluoride Sulfate Nitrate as Nitrogen Matrix Spike Duplicate	Unit mg/L mg/L mg/L	DF 5.00 50.0 5.00	Result 12.0 1030 14.4	Expected/Added 11.8(10.0) 1000(500.) 13.0(10.0)	Recovery 102 105 115	Acceptance Range 85 - 115 85 - 115 85 - 115 Lab ID = 992959-001
Parameter Fluoride Nitrate as Nitrogen MRCCS - Secondary	Unit mg/L mg/L	DF 5.00 5.00	Result 11.8 14.4	Expected/Added 11.8(10.0) 13.0(10.0)	Recovery 101 114	Acceptance Range 85 - 115 85 - 115
Parameter Fluoride Sulfate Nitrate as Nitrogen MRCVS - Primary	Unit mg/L mg/L mg/L	DF 1.00 1.00 1.00	Result 4.04 20.4 3.98	Expected 4.00 20.0 4.00	Recovery 101 102 99.4	Acceptance Range 90 - 110 90 - 110 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.05	Expected 3.00	Recovery 102	Acceptance Range 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.02	Expected 3.00	Recovery 101	Acceptance Range 90 - 110
Parameter Sulfate MRCVS - Primary	Unit mg/L	DF 1.00	Result 15.2	Expected 15.0	Recovery 101	Acceptance Range 90 - 110
Parameter Sulfate MRCVS - Primary	Unit mg/L	DF 1.00	Result 15.2	Expected 15.0	Recovery 101	Acceptance Range 90 - 110
Parameter Nitrate as Nitrogen	Unit mg/L	DF 1.00	Result 2.91	Expected 3.00	Recovery 97.1	Acceptance Range 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 Engi	neers, in	-	ect Name: ect Numbe	PG&E Topoc er: 408401.01.D	-	ect	Pa Printed 2/	ige 3 of 31 12/2011
MRCVS - Primary								
Parameter Nitrate as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 2.91	Expected 3.00		Recovery 96.9	Acceptar 90 - 110	nce Range
Parameter Nitrate as Nitrogen	Unit mg/L	DF 1.00	Result 2.90	Expected 3.00		Recovery 96.5	Acceptar 90 - 110	nce Range
Nitrite SM 4500-NO2 B Parameter		Unit		01NO211B	DF	MDL	RL	Result
992959-001 Nitrite as Nitrogen		mg/L		5/2011 17:18	1.00		0.0050	ND
992959-002 Nitrite as Nitrogen	····	mg/L	01/05	5/2011 17:19	1.00	0.000200	0.0050	ND
Method Blank			, , , , , , ,					
Parameter Nitrite as Nitrogen Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID = 9	92959-002
Parameter Nitrite as Nitrogen Lab Control Sample	Unit mg/L	DF 1.00	Result N D	Expected 0		RPD 0	Acceptar 0 - 20	nce Range
Parameter Nitrite as Nitrogen Matrix Spike	Unit mg/L	DF 1.00	Result 0.0391	Expected 0.0400		Recovery 97.8	90 - 110	nce Range 192959-002
Parameter Nitrite as Nitrogen Matrix Spike Duplicate	Unit mg/L	DF 1.00	Result 0.0192	Expected/Ac 0.0200(0.0		Recovery 96.0	75 - 125	nce Range 192959-002
Parameter Nitrite as Nitrogen MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.0194	Expected/Ac 0.0200(0.0		Recovery 97.0	Acceptar 75 - 125	nce Range
Parameter Nitrite as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0203	Expected 0.0200		Recovery 102	Acceptar 90 - 110	nce Range
Parameter Nitrite as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0203	Expected 0.0200		Recovery 102	Acceptar 90 - 110	nce Range
Parameter Nitrite as Nitrogen	Unit mg/L	DF 1.00	Result 0.0201	Expected 0.0200		Recovery 100	Acceptar 90 - 110	nce Range



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Project Number: 408401.01.DM

Batch 01EC11I 1/12/2011 Specific Conductivity - EPA 120.1 DF MDL RL Result Parameter Unit Analyzed umhos/cm 1.00 0.0380 2.00 7190 992959-001 Specific Conductivity 01/12/2011 1.00 0.0380 2.00 8060 992959-002 Specific Conductivity umhos/cm 01/12/2011 48800 01/12/2011 1.00 0.0380 2.00 992959-003 Specific Conductivity umhos/cm Method Blank Unit DF Result Parameter Specific Conductivity umhos 1.00 ND Lab ID = 992959-002Duplicate Parameter Unit DF Result Expected RPD Acceptance Range 8040 8060 0.248 0 - 10Specific Conductivity 1.00 umhos Lab ID = 993043-001 Duplicate DF RPD Parameter Unit Result Expected Acceptance Range 1.00 7460 7460 0 0 - 10Specific Conductivity umhos Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range umhos 691. 706. 97.9 90 - 110 Specific Conductivity 1.00 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 90 - 110 Specific Conductivity umhos 1.00 701. 706. 99.3 MRCVS - Primary DF Expected Recovery Acceptance Range Parameter Unit Result 999. 99.2 90 - 110 Specific Conductivity umhos 1.00 991. MRCVS - Primary DF Result Expected Acceptance Range Unit Recovery Parameter 99.6 995. 999. 90 - 110 Specific Conductivity umhos 1.00



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Chrome VI by EPA 218.6	• .		Batch	01CrH11B				110
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
992959-001 Chromium, Hexa	valent	ug/L	01/05	/2011 16:16	1.05	0.0210	0.20	0.32
992959-002 Chromium, Hexa	ıvalent	ug/L	01/05	/2011 16:58	105	2.20	21.0	1120
992959-003 Chromium, Hexa	valent	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	Accepta	ance Range
Chromium, Hexavalent	ug/L	5.25	24.3	23.2		4.39	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery		ance Range
Chromium, Hexavalent	ug/L	1.00	5.10	5.00		102	90 - 11	
Matrix Spike							Lab ID =	992658-016
Parameter	Unit	DF	Result	Expected/A		Recovery	•	ance Range
Chromium, Hexavalent	ug/L	5.25	5.92	5.71(5.25)		104	90 - 11	
Matrix Spike							Lab ID =	992658-017
Parameter	Unit	DF	Result	Expected/A		Recovery		ance Range
Chromium, Hexavalent	ug/L	10.5	10.9	10.5(10.5)		104	90 - 11	
Matrix Spike							Lab ID =	992658-017
Parameter	Unit	DF	Result	Expected/A		Recovery	•	ance Range
Chromium, Hexavalent	ug/L	5.25	4.51	5.25(5.25)	}	85.9	90 - 11	
Matrix Spike							Lab ID =	992658-018
Parameter	Unit	DF	Result	Expected/A		Recovery	•	ance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.19(1.06)	91.0	90 - 11	
Matrix Spike							Lab ID =	992658-019
Parameter	Unit	DF	Result	Expected/A		Recovery	•	ance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.18(1.06)	93.9	90 - 11	
Matrix Spike							Lab ID =	992658-020
Parameter	Unit	DF	Result	Expected/A		Recovery	•	ance Range
Chromium, Hexavalent	ug/L	5.25	47.5	49.4(26.2)	92.7	90 - 11	
Matrix Spike							Lab ID =	992658-021
Parameter	Unit	DF	Result	Expected/A		Recovery	•	ance Range
Chromium, Hexavalent	ug/L	5.25	35.6	37.6(26.2)	92.2	90 - 11	0



Client: E2 Consulting Eng	ineers, Inc.		oject Name: oject Number	PG&E Topock Pro : 408401.01.DM	ject	Page 6 of 31 Printed 2/12/2011
Matrix Spike						Lab ID = 992957-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.08	Result 39.1	Expected/Added 39.1(21.6)	Recovery 100	Acceptance Range 90 - 110 Lab ID = 992959-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.45	Expected/Added 1.38(1.06)	Recovery 106	Acceptance Range 90 - 110 Lab ID = 992959-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 105	Result 2540	Expected/Added 2700(1580)	Recovery 89.9	Acceptance Range 90 - 110 Lab ID = 992959-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 10.5	Result 13.1	Expected/Added 13.0(10.5)	Recovery 101	Acceptance Range 90 - 110 Lab ID = 992959-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 0.263	Expected/Added 6.79(5.25)	Recovery -24.3	Acceptance Range 90 - 110 Lab ID = 992959-003
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result ND	Expected/Added 1.06(1.06)	Recovery	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.02	Expected 5.00	Recovery 100	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	Recovery 104	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.82	Expected 10.0	Recovery 98.2	Acceptance Range 95 - 105



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 7 of 31

Project Number: 408401.01.DM Printed 2/12/2011

Metals by EPA 200.7, Tot	al		Batch	012511A-Th	1 A.			
Parameter	i i jaran Mara	Unit	Ana	lyzed	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	Accepta	ance 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	Accepta	ance Range
Aluminum	ug/L	1.00	4880	5000		97.7	90 - 11)
iron	ug/L	1.00	5230	5000		105	90 - 11	ס
Selenium	ug/L	1.00	5110	5000		102	90 - 11	כ
Matrix Spike							Lab ID =	992959-001
Parameter	Unit	DF	Result	Expected/	Added	Recovery	Accepta	ance Range
Aluminum	ug/L	1.00	1800	2000(200	00)	90.2	75 - 12	5
Iron	ug/L	1.00	2130	2000(200	00)	107	75 - 12	5
Selenium	ug/L	1.00	2180	2000(200	00)	109	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Aluminum	ug/L	1.00	5080	5000		102	95 - 10	5
Iron	ug/L	1.00	5270	5000		105	95 - 10	5
Selenium	ug/L	1.00	5240	5000		105	95 - 10	5
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Aluminum	ug/L	1.00	4620	5000		92.4	90 - 11	0



Client: E2 Consulting En	gineers, Inc.		oject Name: oject Number	PG&E Topock F :: 408401.01.DM	Project	Page 8 of 31 Printed 2/12/2011
MRCVS - Primary						
Parameter Aluminum MRCVS - Primary	Unit ug/L	DF 1.00	Result 4810	Expected 5000	Recovery 96.2	Acceptance Range 90 - 110
Parameter fron MRCVS - Primary	Unit ug/L	DF 1.00	Result 5160	Expected 5000	Recovery 103	Acceptance Range 90 - 110
Parameter Iron MRCVS - Primary	Unit ug/L	DF 1.00	Result 5420	Expected 5000	Recovery 108	Acceptance Range 90 - 110
Parameter Selenium MRCVS - Primary	Unit ug/L	DF 1.00	Result 5200	Expected 5000	Recovery 104	Acceptance Range 90 - 110
Parameter Selenium Interference Check S	Unit ug/L tandard A	DF 1.00	Result 5260	Expected 5000	Recovery 105	Acceptance Range 90 - 110
Parameter Aluminum Interference Check S	Unit ug/L tandard A	DF 1.00	Result 1710	Expected 2000	Recovery 85.6	Acceptance Range 80 - 120
Parameter Aluminum Interference Check S	Unit ug/L tandard A	DF 1.00	Result 1770	Expected 2000	Recovery 88.7	Acceptance Range 80 - 120
Parameter Iron Interference Check S	Unit ug/L tandard A	DF 1.00	Result 2210	Expected 2000	Recovery 110	Acceptance Range 80 - 120
Parameter Iron Interference Check S	Unit ug/L standard A	DF 1.00	Result 2250	Expected 2000	Recovery 112	Acceptance Range 80 - 120
Parameter Selenium Interference Check S	Unit ug/L standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Selenium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Aluminum	Unit ug/L	DF 1.00	Result 1810	Expected 2000	Recovery 90.7	Acceptance Range 80 - 120

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Client: E2 Consulting Engi	ineers, Inc.		oject Name: oject Number:	PG&E Topock Pro 408401.01.DM	oject	Page 9 of 31 Printed 2/12/2011
Interference Check Sta	ndard AB					
Parameter Aluminum Interference Check Sta	Unit ug/L ndard AB	DF 1.00	Result 2150	Expected 2000	Recovery 108	Acceptance Range 80 - 120
Parameter Iron Interference Check Sta	Unit ug/L ndard AB	DF 1.00	Result 2160	Expected 2000	Recovery 108	Acceptance Range 80 - 120
Parameter Iron Interference Check Sta	Unit ug/L ndard AB	DF 1.00	Result 2220	Expected 2000	Recovery 111	Acceptance Range 80 - 120
Parameter Selenium Interference Check Sta	Unit ug/L ndard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Selenium	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Metals by EPA 200.7, Total Batch 021011A-Th Parameter Unit DF Analyzed MDL RL Result 992959-001 Boron ug/L 02/10/2011 15:16 5.00 200. 1.00 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 ND 1.00 Duplicate Lab ID = 992959-001 Parameter Unit DF Result Expected **RPD** Acceptance Range Boron ug/L 1.00 1070 1060 0.753 0 - 20Lab 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 Acceptance Range Recovery Boron ug/L 2840 1.00 3060(2000) 88.8 75 - 125 MRCCS - Secondary Parameter Unit DF Result Expected Recovery Acceptance Range Boron ug/L 4970 99.4 1.00 5000 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 90 - 110 103 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

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.



ug/L

1.00

Report Continued

Project Name: PG&E Topock Project Client: E2 Consulting Engineers, Inc.

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Interference Check Standard AB

Boron

DF Expected Parameter Unit Result Recovery Acceptance Range ND 0



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 12 of 31

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Metals by EPA 200.8, Total	Batch 012511A				e e e e e e e e e e e e e e e e e e e	. No. 4
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

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.

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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			
Соррег	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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Printed 2/12/2011

Project Number: 408401.01.DM Printed 2/12/2011

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
ъ .						
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Parameter Arsenic	Unit ug/L	DF 5.00	Result 235	Expected/Added 254(250.)	Recovery 92.5	Acceptance Range 75 - 125
				•	•	
Arsenic	ug/L	5.00	235	254(250.)	92.5	75 - 125
Arsenic Barium	ug/L ug/L	5,00 5,00	235 283	254(250.) 301(250.)	92.5 92.8	75 - 125 75 - 125
Arsenic Barium Cadmium	ug/L ug/L ug/L	5.00 5.00 5.00	235 283 211	254(250.) 301(250.) 250.(250.)	92.5 92.8 84.6	75 - 125 75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt	ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00	235 283 211 219	254(250.) 301(250.) 250.(250.) 252(250.)	92.5 92.8 84.6 86.9	75 - 125 75 - 125 75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium	ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00	235 283 211 219 232	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.)	92.5 92.8 84.6 86.9 92.5	75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium Nickel	ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00	235 283 211 219 232 214	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.) 250.(250.)	92.5 92.8 84.6 86.9 92.5 85.7	75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium Nickel Zinc	ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00 5.00	235 283 211 219 232 214 240	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.) 250.(250.) 265(250.)	92.5 92.8 84.6 86.9 92.5 85.7 90.1	75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium Nickel Zinc Antimony	ug/L ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.00	235 283 211 219 232 214 240 237	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.) 250.(250.) 265(250.) 250.(250.)	92.5 92.8 84.6 86.9 92.5 85.7 90.1 95.0	75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium Nickel Zinc Antimony Copper	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.00	235 283 211 219 232 214 240 237 212	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.) 250.(250.) 265(250.) 250.(250.) 250.(250.)	92.5 92.8 84.6 86.9 92.5 85.7 90.1 95.0 84.7	75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium Nickel Zinc Antimony Copper Lead	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.00	235 283 211 219 232 214 240 237 212	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.) 250.(250.) 265(250.) 250.(250.) 250.(250.) 250.(250.)	92.5 92.8 84.6 86.9 92.5 85.7 90.1 95.0 84.7 82.8	75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium Nickel Zinc Antimony Copper Lead Thallium	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.00	235 283 211 219 232 214 240 237 212 207 208	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.) 250.(250.) 265(250.) 250.(250.) 250.(250.) 250.(250.) 250.(250.)	92.5 92.8 84.6 86.9 92.5 85.7 90.1 95.0 84.7 82.8 83.4	75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Arsenic Barium Cadmium Cobalt Chromium Nickel Zinc Antimony Copper Lead Thallium Vanadium	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00 5.00 5.00	235 283 211 219 232 214 240 237 212 207 208 244	254(250.) 301(250.) 250.(250.) 252(250.) 251(250.) 250.(250.) 265(250.) 250.(250.) 250.(250.) 250.(250.) 250.(250.) 250.(250.)	92.5 92.8 84.6 86.9 92.5 85.7 90.1 95.0 84.7 82.8 83.4 94.1	75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125



Client: E2 Consulting Eng	ineers, Inc		Project Name: Project Number:	PG&E Topock Pro 408401.01.DM	ject	Page 15 of 31 Printed 2/12/2011
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



Client: E2 Consulting En	gineers, Inc.		oject Name: oject Number	PG&E Topock F : 408401.01.DM	roject 'roject	Page 16 of 31 Printed 2/12/2011
MRCVS - Primary						
Parameter Arsenic MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.6	Expected 50.0	Recovery 95.3	Acceptance Range 90 - 110
Parameter Arsenic MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.2	Expected 50.0	Recovery 96.3	Acceptance Range 90 - 110
Parameter Arsenic MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.4	Expected 50.0	Recovery 94.8	Acceptance Range 90 - 110
Parameter Barium MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.9	Expected 50.0	Recovery 97.8	Acceptance Range 90 - 110
Parameter Barium MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.1	Expected 50.0	Recovery 98.3	Acceptance Range 90 - 110
Parameter Barium MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.8	Expected 50.0	Recovery 99.6	Acceptance Range 90 - 110
Parameter Barium MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.2	Expected 50.0	Recovery 98.3	Acceptance Range 90 - 110
Parameter Cadmium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.7	Expected 50.0	Recovery 93.4	Acceptance Range 90 - 110
Parameter Cadmium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.5	Expected 50.0	Recovery 93.0	Acceptance Range 90 - 110
Parameter Cadmium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.5	Expected 50.0	Recovery 93.1	Acceptance Range 90 - 110
Parameter Cadmium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.2	Expected 50.0	Recovery 92.3	Acceptance Range 90 - 110
Parameter Cobalt	Unit ug/L	DF 1.00	Result 48.6	Expected 50.0	Recovery 97.3	Acceptance Range 90 - 110



Client: E2 Consulting En	gineers, Inc.		oject Name: oject Number:	PG&E Topock Pr 408401.01.DM	roject	Page 17 of 31 Printed 2/12/2011
MRCVS - Primary						
Parameter Cobalt MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.1	Expected 50.0	Recovery 96.2	Acceptance Range 90 - 110
Parameter Cobalt MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.0	Expected 50.0	Recovery 97.9	Acceptance Range 90 - 110
Parameter Cobalt MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.2	Expected 50.0	Recovery 98.5	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.1	Expected 50.0	Recovery 94.2	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.3	Expected 50.0	Recovery 96.7	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.6	Expected 50.0	Recovery 97.2	Acceptance Range 90 - 110
Parameter Chromium Nickel MRCVS - Primary	Unit ug/L ug/L	DF 1.00 1.00	Result 48.8 48.1	Expected 50.0 50.0	Recovery 97.5 96.3	Acceptance Range 90 - 110 90 - 110
Parameter Nickel MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.1	Expected 50.0	Recovery 92.2	Acceptance Range 90 - 110
Parameter Nickel MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.8	Expected 50.0	Recovery 95.5	Acceptance Range 90 - 110
Parameter Nickel MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.3	Expected 50.0	Recovery 96.6	Acceptance Range 90 - 110
Parameter Zinc	Unit ug/L	DF 1.00	Result 49.2	Expected 50.0	Recovery 98.3	Acceptance Range 90 - 110



Client: E2 Consulting En	gineers, Inc.		oject Name: oject Numbei	PG&E Topock r: 408401.01.DM	•	Page 18 of 31 Printed 2/12/2011
MRCVS - Primary						
Parameter Zinc MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.2	Expected 50.0	Recovery 96.3	Acceptance Range 90 - 110
Parameter Zinc MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.0	Expected 50.0	Recovery 96.0	Acceptance Range 90 - 110
Parameter Zinc MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.5	Expected 50.0	Recovery 99.0	Acceptance Range 90 - 110
Parameter Antimony MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.4	Expected 50.0	Recovery 98.7	Acceptance Range 90 - 110
Parameter Antimony MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.3	Expected 50.0	Recovery 101	Acceptance Range 90 - 110
Parameter Antimony MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.6	Expected 50.0	Recovery 97.1	Acceptance Range 90 - 110
Parameter Antimony Copper	Unit ug/L ug/L	DF 1.00 1.00	Result 50.4 48.1	Expected 50.0 50.0	Recovery 101 96.1	Acceptance Range 90 - 110 90 - 110
MRCVS - Primary Parameter Copper MRCVS - Primary	Unit ug/L	DF 1.00	Result 45.6	Expected 50.0	Recovery 91.1	Acceptance Range 90 - 110
Parameter Copper MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.2	Expected 50.0	Recovery 96.3	Acceptance Range 90 - 110
Parameter Copper Lead MRCVS - Primary	Unit ug/L ug/L	DF 1.00 1.00	Result 48.4 46.7	Expected 50.0 50.0	Recovery 96.8 93.5	Acceptance Range 90 - 110 90 - 110
Parameter Lead	Unit ug/L	DF 1.00	Result 46.4	Expected 50.0	Recovery 92.8	Acceptance Range 90 - 110



Client: E2 Consulting En	gineers, Inc.		Project Name: Project Number:	PG&E Topock P : 408401.01.DM	'roject	Page 19 of 31 Printed 2/12/2011
MRCVS - Primary						
Parameter Lead MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.8	Expected 50.0	Recovery 93.5	Acceptance Range 90 - 110
Parameter Lead MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.3	Expected 50.0	Recovery 92.5	Acceptance Range 90 - 110
Parameter Thallium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.1	Expected 50.0	Recovery 92.2	Acceptance Range 90 - 110
Parameter Thallium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.9	Expected 50.0	Recovery 93.9	Acceptance Range 90 - 110
Parameter Thallium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46,3	Expected 50.0	Recovery 92.6	Acceptance Range 90 - 110
Parameter Thallium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.2	Expected 50.0	Recovery 92.4	Acceptance Range 90 - 110
Parameter Vanadium MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.5	Expected 50.0	Recovery 97.0	Acceptance Range 90 - 110
Parameter Vanadium MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.3	Expected 50.0	Recovery 94.6	Acceptance Range 90 - 110
Parameter Vanadium MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.3	Expected 50.0	Recovery 96.6	Acceptance Range 90 - 110
Parameter Vanadium MRCVS - Prímary	Unit ug/L	DF 1.00	Result 47.9	Expected 50.0	Recovery 95.8	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.8	Expected 50,0	Recovery 102	Acceptance Range 90 - 110
Parameter Manganese	Unit ug/L	DF 1.00	Result 50.7	Expected 50.0	Recovery 101	Acceptance Range 90 - 110



Client: E2 Consulting En	gineers, Inc.		oject Name: oject Number	PG&E Topock Page 408401.01.DM	roject	Page 20 of 31 Printed 2/12/2011
MRCVS - Primary						
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.4	Expected 50.0	Recovery 101	Acceptance Range 90 - 110
Parameter Manganese Molybdenum MRCVS - Primary	Unit ug/L ug/L	DF 1.00 1.00	Result 50.7 48.5	Expected 50.0 50.0	Recovery 101 97.0	Acceptance Range 90 - 110 90 - 110
Parameter Molybdenum MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.9	Expected 50.0	Recovery 95.8	Acceptance Range 90 - 110
Parameter Molybdenum MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.1	Expected 50.0	Recovery 96.3	Acceptance Range 90 - 110
Parameter Molybdenum Interference Check S	Unit ug/L tandard A	DF 1.00	Result 48.1	Expected 50.0	Recovery 96.2	Acceptance Range 90 - 110
Parameter Arsenic Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Arsenic Barium Interference Check S	Unit ug/L ug/L	DF 1.00 1.00	Result ND ND	Expected 0 0	Recovery	Acceptance Range
Parameter Barium Interference Check S	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Cadmium Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Cadmium Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Cobalt	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range

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Client: E2 Consulting E	ngineers, Inc.		roject Name: roject Number:	PG&E Topock Pr 408401.01.DM	roject	Page 21 of 31 Printed 2/12/2011
Interference Check S	Standard A					
Parameter Cobalt Interference Check 5	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Nickel Interference Check	Unit ug/L ug/L Standard A	DF 1.00 1.00	Result ND ND	Expected 0 0	Recovery	Acceptance Range
Parameter Nickel Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Zinc Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Zinc Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Antimony Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Antimony Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	, Acceptance Range
Parameter Copper Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Copper Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Lead	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range



Client: E2 Consulting E	ngineers, Inc.		Project Name: Project Number:	PG&E Topock F 408401.01.DM	roject ·	Page 22 of 31 Printed 2/12/2011
Interference Check	Standard A					
Parameter Lead	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Interference Check	Standard A					
Parameter Thallium Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Thallium Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Vanadium Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Vanadium Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Molybdenum Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Molybdenum Interference Check	Unit ug/L Standard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Arsenic Interference Check	Unit ug/L Standard AB	DF 1.00	Result 46.5	Expected 50.0	Recovery 93.1	Acceptance Range 80 - 120
Parameter Arsenic Barium	Unit ug/L ug/L	DF 1.00 1.00	Result 46.8 ND	Expected 50.0 0	Recovery 93,6	Acceptance Range 80 - 120



Client: E2 Consulting En	gineers, Inc.		Project Name: Project Number:	PG&E Topock Pt 408401.01.DM	roject	Page 23 of 31 Printed 2/12/2011
Interference Check St	andard AB					
Parameter Barium Interference Check St	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Cadmium Interference Check St	Unit ug/L	DF 1.00	Result 46.7	Expected 50.0	Recovery 93.4	Acceptance Range 80 - 120
Parameter Cadmium Interference Check St	Unit ug/L andard AB	DF 1.00	Result 45.4	Expected 50.0	Recovery 90,9	Acceptance Range 80 - 120
Parameter Cobalt Interference Check St	Unit ug/L andard AB	DF 1.00	Result 46.8	Expected 50.0	Recovery 93.7	Acceptance Range 80 - 120
Parameter Cobalt Interference Check St	Unit ug/L andard AB	DF 1.00	Result 47.9	Expected 50.0	Recovery 95.8	Acceptance Range 80 - 120
Parameter Chromium Interference Check St	Unit ug/L andard AB	DF 1.00	Result 47.3	Expected 50.0	Recovery 94.6	Acceptance Range 80 - 120
Parameter Chromium Nickel	Unit ug/L ug/L	DF 1.00 1.00	Result 46.9 45.2	Expected 50.0 50.0	Recovery 93.8 90.3	Acceptance Range 80 - 120 80 - 120
Interference Check St Parameter Nickel Interference Check St	Unit ug/L	DF 1.00	Result 47.5	Expected 50.0	Recovery 94.9	Acceptance Range 80 - 120
Parameter Zinc Interference Check St	Unit ug/L andard AB	DF 1,00	Result 52.8	Expected 50.0	Recovery 106	Acceptance Range 80 - 120
Parameter Zinc Interference Check St	Unit ug/L	DF 1.00	Result 51.0	Expected 50.0	Recovery 102	Acceptance Range 80 - 120
Parameter Antimony	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range

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Client: E2 Consulting En	gineers, Inc		roject Name: roject Number:	PG&E Topock P 408401,01.DM	roject	Page 24 of 31 Printed 2/12/2011
Interference Check SI	andard AB					
Parameter Antimony Interference Check St	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Copper Interference Check St	Unit ug/L andard AB	DF 1.00	Result 44.9	Expected 50.0	Recovery 89.8	Acceptance Range 80 - 120
Parameter Copper Interference Check St	Unit ug/L andard AB	DF 1.00	Result 47.5	Expected 50.0	Recovery 95,0	Acceptance Range 80 - 120
Parameter Lead Interference Check St	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Lead Interference Check St	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Thallium Interference Check St	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Thallium Interference Check St	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Vanadium Interference Check St	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Vanadium Interference Check St	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check St	Unit ug/L andard AB	DF 1.00	Result 50.2	Expected 50.0	Recovery 100	Acceptance Range 80 - 120
Parameter Manganese Interference Check St	Unit ug/L andard AB	DF 1.00	Result 48.1	Expected 50.0	Recovery 96.2	Acceptance Range 80 - 120
Parameter Molybdenum	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range

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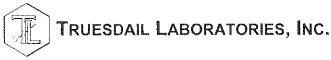
Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 25 of 31

Project Number: 408401.01.DM

Printed 2/12/2011

Interference	Chack	Standard	

interreterior check c	tanaara AD					
Parameter Molybdenum	Unit ug/L	DF 1.00	Result N D	Expected 0	Recovery	Acceptance Range
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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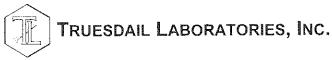
Project Number: 408401.01.DM

Printed 2/12/2011

Metals by EPA 200.8, To	tal		Batch	. 012711A	1.			and the
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
992959-003 Mercury	• • •	ug/L	01/27	7/2011 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	Accepta	ance Range
Mercury	ug/L	5.00	ND	0		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Mercury	ug/L	1.00	2.01	2.00		101	90 - 11	0
Matrix Spike							Lab ID =	992959-001
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	Accepta	ance Range
Mercury	ug/L	5.00	9.83	10.0(10.0)		98.3	75 - 12	5
Matrix Spike Duplicate)						Lab ID =	992959-001
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	Accepta	ance Range
Mercury	ug/L	5.00	10.1	10.0(10.0)		101	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Mercury	ug/L	1.00	1.87	2.00		93.7	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Mercury	ug/L	1.00	2.12	2.00		106	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Mercury	ug/L	1.00	2.11	2.00		106	90 - 11	ם -
Interference Check St	andard A							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Mercury	ug/L	1.00	1.61	2.00		80.7	80 - 12	-
Interference Check Sta	andard A							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Mercury	ug/L	1.00	1.96	2.00		98.1	80 - 12	_



Client: E2 Consulting I	Engineers, Inc.		oject Name: oject Number	PG&E Topock : 408401.01.DM	•	Page 27 of 31 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

Project Number: 408401.01.DM

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Metals by EPA 200.8, Total			Batch	012911A				
Parameter		Unit	Anal	yzed	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 Beryllium	Unit ug/L	DF 1.00	Result ND					
Silver	ug/L	1.00	ND					
Duplicate	ugr	1.00	110				Lab ID =	992959-003
Parameter Beryllium	Unit ug/L	DF 5.00	Result ND	Expected 0		RPD 0	0 - 20	nce Range
Silver	ug/L	5.00	ND	0		0	0 - 20	
Lab Control Sample		D E	- "			п	Α .1.	
Parameter Beryllium	Unit ug/L	DF 1.00	Result 45.3	Expected 50.0		Recovery 90.6	90 - 110	nce Range
Silver	ug/L	1.00	45.4	50.0		90.7	90 - 110	1
Matrix Spike							Lab ID =	992959-003
Parameter	Unit	DF 5.00	Result 310	Expected/Add 250.(250.)	led	Recovery 124	Accepta 75 - 125	nce Range
Beryllium Silver	ug/L ug/L	5.00	216	250.(250.) 250.(250.)		86.3	75 - 125	
MRCCS - Secondary	ug/L	3.00	210	200.(200.)		00.0	70 120	,
Parameter Beryllium Silver MRCVS - Primary	Unit ug/L ug/L	DF 1.00 1.00	Result 47.8 45.9	Expected 50.0 50.0		Recovery 95.7 91.8	Accepta 90 - 110 90 - 110	
Parameter Beryllium	Unit ug/L	DF 1.00	Result 45.6	Expected 50.0		Recovery 91.1	90 - 110	
Silver	ug/L	1.00	45.3	50.0		90.6	90 - 110)
Interference Check Stan		5-	D "	F ! !		D	A = = = 4 :	.maa D
Parameter Beryllium	Unit ug/L	DF 1.00	Result ND	Expected 0		Recovery	Accepta	ince Range
Interference Check Stan	dard A							
Parameter Beryllium	Unit ug/L	DF 1.00	Result ND	Expected 0		Recovery	Accepta	ance Range



Client: E2 Consulting Eng	jineers, Inc.		oject Name: oject Number	PG&E Topoc : 408401.01.D	-	ct	Pa Printed 2/	ge 29 of 31 12/2011
Interference Check St	andard A							
Parameter Silver	Unit ug/L	DF 1.00	Result ND	Expected 0	F	Recovery	Acceptar	ice Range
Interference Check St		0-	Decid	Tura etc.		Januari	Acceptor	oo Banas
Parameter Silver	Unit ug/L	DF 1.00	Result ND	Expected 0	r	Recovery	Acceptar	nce Range
Interference Check St	•							
Parameter Beryllium	Unit ug/L	DF 1.00	Result ND	Expected 0	F	Recovery	Acceptar	nce Range
Interference Check St					_	_		-
Parameter Beryllium	Unit ug/L	DF 1.00	Result ND	Expected 0	ŀ	Recovery	Acceptai	nce Range
Interference Check St	•	,,,,,	.,_	•				
Parameter Silver	Unit ug/L	DF 1.00	Result 55.1	Expected 50.0	F	Recovery 110	Acceptai 80 - 120	nce Range
Interference Check St						_		_
Parameter Silver	Unit ug/L	DF 1.00	Result 54.0	Expected 50.0		Recovery 108.	Acceptai 80 - 120	nce Range
Total Dissolved Solids b	y SM 2540	С	Batch	01TDS11A			1/6/2011	4. 1944
Parameter		Unit	Anal	yzed	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 Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID =	992959-003
Parameter	Unit	DF	Result	Expected		RPD	Accepta	nce Range
Total Dissolved Solids Lab Control Sample	mg/L	1.00	41400	41200		0.363	0 - 5	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 504.	Expected 500.		Recovery 101	Accepta 90 - 110	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Ammonia Nitrogen by SM	4500-NH	3D	Batch	01NH3-E11A		10 m	1/6/2011	
Parameter		Unit	Ana	lyzed [)F	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	F	RPD	Accepta	nce Range
Ammonia as N	mg/L	1.00	ND	0		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	10.3	10.0		103	90 - 110	1
Matrix Spike							Lab ID =	992959-002
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	6.40	6.00(6.00)		107	75 - 125	j
Matrix Spike Duplicate							Lab ID =	992959-002
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	6.30	6.00(6.00)		105	75 - 125	j
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
Ammonia as N	mg/L	1.00	6.08	6.00		101	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	•	ince Range
Ammonia as N	mg/L	1.00	6.10	6.00		102	90 - 110)



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 2/12/2011

Turbidity by SM 2130 B			Batch	01TUC11D			1/5/2011	i sa kanana sa ka
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
992959-001 Turbidity		NTU	01/05	5/2011	1.00	0.0140	0.100	ND
992959-002 Turbidity		NTU	01/05	5/2011	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	F	RPD	Accepta	nce Range
Turbidity	NTU	1.00	ND	0		0	0 - 20	_
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.57	8.00		94.6	90 - 110)
Lab Control Sample	Duplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.70	8.00		96.2	90 - 110	

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



EZ Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 01TDS11A Date Calculated: 1/10/11

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,	Reported Value, ppm	DF
BLANK	100	103.7171	103.7175	103.7171	0.0004	No	0.0000	0.0	25.0	ND	1
992932	50	74.7166	74.7516	74.7512	0.0004	No	0.0346	692.0	50.0	692.0	1
992957-1	20	68.1904	68.2526	68.2526	0.0000	No	0.0622	3110.0	125.0	3110.0	1
992957-2	10	48.1834	48.2391	48.2389	0.0002	No	0.0555	5550.0	250.0	5550.0	1
992959-1	10	49.4984	49.5425	49.5425	0.0000	No	0.0441	4410.0	250.0	4410.0	1
992959-2	10	47.9716	48.0266	48.0263	0.0003	No	0.0547	5470.0	250.0	5470.0	1
992959-3	2	76.5670	76.6493	76.6493	0.0000	No	0.0823	41150.0	1250.0	41150.0	1
992959-3D	2	68,9843	69.067	69.067	0.0000	No	0.0827	41350.0	1250.0	41350.0	1
LCSD	100	111.1860	111.2364	111.2364	0.0000	No	0.0504	504.0	25.0	504.0	1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$$

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 Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 01TDS11A

Date Calculated: 1/10/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
992932	1200	0.58	780	0.89
992957-1	5310	0.59	3451.5	0,90
992957-2	8710	0.64	5661.5	0.98
992959-1	7180	0.61	4667	0.94
992959-2	8090	0.68	5258.5	1.04
992959-3	48900	0.84	31785	1.29
992959-3D	48900	0.85	31785	1.30
		1	÷	.
Ĺ	<u> </u>	<u> </u>		<u></u>



Rec'd 01/04/15 9 : s21a 9 9 2 9 5

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

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-290]

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

TOTAL NUMBER OF CONTAINERS COMMENTS NUMBER OF CONTAINERS 4 NO2 (4500-NO2B) Total Metals (200.7) Mn × × (300.0) F. NO3, SO4 (00188) 201 × 7 (0.00E) snoinA × × Total Metals (200.7) See List Below \times × × Turb (2130) TDS (2540 c) Title 22 Metals List (200.7, 200.8, 245.1) × × × × Cr(VI) (218.6) Lab Fillefed × × × × × × × DESCRIPTION FAX 530-339-3303 1330 13.30 13:30 뿚 01/04/11 01/04/11 01/04/11 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 PG&E Topock IM3 530-229-3303 CH2M HILL /E2 408401.01.DM SC-100B-WDR-290 SC-700B-WDR-290 SC-701-WDR-290 SAMPLERS (SIGNATURE PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE

TIDE BECODD	SAMPLE CONDITIONS	Date 14-11 RECEIVED COOL IN WARM 1 4-C °F	I, 4.	Date / L Time / L// SPECIAL REQUIREMENTS:	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Time 1/4/1/2/32 Mp Ni Fe 7n		Date/ Time
PILITAIN OF CHICADOV SIGNATURE	CONTRIBUTION OF COSTODI SIGNATURE	Printed Company!	Printed (Company)	Printed A Company Agency	Light Court in Name Land Agency	Printed Company/ Name Agency	Printed Company/ Name Agency
		Signature (Relinquished)	Signature (Received) $\times_{\mathcal{A}_{\mathcal{N}_{l}}}$	Signature (Relinquished)	Signature () () () ()	Signature (Relinquished)	Signature (Received)

3

r)

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
12/29/10	992877	70	5.00	9.5	9:05	SB
oilostu	992957-1	7.0	5.00	9,5	9:30	SB
01/05/11	992959-1	7.0	500	9.5	9:35	SB
	1 -2				9:40	1
<u>\</u>	→ -3	7	U-	J.	9:45	4
				•		
·						
						
L						

Turbidity/pH Check

			Didity/pri		•	Adjusted to
Sample Number		рН	Date	Analyst	Need Digest	pH<2 (Y/N)
493093	71	22	1/14/1	ES.	4-61	30104
997106	71	22	1	l f	yes	
107	71	<u>L2</u>			/ n	
108	1	Į.				
110	V	1	_ L	V		1/
992957(1-2)	4		1/12/11	KK		(D) (130gm
992959(1-3)	4	->2_	' '	1		V@ 1130 am
993000 (1-13)	21	42				y @ 1130 am
993001 (1-B)	41	22				
993002 (1-12)	41	29				
993042 (1-2)	<u> </u>	42		<u> </u>		
993043	4	ZZ				4@12pm
993000	41	12	7			100 12 pm
993097 (1-7)	1 4	22				
90 3098 (1-10)		42		A		
993099 (1-19		12		7	_	
99 3121	21	42	1/19/11	18	110	
3122			111911/	_ -7 \f	No	
3127	41	72			1 a	V O 41
3128					No	72 2:15 pm
742 (3)	41	מכי			YES	Truc '
3143	<u> </u>	72	··········		No	y a) 2:20 p
3144		42				
3145						·
5145 5146						-
3147						
3148	<u>U</u>	7.0				
3149 (3)	اح	<i>L</i> 2	10.1		7ES	
178(1-3)			1/2010	FS:	ΝO	
178(1-3) 992,958		72			\	a) 12:20 Pin
972 918	SLUI			1	Yes	Tilc
992196	< 1		1/21/11	M. KI	No	NO 13:36,00
993 210	Solid		112/111	M.M	705	13:30pl
993215	Solid		-14-	M.M	<u></u>	
993223(1-4)		<u> </u>	1/21/11	ES	No	
773130 (1-7)	41	L2 L2	1/24/11	M.M M.M ES	Ne	
993186(1210)	4)	4 h	JAHN			
993187(1-10) 993187(1-10) 993202 220 221 221	4	-2 -2 -2 -2 -2 -2	1/24/11	PF.	No	Y@ 12:20 pm
77918+(1-10)		<u> </u>	1/24/11	E	NO	/
147202			1/25 (11	じ	NO	
220				4		Phase-
421						
354						
0.77		V				
258	V	72	\mathbf{V}		V (11)	a 10:00 an
493280 (1-10)	Solice	(1 QC 11	ES	Tes 8	TTLC
9932012(1-3)	<u> </u>	72		l l	'No	yes a 10:50 a.s
997902-1	21	41			1	7
493160 (1-14)	41	42	V	T		*/
			<u> </u>	1		

Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E2</u>	Lab # _ 95	92959
Date	Delivered: <u>0</u>	ld Service 📮	Client
1.	Was a Chain of Custody received and signed?	⊠Á-Yes ⊡No	□N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	ØN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No	ØN/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?	Ø(Yes □No	□ <i>N/A</i>
6.	Were samples received in a chilled condition? Temperature (if yes)? Were samples received intact (i.e. broken bottles, leaks air bubble.)	□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	ØN/A
9.	Does the number of samples received agree with COC?	Ø Yes □ No	□ <i>N/A</i>
10.	Did sample labels correspond with the client ID's?	⊠Yes □No	□ <i>N/A</i>
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	□Yes □No	M N/A
12.	Were samples pH checked? pH = <u>Sel</u> C- O. C.	ØYes □No	□N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	∯Yes □No	
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH 및 Std		□N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid MO	11/	e Water CR
16.	Comments:		
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Shabuu	u-

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.

Hona Nassimi

Manager, Analytical Services

K. R. P. Sye

K.R.P. Iyer

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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

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

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	lordan Sta v rev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savanì
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

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

Laboratory No.: 993043

Date Received: January 11, 2011

Analytical Results Summary

Lab Sample ID Field ID) Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
93043-001	SC-700B-WDR-291 E120.1	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	Q	ng/L	1.0
993043-001	SC-700B-WDR-291	E200.8	NONE	1/11/2011	14:15	Manganese	2.6	ng/L	1.0
93043-001	SC-700B-WDR-291		LABFLT	1/11/2011	14:15	Chromium, hexavalent	0.43	ng/L	0.20
993043-001	SC-700B-WDR-291		NONE	1/11/2011	14:15	Turbidity	Ω	⊃ L N	0.100
93043-001	SC-700B-WDR-291		NONE	1/11/2011	14:15	Total Dissolved Solids	4290	mg/L	250

mg/L: Milligrams per liter.

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

ND: Non Detected (below reporting limit)

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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. 993043

Page 1 of 6

Printed 1/28/2011

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

Field ID				Lab ID	Col	lected	Matr	ix .
SC-700B-WDR-291		993043-001		01/11	01/11/2011 14:15		er	
Specific Conductivity - E Parameter	PA 120.1	Unit		01EC11I	DF	## ## ## MDL	1/12/201 RL	1 Result
993043-001 Specific Conduct	ivity	umhos	/cm 01/12	2/2011	1.00	0.0380	2.00	7460
Method Blank				7-4			PH	
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID =	992959-002
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result 8040	Expected 8060	R	RPD 0.248	Accepta 0 - 10	nce Range 993043-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7460	Expected 7460	R	PD 0	Accepta 0 - 10	nce Range
Parameter Specific Conductivity Lab Control Sample Du	Unit umhos uplicate	DF 1.00	Result 691.	Expected 706.	R	ecovery 97.9	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 698.	Expected 706.		ecovery 98.9	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 701.	Expected 706.		ecovery 99.3	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 991.	Expected 999.		ecovery 99.2	Accepta 90 - 110	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name:

PG&E Topock Project

Page 2 of 6

Project Number: 408401.01.DM

Printed 1/28/2011

		·	, ojoot (tallibe	7. 100 to 1.0 (.DIV)		Printed 1/26/2011
MRCVS - Primary						
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 995.	Expected 999.	Recovery 99.6	Acceptance Range 90 - 110
Chrome VI by EPA 218.6 Parameter		Unit		01CrH11H	F MDL	RL Result
993043-001 Chromium, Hexa	valent	ug/L	01/12	2/2011 10:39 1.0	0.0210	0.20 0.43
Method Blank						
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND			Lab ID = 993001-008
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 1.69	Expected 1.65	RPD 2.64	Acceptance Range 0 - 20
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.84	Expected 5.00	Recovery 96.9	Acceptance Range 90 - 110 Lab ID = 993043-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.77	Expected/Added 5.70(5.25)	Recovery 101	Acceptance Range 90 - 110 Lab ID = 993043-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.48	Expected/Added 1.49(1.06)	Recovery 99.2	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.83	Expected 5.00	Recovery 96.6	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.80	Expected 10.0	Recovery 98.0	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.95	Expected 10.0	Recovery 99.5	Acceptance Range 95 - 105



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

Page 3 of 6 Printed 1/28/2011

Metals by EPA 200.8, Total

Batch 012511A

motato by Et A 200.0, 100	a :		Date	I UIZJITA				
Parameter		Unit	Ana	alyzed [)F	MDL	RL	Result
993043-001 Chromium		ug/L	01/28	5/2011 10:58 5.	.00 0	0.0950	5.0	ND
Manganese		ug/L	01/28	5/2011 10:58 5.	.00 0	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	ŘP[)	Accepta	ince Range
Chromium	ug/L	5.00	1.06	0.976		58	0 - 20	oo range
Manganese	ug/L	5.00	17.2	17.3	0.	145	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accenta	nce Range
Chromium	ug/L	1.00	50.3	50.0	10	,	90 - 110	_
Manganese	ug/L	1.00	50.3	50.0	10)1	90 - 110	
Matrix Spike								993223-001
Parameter	Unit	DF	Result	Expected/Added	d Rec	overy	Accenta	nce Range
Chromium	ug/L	5.00	232	251(250.)	92	-	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	d Rec	overy	Accepta	nce Range
Chromium	ug/L	5.00	231	251(250.)	92	•	75 - 125	_
Manganese	ug/L	5.00	253	267(250.)	94	.4	75 - 125	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	nce Range
Chromium	ug/L	1.00	49.5	50.0	99	•	90 - 110	•
Manganese	ug/L	1.00	50.2	50.0	10	0	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Reco	overy	Accenta	nce Range
Chromium	ug/L	1.00	48.8	50.0	97	•	90 - 110	_
MRCVS - Primary							, , , 0	
Parameter	Unit	DF	Result	Expected	Reco	overy	Accenta	nce Range
Chromium	ug/L	1.00	48.3	50.0	96	-	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 E	ngineers, Inc		roject Name: roject Numbe	PG&E Topock r: 408401.01.DM		Page 4 of 6 Printed 1/28/2011
MRCVS - Primary						
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.1	Expected 50.0	Recovery 94.2	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.6	Expected 50.0	Recovery 97.2	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.8	Expected 50.0	Recovery 102	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.7	Expected 50.0	Recovery 101	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.4	Expected 50.0	Recovery 101	Acceptance Range 90 - 110
Parameter Manganese Interference Check S	Unit ug/L tandard A	D F 1.00	Result 50.7	Expected 50.0	Recovery 101	Acceptance Range 90 - 110
Parameter Chromium Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check S	Unit ug/L tandard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 47.3	Expected 50.0	Recovery 94.6	Acceptance Range 80 - 120
Parameter Chromium	Unit ug/L	DF 1.00	Result 46.9	Expected 50.0	Recovery 93.8	Acceptance Range 80 - 120

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Client: E2 Consulting Er	ıgineers, In		roject Name: roject Numbe	PG&E Topo er: 408401.01.[-	ct	P Printed 1	age 5 of 6 /28/2011
Interference Check S	tandard AB							
Parameter Manganese Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 48.1	Expected 50.0	F	Recovery 96.2	Accepta 80 - 120	ince Range
Parameter Manganese	Unit ug/L	DF 1.00	Result 50.2	Expected 50.0	F	Recovery 100	Accepta 80 - 120	nce Range
Total Dissolved Solids I	oy SM 254	0 C Unit		01TDS11C	DF	MDL	1/12/2011 RL	Result
993043-001 Total Dissolved	Solids	mg/L		2/2011	1.00	0.434	250.	
Method Blank					1.00	0.404	200.	4290
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID = 9	993043-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1,00	Result 4370	Expected 4290	R	RPD 1.85	Accepta 0 - 5	nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1,00	Result 507	Expected 500.	R	ecovery 101	Accepta 90 - 110	nce Range
Turbidity by SM 2130 B Parameter		Unit	the second of the second	01TUC11F lyzed	DF	MDL	1/12/2011 RL	Result
993043-001 Turbidity		NTU	01/12	/2011	1.00	0.0140	0.100	ND
Method Blank Parameter Turbidity Duplicate	Unit NTU	DF 1.00	Result ND					
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0		PD 0		993043-001 nce Range
Parameter Turbidity Lab Control Sample D	Unit NTU uplicate	DF 1.00	Result 7.83	Expected 8.00		ecovery 97.9	Acceptar 90 - 110	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.78	Expected 8.00		ecovery 97.2	Acceptar 90 - 110	ice Range

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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

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 01TDS11C

Date Calculated: 1/14/11

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	73.1461	73,1464	73,1464	0.0000	No	0.0003	3.0	25.0	ND	1
993023	862	105.6304	105.6367	105.6367	0.0000	No	0.0063	7.3	2.9	7.3	1
993043	10	50.2173	50.2604	50.2602	0.0002	No	0.0429	4290.0	250.0	4290,0	1
993059-1	50	78.3871	78.4343	78,4343	0.0000	No	0.0472	944.0	50.0	944.0	1
993059-2	100	74.5592	74.6127	74.6127	0.0000	No	0.0535	535.0	25.0	535.0	1
993059-3	50	70.9031	70.9308	70.9308	0.0000	No	0.0277	554.0	50.0	554.0	1
993059-4	100	69.5837	69.6312	69.6312	0.0000	No	0.0475	475.0	25.0	475.0	1
993043D	10	49.4665	49.5104	49.5102	0.0002	No	0.0437	4370.0	250.0	4370.0	1

LCSD	100	75.7721	75.8229	75.8228	0.0001	No	0.0507	506.9	25.0	506.9	1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$$

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

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 01TDS11C

Date Calculated: 1/14/11

Laboratory Number	EC	TDS/EC Ratio; 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
993023	14.1	0.52	9.165	0.80
993043	7470	0.57	4855.5	0.88
993059-1	1826	0.52	1186.9	0.80
993059-2	921	0.58	598.65	0.89
993059-3	1011	0.55	657.15	0.84
993059-4	830	0.57	539.5	0.88
993043D	7470	0.59	4855.5	0.90



CHAIN OF CUSTODY RECORD

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

TURNAROUND TIME COC Number

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PAGE

10 Days

COMMENTS

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TOTAL NUMBER OF CONTAINERS

10 ę,

×

×

DESCRIPTION Water

DATE

01/11/11

SC-700B-WDR-291

SAMPLE 1.D.

408401.01.DM

P.O. NUMBER

SAMPLERS (SIGNATURE

155 Grand Ave Ste 1000

ADDRESS

(530) 229-3303

PHONE

PG&E Topock

PROJECT NAME

12

COMPANY

Oakland, CA 94612

1200	CHAIN OF CUSTODY SIGNATU	IGNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed Name Sau	Company []	Date/ /-/// Time / ろころ	RECEIVED COOL IN WARM 4.2°C.F
Signature (Received)	Printed B. Co.	Company/ / / T	Date/ 1-//-//	CUSTODY SEALED YES NO
Signature (Roll of Oct.)	Printed RCC	Company! To the Agency	Date/ /-//-//	SPECIAL REQUIREMENTS:
Signature (Received) Mille Lilling 1	7) _{/e}	Date 1/11/11 22100	
Signature	Printed	Company/	Date/	
· (Keanquished)	Name	Agency	IIme	
Signature	Printed	Company/	Date/	
(Keceived)	Name	Agency	lime	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

	Lab Number	i initial pH	Buffer Added (mL)	Final pH	Time Buffered	100 141 111
0/14/10	993099-1	9.5	A/A	NA	N/A	Initials
ı		1		10/14	D/A	SB
	-2					
	-4		<u> </u>			
	-5					
	-6					
	-7					
	-7 -8 -9					
	- 9			.		_
₩	V -10	y	J	1	J	3.00
octiffee	993100	9.5	N/A	N/A	NA	SE.
01/18/11	993130-1	9.5	N/A	NA	NA	SB
	1 ,2	1	[
	-3 -9 -5					
	Ψ					
	-5					
	-6 -7					
	***************************************	<i>y</i>	4	J	Ţ	1
01/12/11	993043	7.0	200	9.5	3,00	SB
					± .:	
1				<u> </u>		



Turbidity/pH Check Adjusted to Sample Number **Turbidity** pН Date **Need Digest** Analyst pH<2 (Y/N) 493093 ZV 1/14/1 5 30101 997106 22 yes 107 71 42 108 992957(1-2 21 IIIIII V@ 1130 am 992959/1-3 993000 42 XI-13 41 (-B) _ 993001 **∠Z** 993002 (1-12) 41 42 993042 (1-2) 42 993043 4 72 1@12pm 22 993097 (1-7) 993098 (1-10) 4 22 4 ~2 (1-79-10) C 12 993121 No L2 1/19/11 ĽÌ 3122 3127 41 Y 2 2:157m No 3128 YES TTUC a) 2:20 p 7/142 (3) 41 72 M_0 3143 42 3144 3145 7146 3147 7148 12 3149 (3) YE 5 902174 27 1/2010 FS NO 178(1-3) 72 61 12:70 Pin 992918 SLUD GE YES 992196 1/21/11 29 No 0 13:30p M. AI 993 210 Solid 1121111 M.M 705 993213 Solill M.M 42 993223(1-4) ES NO 173130 (1-7) 993186(1-10) 42 12411 41 Ne 41 42 1/14/11 X-1/--993199 4 12411 PR NO @ 12:20 pm 993187(1-10) **L**2 24/1 41 NO 993202 22 1/25 (11 N() 220 221 254 255 war:wan 258 72 493280 (1-10) Solid 1 2611 Yes yes a 10:50 a.m 9932012(1-2) 72 **L1** NO

ZI

61

1 Z

aa7102-1

(193160 (1-14)

Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E2</u>	Lab#993043
Date	e Delivered: <u>0</u>	ld Service 🗆 Client
1.	Was a Chain of Custody received and signed?	⊠iYes □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 ØN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No QIN/A
5.	Were all requested analyses understood and acceptable?	ØYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <mark>ソ. ン。C</mark>	ØYes □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?	ØYes □No □N/A
10.	Did sample labels correspond with the client ID's?	d Yes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	□Yes □No XIN/A
12.	Were samples pH checked? pH = <u>See</u> c.o. e.	ØYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	polYes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ロ RUSH 咸 Std	Yes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid ☑O	
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Grabering

Established 1931



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

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



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

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

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	lordan 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

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Laboratory No.: 993159

Date Received: January 18, 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	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	묍
993159-001	SC-700B-WDR-292	E120.1	NONE	1/18/2011	7:30	EC	2090	umhos/cm	2.00
993159-001	SC-700B-WDR-292	E200.8	NONE	1/18/2011	7:30	Chromium	QN	na/L	1.0
993159-001	SC-700B-WDR-292	E200.8	NONE	1/18/2011	7:30	Manganese	1,5	ng/L	1.0
993159-001	SC-700B-WDR-292	E218.6	LABFLT	1/18/2011	7:30	Chromium, hexavalent	0.53	ng/L	0.20
993159-001	SC-700B-WDR-292	SM2130B	NONE	1/18/2011	7:30	Turbidity	QN	NTC	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.

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

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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

Printed 1/31/2011

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

Field ID				Lab ID	Coll	ected	Matr	ix
SC-700B-WDR-292				993159-001	01/18/	2011 07:30	Wat	er
Specific Conductivity - E	PA 120.1		Batch	01EC11J			1/19/2011	ļ
Parameter		Unit	Ana	ilyzed	DF	MDL	RL	Result
993159-001 Specific Conduct	ivity	umhos/c	m 01/19	9/2011	1.00	0.0380	2.00	7090
Method Blank						3-7-7-4	<u>, , , , , , , , , , , , , , , , , , , </u>	
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				I ah I∏ −	993160-006
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result 953.	Expected 955.		PD 0.210	Accepta 0 - 10	nce Range 993160-014
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 1050	Expected 1050		PD 0.190		nce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 703.	Expected 706.		ecovery 99.6	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 707.	Expected 706.		ecovery 100	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 692.	Expected 706.		ecovery 98.0	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 997.	Expected 999.		ecovery 99.8	Accepta 90 - 110	nce Range

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 1/31/2011

MRCVS - Primary

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

Intention Blank

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

	•		20101	0.00000				
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
993159-001 Chromium, Hexa	avalent	ug/L	01/21	1/2011 15:16	1.05	0.0210	0.20	0.53
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				l ah I∩ =	993160-007
Parameter	Unit	DF	Result	Expected		RPD		
Chromium, Hexavalent Lab Control Sample	ug/L	1.05	ND	0.0520		0	0 - 20	ince Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.05	Expected 5.00		Recovery 101	90 - 110	ance Range) 993159-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.62	Expected/Ad 1.59(1.06)	dded	Recovery 103	90 - 110	nce Range) 993160-007
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.13	Expected/Ac 1.11(1.06)	dded	Recovery 102	90 - 110	nce Range) 993160-008
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.13	Expected/Ac 1.10(1.06)	ided	Recovery 103	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.15	Expected/Ac 1.12(1.06)	lded	Recovery 103	90 - 110	nce Range 993160-010
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.15	Expected/Ac 1.10(1.06)	lded	Recovery 105.	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.18	Expected/Ad 1.14(1.06)	lded	Recovery 104	90 - 110	nce Range 993160-012
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.18	Expected/Ad 1.11(1.06)	ded I	Recovery 106	Accepta 90 - 110	nce Range

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Report Continued

Client: E2 Consulting Eng	ineers, Inc		roject Name: roject Number	PG&E Topock Pro: 408401.01.DM	oject	Page 4 of 8 Printed 1/31/2011
Matrix Spike Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.22	Expected/Added 1.18(1.06)	Recovery 104	Lab ID = 993160-014 Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.96	Expected 5.00	Recovery 99.2	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	Recovery 104	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102	Acceptance Range 95 - 105

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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wetais by EPA 200.8, Total		Batch 012811A		
Parameter	Unit	Analyzed	DE	MDL
			<u> </u>	14100

			,					
Parameter		Unit	Ana	alyzed [F	MDL	RL	Result
993159-001 Chromium		ug/L	01/28	B/2011 12:54 5.	00	0.0950	1.0	ND
Manganese		ug/L	01/28	B/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	RP	D		ince Range
Chromium	ug/L	5.00	2.44	2.37		.01	0 ~ 20	ance realige
Manganese	ug/L	5.00	ND	0	0		0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Red	covery	Accenta	ince Range
Chromium	ug/L	1.00	46.1	50.0		2.2	90 - 110	
Manganese	ug/L	1.00	47.0	50.0		4.0	90 - 110	
Matrix Spike								993301-001
Parameter	Unit	DF	Result	Expected/Added	l Red	covery	Accepta	nce Range
Chromium	ug/L	5.00	220	252(250.)		7.2	75 - 125	
Manganese	ug/L	5.00	225	250.(250.)	8	9.9	75 - 125	
Matrix Spike Duplicate								993301-001
Parameter	Unit	DF	Result	Expected/Added	l Red	covery	Accepta	nce Range
Chromium	ug/L	5.00	222	252(250.)		7.7	75 - 125	_
Manganese	ug/L	5.00	222	250.(250.)	88	8.9	75 - 125	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Red	covery	Accepta	nce Range
Chromium	ug/L	1.00	45.9	50.0		1.8	90 - 110	•
Manganese	ug/L	1.00	46.4	50.0	92	2.7	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Rec	covery	Accepta	nce Range
Chromium	ug/L	1.00	47.0	50.0		3.9	90 - 110	noc mange
MRCVS - Primary							•	
Parameter	Unit	DF	Result	Expected	Rec	covery	Accenta	nce Range
Chromium	ug/L	1.00	46.4	50.0		2.8	90 - 110	ice ivalige

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Client: E2 Consulting E	ngineers, Ind		roject Name: roject Numbe	PG&E Topock r: 408401.01.DM		Page 6 of 8 Printed 1/31/2011
MRCVS - Primary						
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.0	Expected 50.0	Recovery 92.0	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.9	Expected 50.0	Recovery 97.7	Acceptaлce Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 48.6	Expected 50.0	Recovery 97.1	Acceptance Range 90 - 110
Parameter Manganese Interference Check S	Unit ug/L itandard A	DF 1.00	Result 46.0	Expected 50.0	Recovery 92.1	Acceptance Range 90 - 110
Parameter Chromium Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check S	Unit ug/L tandard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check S	Unit ug/L tandard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 43.9	Expected 50.0	Recovery 87.8	Acceptance Range 80 - 120
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 44.4	Expected 50.0	Recovery 88.7	Acceptance Range 80 - 120
Parameter Manganese Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 43.6	Expected 50.0	Recovery 87.1	Acceptance Range 80 - 120
Parameter Manganese	Unit ug/L	DF 1.00	Result 44.2	Expected 50.0	Recovery 88.4	Acceptance Range 80 - 120

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Total Dissolved Solids b	y SM 254	0 C	Batch	01TDS11D			1/19/2011	1
Parameter		Unit	Ana	ılyzed	DF	MDL	RL	Result
993159-001 Total Dissolved S	Solids	mg/L	01/19	9/2011	1.00	0.434	250.	4150
Method Blank								
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate	_						Lab ID =	993159-00
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4090	Expected 4150		PD 1.46	Accepta 0 - 5	nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 511.	Expected 500.		ecovery 102	Accepta 90 - 110	nce Range
Turbidity by SM 2130 B	1.		Batch	01TUC11G			1/19/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993159-001 Turbidity		NTU	01/19	/2011	1.00	0.0140	0.100	ND
Method Blank								
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID =	993159-001
Parameter Turbidity	Unit NTU	DF 1.00	Result ND	Expected 0		PD 0	Accepta 0 - 20	nce Range
Lab Control Sample								
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.86	Expected 8.00		ecovery 98.2	Accepta 90 - 110	nce Range
Lab Control Sample Di	uplicate							
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.80	Expected 8.00		ecovery 97.5	Accepta 90 - 110	nce Range

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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 1/31/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 01TDS11D

Date Calculated: 1/24/11

Laboratory Number	Sample volume, ml	Initial weight _i 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	111.3720	111.3727	111.3727	0.0000	No	0.0007	7.0	25.0	ND	1
993142-2	200	109.3955	109.4147	109.4143	0.0004	No	0.0188	94.0	12.5	94.0	1
993142-4	100	65.6343	65.6526	65.6526	0,0000	No	0.0183	183.0	25.0	183.0	1
993159	10	51.1403	51.1819	51,1818	0.0001	Nο	0.0415	4150.0	250.0	4150.0	1
993174	100	49.3963	49.4286	49.4286	0.0000	No	0.0323	323.0	25.0	323,0	1
993159D	10	49.8387	49.8798	49.8796	0.0002	No	0.0409	4090,0	250.0	4090.0	1
LCS	100	105.6295	105.681	105.6806	0.0004	No	0.0511	511,0	25.0	511.0	. , 1
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										:	
LCSD			:								1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A - B}{C}\right) x \cdot 1 \cdot 0^6$$

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

NO = not detected (below the reporting limit)

Andlyst Printed Name

Analyşt Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 01TDS11D Date Calculated: 1/24/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
993142-2	166	0,57	107.9	0.87
993142-4	348	0.53	226.2	0,81
993159	7090	0.59	4608.5	0.90
993174	513	0.63	333.45	0,97
993159D	7090	0.58	4608.5	0.89
LCS				
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CHAIN OF CUSTODY RECORD TRUESDAIL LABORATORIES, INC. 14201 Franklin Avenue, Tustin, CA 92780-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdail.com

10 Days PAGE COC Number

PF

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TURNAROUND TIM	
ARO 04	
TURN DATE	
ਨ	
M3Plant-WDR-292]	
- F	
Plan	
EM3	
	

TOTAL NUMBER OF CONTAINERS	ω																	Martin Martin and the control of the			ANTHON - " - HELLINGS, MANY TO STANDARD TO	
(1,002)0 = W											×	_		×	×	×	×	Water	01/18/11 7:30	01/18/11	VDR-292	SC-700B-WDR-292
	WAN	1	\rightarrow	$\neg \downarrow$	$ \downarrow $			_ 1	1		Oldru	7		SQ	Species	18101	2) 91 ₂	DESCRIPTION	TIME	DATE		SAMPLE 1.D.
	BER		_ `								NS) AII		DE ZWS	NOT 2	S/E/DI	1 (0:0)	1981				IGNATURE	SAMPLERS (SIGNATURE
00 AO			\			_	_			(001-	12,00		(30	(200.7)	(7.00S) (7.00S)	PHI GE			TEAM	_/\	408401.01.DM	P.O. NUMBER
AT NO		_			_								1150	N 'IS	.,5	Pea				146 12	Oakland, CA 94612	
NER	_		_	_ `			_			_	_		u	Ч		_				e Ste 1000	155 Grand Ave Ste 1000	ADDRESS
8						_ `	_				_			_	_			39-3303	FAX (530) 339-3303	3	(530) 229-3303	PHONE
		_								_											RE PG&E Topock	PROJECT NAME
COMMENTS				_ `		_	_	_	_		_	_	_ `		_						E2	COMPANY





3/1/	CHAIN OF CUSTODY SIGNATU	SNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed Hame Hay	Company/ mm/	Date/ /-/8-// Time /6:00	RECEIVED COOL ET WARM S, Y & F
Signature (Received) (DGV).	Printed Rockon	Company/ 7 - L _ I	Date/ 1-78-7/ Time /2:06	CUSTODY SEALED YES 🔲 NO 🗖
Signature Signature Signature (Relinquished) Rall cal	Printed Ray and	Company/	Time 722120	SPECIAL REQUIREMENTS:
Signature Anda (Received) Anda	Printed Light S.	Company/ 7_L_Z Agency	Date 1/18/11 2213 0	8
Signature (Relinguished)	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

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
0/ 14/10	993099-1	9.5	A/4	2/4	N/A	SB
	1 -2		1)
	-2 -3 -4 -5					1
	-4					
	-5					
· .	-6 -7 -8 -9					
	-7					
	-8					
				·		
<u> </u>	¥ _(0	<u> </u>	J	<u>V</u>	J	<u>.</u>
01/14/11	993100	9.5	N/A	N/A	N/A	SB
<u>c1/18/11 · </u>	993130 -1	9.5	N/A	N/K	N/A	SB
	-3 -4 -5	1			<u> </u>	
	-3					
	- 9					
	-5					
	√6 √ -7					
<u> </u>		7	7	<u> </u>	1	_J
01/12/11	993043	7-0	200	9.5	\$.60	EB.
01/19/11	993159	7.0	2.00	9.5	7:20	SB
01/19/11	993160-1	9,5	NA	A/A	N/A	SB
	-2				<u> </u>	
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-g				<u> </u>	
	-10					
<u> </u>	11-4	₩	<u> </u>	- \b-	<u> </u>	b

Turbidity/pH Check

		, 41	Didity/pri C	/IIOCK		
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to
493093	71	ZV				
	71		1(14/1	_ ES	yes	3010A
		12		<u> </u>	yes	<u> </u>
107	71	<u> </u>			<u> </u>	
102						
110,	V	1	4			20/
992957(1-2)	4	_ک2	1112111	KK_		(Da 1130 am
992959(1-3)	4	12		Î		V@ 1130 am
993000 (1-13)	41				,	7 = 1
993001 (1-13)	4	22				
993002 (1-12)	<u> </u>	22				
993042 (1-2)	<1 -	12		—— \[
993043	2					13 (2) 10
44 350a	41	12	1-1	} -		4@12pm
993097 (1-7)		22				<u></u>
	14	<u>~2</u> ~2		1		مــــ
99 3098 (1-10	<u> </u>	-2		1		
993099 (1.79)	10)<1	22				-
99 3121	<u> </u>	42	1/19/11	N	No	
31:22	l					
3127 3128	4	72			Na	72 2:15 7m
3128	-			1	YES	TTUC
7142 (3)	41	72			No	
3143	1				- Nu	Y a) 2:20 pm
3144		<u> </u>				
3/45						
7143						76
3146				·		
3147						-
7/48		4			h	
3149 (3)	اح	22	U		YES	،
992174	21	47	1/2010	FS.	NO	
178(1-3)	41	72	1	1	1	a) 12:30 Pin
992 918	SLUI	DGE	V	V	YES	Tric
992196	< 1	22	1/21/11	M. N.1	763 NO	V2 /3 32 2
003 210	Solid		1 21 11	M.M	1	13:30p.
093213	Solid Solid		1	10 11	7-2	++C
993223(1-4)	1 1	42	1/21/11	M.M ES KK	No	
173130 (1-7)	4	77	1/24/11	<u> </u>		
993101616 VIOL	7.1	L2 12	20111		No	
943186(1-10)	7)	-2 -2 -2 -2 -2 -2 -2	1/141/1	KK- KK		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
001101	4	7	1/24/11	- P-	Nø	Y@12:20 pm
999187(1-10)	41	22	12411	E>	NO	1
947202	41	22	1/25 (11	ES	NO	
220	Ĺ	i i	ì	7	1	•
221						,
993(59 993(4) 193(1)-10) 993202 220 221 231						- -
1 % JJ		V				-
211	V	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			1 1 1 1	a mind an
993280 (1-10)	Solid	7 =	1/26/11	ES	Jes 8	00 0:00 0.0 TTLC
9932012(1-3)	70110	`~ <i>`</i>	au	レフ	tes 8	
063 ADD	21 21	72			70	yes a 10:50 a.n
997302-1		41			1	·
493160 (1-14)		L2	Ψ	ı.	L L	
	,					



Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E2</u>	Lab #	d b
Date	Delivered: <u>0</u>	ield Service	⊐Client
1.	Was a Chain of Custody received and signed?	MiYes □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	ØN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	ØN/A
5.	Were all requested analyses understood and acceptable?	ÁiYes □No	□ <i>N/A</i>
6.	Were samples received in a chilled condition? Temperature (if yes)? ³ . <mark>'∫°C</mark>	;ÁYes □No	□ <i>N/A</i>
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)? Were sample custody seals intact?	√∆iYes □No	□N/A
8.	Were sample custody seals intact?	AYes □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	□ <i>N/A</i>
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	□Yes □No	.ØN/A
12.	Were samples pH checked? pH = \underline{Sel}_{C} . \mathcal{O}_{*} \mathcal{E}_{*}	ДiYes □No	□WA
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	% Yes □ No	□ <i>N/A</i>
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH ☑ Std	∱iYes □No	□ <i>N/A</i>
15.	Sample Matrix: □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid 🞾		
16.	Comments:	2	
17	Sample Check-In completed by Truesdail Log-In/Receiving:	Tuda-	



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.

to- Mona Nassimi

Manager, Analytical Services

K. R. P. gyer

K.R.P. Iver

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



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

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

Ockland CA 04642

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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	lordan 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

Cilent: 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



Established 1931

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

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

Analytical Results Summary

Lab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	xtraction Method Sample Date	Sample Time	Parameter	Result	Units	ద
993294-001	SC-700B-WDR-293	11	NONE	1/25/2011	14:00	EC	7290	nmhos/cm	2.00
993294-001	SC-700B-WDR-293	E200.8	NONE	1/25/2011	14:00	Chromium	QN.	ug/L	1.0
993294-001	SC-700B-WDR-293	E200.8	NONE	1/25/2011	14:00	Manganese	QN	ng/L	1.0
993294-001	SC-700B-WDR-293	E218.6	LABFLT	1/25/2011	14:00	Chromium, hexavalent	Q	ng/L	0.20
993294-001	SC-700B-WDR-293	SM2130B	NONE	1/25/2011	14:00	Turbidity	ON ON	∩LN	0.100
993294-001	SC-700B-WDR-293	SM2540C	NON	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

EXCELLENCE IN INDEPENDENT TESTING



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. 993294

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

Field ID				Lab ID	Coll	ected	Matr	ix
SC-700B-WDR-293				993294-001	01/25/	2011 14:00	Wate	ər
Specific Conductivity - E Parameter	PA 120.1	Unit	4.4	01EC11L	DF	MDL	1/27/2011 RL	Result
993294-001 Specific Conduct	ivity	umhos/c	m 01/27	7/2011	1,00	0.0380	2.00	7290
Method Blank		***************************************						
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID =	993325-007
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result 2760	Expected 2760		PD 0	0 - 10	nce Range 993325-013
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 3020	Expected 3000		PD 0.664	Accepta 0 - 10	nce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 718.	Expected 706.		ecovery 102	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 710.	Expected 706.		ecovery 101	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 724.	Expected 706.		ecovery 103	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 998.	Expected 999.		ecovery 99.9	Accepta 90 - 110	nce Range

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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Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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MRCVS - Primary								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 1050	Expected 999.	F	Recovery 105	Accepta 90 - 110	ance Range)
Chrome VI by EPA 218.6 Parameter		Unit	and the second	01CrH11R iyzed	DF	MDL	RL	Result
993294-001 Chromium, Hexa	valent	ug/L	01/26	5/2011 11:39	1.05	0.0210	0.20	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	993301-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 2.29	Expected 2.28	F	RPD 0.569		ince Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.06	Expected 5.00	F	Recovery 101	90 - 110	nce Range) 993294-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5,73	Expected/Adde 5.48(5.25)	ed F	Recovery 105	90 - 110	nce Range) 993294-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.20	Expected/Adde 1.20(1.06)	ed F	Recovery 99.7	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.01	Expected 5.00	F	Recovery 100	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	F	lecovery 104	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	F	Recovery 103	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.50	Expected 10.0	R	decovery 95.0	Accepta 95 - 105	nce Range

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Metals by EPA 200.8, Total Batch 012911B

Parameter	·····	Unit	Ana	llyzed D	F MDL	RL	Result
993294-001 Chromium		ug/L	01/29	9/2011 23:39 5.	0.0950	1.0	ND
Manganese	·····	ug/L	01/29	9/2011 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	Accepta	nce 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	Accepta	nce 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	Accepta	nce 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	Accepta	nce 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	Accepta	nce 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	Accepta	nce Range
Chromium	ug/L	1.00	46.7	50.0	93.3	90 - 110	_
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	47.2	50.0	94.4	90 - 110	

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Client: E2 Consulting En	gineers, Inc		oject Name: oject Numbe	PG&E Topock r: 408401.01.DM	-	Page 4 of 6 Printed 2/9/2011
MRCVS - Primary						
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.2	Expected 50.0	Recovery 94.5	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.3	Expected 50.0	Recovery 101	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 50.8	Expected 50.0	Recovery 102	Acceptance Range 90 - 110
Parameter Manganese Interference Check St	Unit ug/L andard A	DF 1.00	Result 50.3	Expected 50.0	Recovery 101	Acceptance Range 90 - 110
Parameter Chromium	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Interference Check St	andard A					
Parameter Chromium Interference Check St	Unit ug/L andard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check St	Unit ug/L andard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Manganese Interference Check St	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check St	Unit ug/L andard AB	DF 1.00	Result 46.5	Expected 50.0	Recovery 93.1	Acceptance Range 80 - 120
Parameter Chromium Interference Check St	Unit ug/L andard AB	DF 1.00	Result 46.2	Expected 50.0	Recovery 92.3	Acceptance Range 80 - 120
Parameter Manganese Interference Check St	Unit ug/L andard AB	DF 1.00	Result 50.3	Expected 50.0	Recovery 101	Acceptance Range 80 - 120
Parameter Manganese	Unit ug/L	DF 1.00	Result 49.3	Expected 50.0	Recovery 98.6	Acceptance Range 80 - 120

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Parameter		Unit	Ana	ılyzed	DF	MDL	RL	Result
993294-001 Total Dissolved	Solids	mg/L	01/28	3/2011	1.00	0.434	250.	4140
Method Blank								
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID =	993297-003
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result 698.	Expected 714.	f	RPD 2.27	0 - 5	nce Range 993300-009
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 1210	Expected 1230	F	RPD 1.97	Accepta 0 - 5	ince Range
								_
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 506.	Expected 500.	F	Recovery 101	Accepta 90 - 110	_
			506. Batch	•	F DF	•	•)
Total Dissolved Solids Turbidity by SM 2130 B		1.00	506. Batch Ana	500.		101	90 - 110 1/26/2011	Result
Total Dissolved Solids Turbidity by SM 2130 B Parameter		1.00 Unit	506. Batch Ana	500. 01TUC11N llyzed	DF	101 MDL	90 - 110 1/26/2011 RL	
Total Dissolved Solids Turbidity by SM 2130 B Parameter 993294-001 Turbidity Method Blank Parameter Turbidity		1.00 Unit	506. Batch Ana	500. 01TUC11N llyzed	DF	101 MDL	90 - 110 1/26/2011 RL 0.100	Result ND
Total Dissolved Solids Turbidity by SM 2130 B Parameter 993294-001 Turbidity Method Blank Parameter Turbidity Duplicate	mg/L Unit NTU	Unit NTU DF 1.00	506. Batch Ana 01/26 Result ND	500. 01TUC11N nlyzed 6/2011	DF 1.00	MDL 0.0140	90 - 110 1/26/2011 RL 0.100	Result ND 993294-001
Total Dissolved Solids Turbidity by SM 2130 B Parameter 993294-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity	mg/L Unit	Unit NTU	506. Batch Ana 01/26	500. 01TUC11N llyzed	DF 1.00	101 MDL	90 - 110 1/26/2011 RL 0.100	Result ND 993294-001
Turbidity by SM 2130 B Parameter 993294-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample	mg/L Unit NTU Unit NTU	1.00 Unit NTU DF 1.00 DF 1.00	506. Batch Ana 01/26 Result ND Result ND	500. 01TUC11N blyzed 6/2011 Expected 0	DF 1.00	MDL 0.0140 RPD 0	90 - 110 1/26/2011 RL 0.100 Lab ID = Accepta 0 - 20	Result ND 993294-001
Turbidity by SM 2130 B Parameter 993294-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter	mg/L Unit NTU Unit NTU Unit	Unit NTU DF 1.00 DF 1.00 DF	Batch Ana 01/26 Result ND Result ND Result	500. 01TUC11N blyzed 6/2011 Expected 0 Expected	DF 1.00	MDL 0.0140 RPD 0	90 - 110 1/26/2011 RL 0.100 Lab ID = Accepta 0 - 20 Accepta	Result ND 993294-001
Turbidity by SM 2130 B Parameter 993294-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter Turbidity	mg/L Unit NTU Unit NTU Unit NTU	1.00 Unit NTU DF 1.00 DF 1.00	506. Batch Ana 01/26 Result ND Result ND	500. 01TUC11N blyzed 6/2011 Expected 0	DF 1.00	MDL 0.0140 RPD 0	90 - 110 1/26/2011 RL 0.100 Lab ID = Accepta 0 - 20	Result ND 993294-001 Ince Range
Turbidity by SM 2130 B Parameter 993294-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter	mg/L Unit NTU Unit NTU Unit NTU	Unit NTU DF 1.00 DF 1.00 DF	Batch Ana 01/26 Result ND Result ND Result	500. 01TUC11N blyzed 6/2011 Expected 0 Expected	DF 1.00	MDL 0.0140 RPD 0	90 - 110 1/26/2011 RL 0.100 Lab ID = Accepta 0 - 20 Accepta 90 - 110	Result ND 993294-001

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.

012



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.

Hu - Mona Nassimi

Manager, Analytical Services



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	66.1878	68.2356	68.2356	0.0000	No	0.0478	956.0	50.0	956.0	1
993295-7	50	74.7168	74.7686	74.7686	0.0000	No	0.0518	1036.0	50.0	1036.0	11
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	Nο	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	76.0653	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
LCSD											1

Calculation as follows:

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 Printer Name

Reviewer Signature

TDS/EC CHECK

Batch: 01TDS11F Date Calculated: 2/7/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	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





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

10 Days PAGE 1

CHAIN OF CUSTODY RECORD

[im3Plant-WDR-293]

[im3Plant-WDR-293]

[im3Plant-WDR-293]

•																		
COMPANY	E2									/	/	/		/		/		
PROJECT NAME	PG&E Topock			-				<u></u>										COMMENIS
PHONE	(530) 229-3303		FAX (530) 339-3303	339-3303		_	<u></u>	\									_	
ADDRESS	155 Grand Ave Ste 1000	Ste 1000	ł		•		(100 WV		\		<u></u>					VINERS		
	Canadia, O. S.	710				-) / _{P84}	?() e	\	\	_	_	_	<u> </u>	_		IN		
P.O. NUMBER	408401.01.DM		TEAM		- 1 Q	(2'00	ovelo		(08)							೦೨ಕ		
SAMPLERS (SIGNATURE	TURE			1	e7 (9'8	S) sjeje	npuon		ZWS) A						93	ديد 0		
SAMPLE		DATE	T#I	DESCRIPTION /	Cre (21)	M ISOTA Specific	S Decino		JubidiuT		_	_			BWUN			
SC-700B-WDR-293	1-293	01/25/11	00:14	Water	×	××	×	╁		}	lacksquare		1	-	3		7 = 110	7 (200.7)
Martin Company of the	Andreas of the contract of the														ω	TOTAL	NUMBER	FOTAL NUMBER OF CONTAINERS



H	CHAIN OF CUSTODY SIGNATI	GNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed Name Now 1999	Company/	Date/ /・・スラー (/ Time / から	RECEIVED COOL THE WARM THE FOLL OF
Signature Received) And On U. C. Name	Printed Roland	Company/ T. L. I	Date/ / - スター / / Time / くころ	CUSTODY SEALED YES \(\Boxed{\omega}\) NO \(\Boxed{\omega}\)
Signature (Relinquished)	Printed A	Company/ T. T. Agency	Date// - 25-7/	SPECIAL REQUIREMENTS;
Signature () (Received) Auda	Printed ()	Company/ 77. Z Agency	Date/ 1/25/1/ 1/1:30	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Tíme	

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
0/21/11	993206-1	95	2/6	NA	12/4	SB
		İ	ì	ì		ĺ
	-3					
	-7					
	-5			l		
↓	V -6	b	4	4	*	₽
01/21/11	993223-1	9.5	N/A	AZ	N/A	SIS
	1 -2		, l	ĺ	(
	3					
Y	₩ -4	7	V	1	4	₩
01/26/11	993 2 94	7.0	2.00	9,5	8:30	SB
01/26/11:	993295-1	9.5	5.00 N/A	44	A/A	ТZ
	-3			<u> </u>		
·	-3					
	-5					
	-6 -7					
	-7					
	-8					
W	-9	∀	÷	1	4	7
01/26/11	993296 -1	9.5	N/A	N/A	A/A	SB
	-2					
<u> *</u>	₩ -3	<u> </u>	4	<u> </u>	4	<u> </u>
01/26/11	993294-1	9.5	ALG	ALG	A/W	SB
	-2			1		
	-3 -4					
	-4					
	-5					
	-6 -7					
4	₩ -8	4	<u> </u>	<u> </u>	4	4

Turbidity/pH	Check
--------------	-------

Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
493300		72	1/27/11	ES	N/o	
993316		42	177711		1	,
993280 11-101	Solid		1/26/11	H. M	Yes	TILC
993128	Solid		1/28/11	M. H	yes	TCLX
			1128/11	M.M	Yes	TCLP
993330	Sold		1123/11	KM	/es	TOLP
	Soll	42	1/27/11	KK-	10	7627
aq 3301 (1-14)) 41		11557	12-	NO -	
492321 (1-6)	<u> </u>	12			 W	ici
195150(TV)	41		1/27/11	K K-	No	
9931801(1-8)	4	12	1127111	上生	NO	(4, 7)(4,240)
193360 (1-2)	41	72	1/29/11	<i>E</i>		yes a/1/2000.00
1/0 993296(1-2)	21	Z2_	1/28/11	ES	No	
TID 993 297(1,6)	41	42	ļ		W/SI	
T/D 993298(1-9)	21	12	1 ,		Jet (-7,8)	
442928	21	12	127/11	94	yes	
993206 (16)	4	12	1/28/11	FE_	H48/ NO	1001
993258 (1,24)		-> 2	<u> </u>	1	No	1/28/11 (4)
993292 (+2)	41	>2 42			No	1/28/11 Y
99.3294	4	42		<u> </u>	No	4 '
493295 (1-9) 41	42		V	NO	
993298 (1-9	1 4 (42_			No	
99299 (2-8	1 41	42	1	j\	No	
993300 (1-9)	4	42			No	
993353 (1-3	> 41	4-2	, ,		No	
99299911-3	ZI	72	11111	ES	No	yu2 9:00 a.m
993324 (1-6)	7 21	42	2/01/11	KK	Nö	
993357 (1-5)	41	<u> </u>	1	1	No	
943357 (1-6)	4	42			No	
993358 (1-9)	21	<u> </u>			No	
993354 (1-8	41	42			No	
993355(124		42			100	
993356 (13-1		<u> </u>	1		No	
993376(1-5)	21	42			N/6	
993377 (1-6	21	12			100	
993379(1-3.5		47		 	A h	
<u> </u>	3 2	42 42 42 42			126 125 126 126	
	7 / 1	42	+		No	
993381		42	2/1/11	EK	100	VP 3pm 2/1/1
	13) < 1		2610	<u> </u>	100	AK SAW-111
993378(1-	3) 41	<u> 42</u>	2/241	V	No	
993 887	<u> </u>	42	12/2/11	-E>	///	
388		<u> </u>		1		
426	+ .			 [
427	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	+		<u> </u>	1	11111
444 (1-3)	3 /	72	1-1-	1-1	+4	Mr. 230 his
460 (1-2)	1 41	72		<u> </u>	+	V
462	17 F	22	 /	 	7:5A	
463	1 71	1 42	لا	1,4	$+\mathcal{U}$	
.994443 (1-5		12	2 41	WF	170	
993002-0	1 4	12	1/3/11	IRK_	⊥yrs	
			1 1		Ÿ	



Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u> </u>	Lab # <u>99</u>	93294
Date	e Delivered: <u>0/≀25</u> /11 Time: <u>2/:3</u> 0 By: □Mail ØF	Field Service	□Client
1.	Was a Chain of Custody received and signed?	Ø1Yes □No	o □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	⊅ ÆIN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No	o ⊠N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	D PAN∕A
5.	Were all requested analyses understood and acceptable?	⊈Ves □No	DN/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>4.9°C</u>	ØYes □No	DN/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	QYes □No	⊃ <i>N/A</i>
8.	Were sample custody seals intact?	□Yes/□No	o ⊠ N/A
9.	Does the number of samples received agree with COC?	X Yes □No	□N/A
10.	Did sample labels correspond with the client ID's?	dYes □No	□N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	□Yes □No	ĎN/A
12.	Were samples pH checked? pH = $See\ C.\ O.\ C$.		□ <i>N/A</i>
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	⊠(Yes □No	□ <i>N/A</i>
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ப RUSH ்டி Std	QYes □No	□ <i>N/A</i>
15.	Sample Matrix: □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid		
16.	Comments:		
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Luda	

M:\Discrp.FormBlank.doe

3

Analytical Bench Log Book

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.

WDR pH Results

Sample Name	Date of sampling	Date Time Da of of sampling sampling	Date of analysis	ate Time of of lysis analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date Time PH meter Calibrated Calibrated	Date Time Slope PH meter of the Calibrated Calibrated Curve	Slope of the Curve	Analyst Name (for the pH result)	pH Result
7-1 0681 11-4-1 9820 1-4	11-4-1	0881	11-1-1	1333	11-11-11 1400 1111 8881 11-4-11		4.30 Sug	54.9	M HASIN	8

25.408 war 190 1-4-11 1336 MESTER#1 1-4-11 4:30 -549 K PARLOS

56-70/WOLDGO 1-4-11 1339 METER#1 1-4-11 4:30 -54.9 X 146.03 : ntes 1-11-11 14:15 1-11-11 14:20 Malest 1-11-11 5:00 54:7 16:4 C.108 30,00

25.5 400 1-18-11 730 1-18-11 735 METERE, 1-18-11 15 Sc. 1008 r cites:

1.25-11/400 1-25-11/406 METERA 1.25-11 3:30 -54.5 (18-100B Nutes:

Vites:

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

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-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.

to / Mona Nassimi

Manager, Analytical Services

For K.R.P. Iyer

Quality Assurance/Quality Control Officer

Ali Kharraf

EXCELLENCE IN INDEPENDENT TESTING

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

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

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	lordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	lordan 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	lordan 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

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Established 1931

Date Received: February 1, 2011 Revision 2; April 5, 2011

Laboratory No.: 993429

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

Oakland, CA 94612

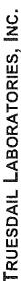
Attention: Shawn Duffy

Project Name: PG&E Topock Project

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

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	Q	ug/L	50.0
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	BORON	1020	ng/L	200
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	Iron	Q	ug/L	20.0
993429-001	SC-700B-WDR-294	E200.7	NONE	2/1/2011	10:30	Zinc	S	ng/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NON	2/1/2011	10:30	Antimony	Q	ng/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Arsenic	Q	ng/L	1.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Barium	11.8	ng/L	10.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Chromium	Q	ng/L	1.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Copper	Q Q	ng/L	5.0
993429-001	SC-700B-WDR-294	E200.8	NONE	2/1/2011	10:30	Lead	Q	ng/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	Q	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	Q Q	NTC	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	Q	mg/L	0.500
993429-001	SC-700B-WDR-294	SM4500NO2B	NONE	2/1/2011	10:30	Nitrite as N	Q	mg/L	0.0050



TRUESDAI

		Analysis	Extraction	Sample	Sample		Revision 3;	Revision 3; April 12, 2011	
Lab Sample ID	Field ID	Method	Method	Date	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	QN	תמ/ן	50.0
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	BORON	1000	l /bn	200
993429-002	SC-100B-WDR-294	E200.7	LABFLT	2/1/2011	10:30	Iron	Q	J/Bn	20.0
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	Iron	2	1/8n	20.0
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	Zinc	S] /DI	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Antimony	2	1,81 1/0/1	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Arsenic	3.2	na/r	2.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Barium	28.8	ng/L	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Chromium	1060	na/L	2.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Copper	Q	ng/L	5.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Lead	QN	J/Bn	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Manganese	10.5]/UI	2.0
993429-002	SC-100B-WDR-294	E200.8	LABFLT	2/1/2011	10:30	Manganese	9.0	J/Sn	0.1
993429-002	SC-100B-WDR-294	E200.7	NONE	2/1/2011	10:30	Molybdenum	21.5	ng/L	10.0
993429-002	SC-100B-WDR-294	E200.8	NONE	2/1/2011	10:30	Nickel	Q	na/L	10.0
993429-002	SC-100B-WDR-294	E218.6	LABFLT	2/1/2011	10:30	Chromium, hexavalent	1060	ng/L	21.0
993429-002	SC-100B-WDR-294	E300	NONE	2/1/2011	10:30	Fluoride	2.28	ma/L	0.500
993429-002	SC-100B-WDR-294	E300	NONE	2/1/2011	10:30	Nitrate as N	3.44	ma/l	1 00
993429-002	SC-100B-WDR-294	E300	NONE	2/1/2011	10:30	Sulfate	622	T/Sm	25.0
993429-002	SC-100B-WDR-294	SM2130B	NONE	2/1/2011	10:30	Turbidity	Q		0.100
993429-002	SC-100B-WDR-294	SM2320B	NONE	2/1/2011	10:30	Alkalinity	151	ma/l	5 00
993429-002	SC-100B-WDR-294	SM2320B	NONE	2/1/2011	10:30	Bicarbonate	151	T/Sm	5.00
993429-002	SC-100B-WDR-294	SM2320B	NONE	2/1/2011	10:30	Carbonate	QN	ma/L	5.00
993429-002	SC-100B-WDR-294	SM2540C	NONE	2/1/2011	10:30	Total Dissolved Solids	4820 .1	l /bm	125
993429-002	SC-100B-WDR-294	SM4500-NH3 B	NONE	2/1/2011	10:30	Ammonia-N	Q	ma/L	0.500
993429~002	SC-100B-WDR-294	SM4500NO2B	NONE	2/1/2011	10:30	Nitrite as N	2	ma/l	0.0050
993429-002	SC-100B-WDR-294	SM4500-PB_E	NONE	2/1/2011	10:30	Total Phosphorous-P	2	ma/l	0.200
993429-002	SC-100B-WDR-294	SM4500SI	NONE	2/1/2011	10:30	Soluble Silica	22.8	ma/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" rute has been applied to all results: Results befow 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. 993429

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Revised

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

Field ID				Lab ID	Col	lected	Matri	x
SC-700B-WDR-294				993429-001		/2011 10:30	Wate	
SC-100B-WDR-294				993429-002	02/01	/2011 10:30	Wate	er
Anions By I.C EPA 3	00.0		Batch	02AN11C				
Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
993429-001 Fluoride		mg/L	02/02	/2011 10:27	5.00	0.0600	0.500	1,69
Nitrate as Nitr	ogen	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 Nitr	ogen	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	I	RPD	Accepta	ance 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	Accepta	ance Range
Sulfate	mg/L	50.0	626.	622		0.563	0 - 20	



Client: E2 Consulting Eng	jineers, Inc		oject Name: oject Number	PG&E Topock Pro :: 408401.01.DM	ject	Page 2 of 29 Printed 4/5/2011 Revised
Duplicate						Lab ID = 993448-001
Parameter Chloride Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.00	RPD 0	Acceptance Range 0 - 20
Parameter Chloride Fluoride Sulfate Nitrate as Nitrogen Matrix Spike	Unit mg/L mg/L mg/L mg/L	DF 1.00 1.00 1.00 1.00	Result 3.92 4.08 20.2 4.00	Expected 4.00 4.00 20.0 4.00	Recovery 98.0 102 101. 100.0	Acceptance Range 90 - 110 90 - 110 90 - 110 90 - 110 Lab ID = 993429-001
Parameter Fluoride Nitrate as Nitrogen Matrix Spike	Unit mg/L mg/L	DF 5.00 5.00	Result 12.3 25.0	Expected/Added 11.7(10.0) 23.2(20.0)	Recovery 106. 109.	Acceptance Range 85 - 115 85 - 115 Lab ID = 993429-002
Parameter Sulfate Matrix Spike	Unit mg/L	DF 50.0	Result 1090	Expected/Added 1120(500.)	Recovery 93.3	Acceptance Range 85 - 115 Lab ID = 993448-001
Parameter Chloride MRCCS - Secondary	Unit mg/L	DF 1.00	Result 1.93	Expected/Added 2.00(2.00)	Recovery 96.6	Acceptance Range 85 - 115
Parameter Chloride Fluoride Sulfate Nitrate as Nitrogen MRCVS - Primary	Unit mg/L mg/L mg/L mg/L	DF 1.00 1.00 1.00 1.00	Result 3.94 4.10 20.2 3.99	Expected 4.00 4.00 20.0 4.00	Recovery 98.4 102. 101. 99.8	Acceptance Range 90 - 110 90 - 110 90 - 110 90 - 110
Parameter Chloride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.17	Expected 3.00	Recovery 106.	Acceptance Range 90 - 110
Parameter Chloride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.19	Expected 3.00	Recovery 106.	Acceptance Range 90 - 110
Parameter Chloride	Unit mg/L	DF 1.00	Result 2.92	Expected 3.00	Recovery 97.3	Acceptance Range 90 - 110



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Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/5/2011

NUMBER OF ARRANGE OF	Datab	02NO211C
Nitrite SM 4500-NO2 B	Daton	UZNUZITU

1411116 OH 4000-1402 D			- 0.00.					and the second second
Parameter		Unit	Analy	yzed [)F	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 = 9	993429-001
Parameter	Unit	DF	Result	Expected	R	RPD	Acceptar	nce Range
Nitrite as Nitrogen	mg/L	1.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	Recovery	Acceptar	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0379	0.0400		94.8	90 - 110	
Matrix Spike							Lab ID = 9	993429-001
Parameter	Unit	DF	Result	Expected/Adde	d R	Recovery	Acceptai	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0199	0.0200(0.0200)		99.5	75 - 125	w.
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0194	0.0200		97.0	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce 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	Ana	lyzed	DF	MDL	RL	Result
993429-002 Alkalinity as Ca	CO3	mg/L	02/02	/2011	1.00	1.68	5.00	151
Bicarbonate (Ca	alculated)	mg/L	02/02	/2011	1.00	0.153	5.00	151
Carbonate (Cal	culated)	mg/L	02/02	/2011 -	1.00	0.153	5.00	ND
Method Blank								
Parameter	Unit	DF	Result					
Alkalinity as CaCO3	mg/L	1.00	ND					
Duplicate							Lab ID = 9	993443-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Alkalinity as CaCO3	mg/L	1.00	176	174		1.14	0 - 20	_
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Alkalinity as CaCO3	mg/L	1.00	102	100.		102	90 - 110	
Matrix Spike							Lab ID = :	993443-003
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accepta	nce Range
Alkalinity as CaCO3	mg/L	1.00	320.	324(100.)		96.0	75 - 125	_
Matrix Spike Duplica	te						Lab ID = !	993443-003
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accepta	nce Range
Alkalinity as CaCO3	mg/L	1.00	322	324(100.)		98.0	75 - 125	_



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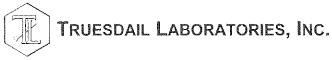
Project Name: PG&E Topock Project

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Specific Conductivity - E	PA 120.1		Batch	02EC11B			2/9/2011	
Parameter	v e °	Unit	Ana	lyzed	DF	MDL	RL	Result
993429-001 Specific Conducti	vity	umhos/	cm 02/09	/2011	1.00	0.0380	2.00	7240
993429-002 Specific Conducti	vity	umhos/	cm 02/09	/2011	1.00	0.0380	2.00	8070
Method Blank								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	993435-002
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 3800	Expected 3800	F	RPD 0.00	Accepta 0 - 20	ance Range
•	1.1-44	DF	Result	Expected		Recovery	Accont	ance Range
Parameter Specific Conductivity	Unit umhos	1.00	712	706	ı	101.	90 - 11	_
Lab Control Sample Do	uplicate							
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 704	Expected 706	F	Recovery 99.7	Accept: 90 - 11	ance Range 0
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 715	Expected 706	i	Recovery 101.	Accept 90 - 11	ance Range 0
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 994	Expected 999	i	Recovery 99.5	Accept 90 - 11	ance Range 0
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 991	Expected 999		Recovery 99.2	Accept 90 - 11	ance Range 0



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Project Name:

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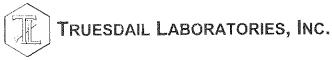
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Chrome VI by EPA 218.6

Batc	h 02	2CrH	11C

The state of the s								
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993429-001 Chromium, Hexa	valent	ug/L	02/02	2/2011 12:41 1	.05	0.0210	0.20	0.21
993429-002 Chromium, Hexa	valent	ug/L	02/02	2/2011 11:56 1	05	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	j	RPD		ance Range
Chromium, Hexavalent Lab Control Sample	ug/L	105	1060	1060		0.353	0 - 20	
Parameter	Unit	DF	Result	Expected	ŀ	Recovery	Accepta	ance 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/Adde	ed l	Recovery	•	ance Range
Chromium, Hexavalent	ug/L	1.06	9.66	9.37(5.30)		105.	90 - 110	
Matrix Spike			_			_		993321-006
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 9.09	Expected/Adde 8.81(5.30)	ed I	Recovery 105.	Accepta 90 - 110	ance Range
Matrix Spike	ug/L	1.00	3.03	0.01(0.50)		105.		993428-001
Parameter	Unit	DF	Result	Expected/Adde	.d [Recovery		ance Range
Chromium, Hexavalent	ug/L	1.08	38.5	37.0(21.6)	ju i	107.	90 - 110	-
Matrix Spike	-			, ,			Lab ID =	993429-001
Parameter	Unit	DF	Result	Expected/Adde	ed f	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	5.25	6.11	5.68(5.25)		108.	90 - 110	-
Matrix Spike							Lab ID =	993429-001
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.36	Expected/Adde 1.27(1.06)	ed l	Recovery 108.	Accepta 90 - 110	ance Range
Matrix Spike	Ü			` '				993429-002
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accepta	ance Range
Chromium, Hexavalent MRCCS - Secondary	ug/L	105	2740	2640(1580)		106.	90 - 110	
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.00	5.09	5.00		102.	90 - 110	_



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PG&E Topock Project

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						Revised	
Metals by EPA 200.7, Tot	al		Batch	030111A-Th			e de la companya de
Parameter		Unit	Anal	yzed D	F MDL	RL	Result
993429-001 Aluminum		ug/L	03/01	/2011 13:00 1.0	00 2.83	50.0	ND
Boron		ug/L	03/01	/2011 13:00 1.0	00 5.00	200.	1020
Molybdenum		ug/L	03/01	/2011 13:00 1.0	0.300	10.0	16.1
Zinc		ug/L	03/01	/2011 13:00 1.0	00 2.00	10.0	ND
993429-002 Aluminum		ug/L	03/01	/2011 13:24 1.0	00 2.83	50.0	ND
Boron		ug/L	03/01	/2011 13:24 1.0	5.00	200.	1000
Molybdenum		ug/L	03/01	/2011 13:24 1.0	0.300	10.0	21.5
Zinc		ug/L	03/01	/2011 13:24 1.0	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	Accepta	ance 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	•	ance Range
Aluminum	ug/L	1.00	4920	5000	98.5	90 - 11	
Zinc	ug/L	1.00	4880	5000	97.7	90 - 11	
Boron	ug/L	1.00	4650	5000	93.0	90 - 11	
Molybdenum	ug/L	1.00	4810	5000	96.3	90 - 11	
Matrix Spike						Lab ID =	993429-001
Parameter	Unit	DF	Result	Expected/Adde	-	•	ance Range
Aluminum	ug/L	1.00	1850	2000(2000)	92.7	75 - 12	
Zinc	ug/L	1.00	1830	2000(2000)	91.5	75 - 12	
Boron	ug/L	1.00	2810	3020(2000)	89.4	75 - 12	5

1870

1.00

ug/L

Molybdenum

2020(2000)

92.7

75 - 125



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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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 Expected RPD Acceptance Range Duplicate Unit DF Result Expected RPD Acceptance Range Iron ug/L 1.00 ND 0.00 0<	Metals by EPA 200.7, To	otal		Batch	021711B				
993429-002 Iron	Parameter		Unit	Anal	lyzed	DF	MDL	RL	Result
Method Blank Parameter Unit DF Result Parameter Unit DF Result Expected RPD Acceptance Range Iron Unit DF Result Expected RPD Acceptance Range Iron Unit DF Result Expected Recovery Acceptance Range Iron Unit DF Result Expected/Added Recovery Acceptance Range Iron Unit DF Result Expected/Added Recovery Acceptance Range Iron Unit DF Result Expected Recovery Acceptance Range Iron Unit DF Result Exp	993429-001 Iron		ug/L	02/17	/2011 17:03 1	.00	3.00	20.0	ND
Parameter	993429-002 Iron		ug/L	02/17	/2011 17:38 1	.00	3.00	20.0	ND
Tron	Method Blank								
Duplicate	Parameter	Unit	DF	Result					
Parameter Iron Unit ug/L DF ug/L Result ug/L Expected 0.00 0 RPD 0.00 0 Acceptance Range 0-0 Lab Control Sample Parameter Unit ug/L DF 1.00 5040 5000 101. Recovery Acceptance Range 101. Acceptance Range 101. Besult 1.00 5040 5000 101. Recovery Acceptance Range 101. Acceptance Range 101. Besult 1.00 101. Expected/Added Recovery 2.000(2000) 99.0 75-75 Acceptance Range 101. Acceptance Range 101. Acceptance Range 101. Besult 1.00 101. Expected Recovery 3.000(2000) 99.0 75-75 Acceptance Range 101. Acceptance Range 101. Acceptance Range 101. Besult 1.00 101. Expected Recovery 101. Acceptance Range 101. <		ug/L	1.00	ND					
Iron	Duplicate							Lab ID =	993429-001
Lab Control Sample Parameter Unit ug/L DF (1.00) Result 5000 Expected 5000 Recovery 101. Acceptance Range 90 - 110 Iron Matrix Spike Frameter Unit ug/L DF Result 1.00 Expected/Added 2000(2000) Recovery 99.0 Acceptance Range 75 - 75 Iron ug/L 1.00 1980 2000(2000) 99.0 75 - 75 MRCCS - Secondary V The Secondary Recovery 99.0 Acceptance Range 75 - 75 Parameter Unit ug/L 1.00 5050 5000 101 90 - 110 MRCVS - Primary Parameter Unit ug/L DF Result Expected Recovery Acceptance Range 90 - 110 90 - 110 MRCVS - Primary Parameter Unit ug/L DF Result Expected Recovery 90 - 110 90 - 110 Parameter Unit ug/L 1.00 5080 5000 102 90 - 110 Interference Check Standard A Parameter Unit ug/L DF Result Expected Recovery 2000 Acceptance Range 80 - 120 Interference Check Standard A Parameter	Parameter	Unit	DF	Result	Expected		RPD	Accepta	ance Range
Parameter	Iron	ug/L	1.00	ND	0.00		0	0 - 0	
Iron ug/L 1.00 5040 5000 101. 90 - 110 Lab ID = 993429-001	Lab Control Sample								
Matrix Spike Lab ID = 993429-001 Parameter Iron Unit ug/L DF nesult ug/L Expected/Added 2000(2000) Recovery p9.0 Acceptance Range 75 - 75 MRCCS - Secondary Wint ug/L DF nesult 1.00 Expected Recovery 101 Acceptance Range 101 Iron ug/L Unit ug/L DF nesult 1.00 Expected Recovery 101 Acceptance Range 101 Iron ug/L 1.00 5000 102 90 - 110 MRCVS - Primary Frimary Wint ug/L Expected Recovery 102 Acceptance Range 102 Iron ug/L 1.00 5080 5000 102 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery 200 Acceptance Range 102 Iron ug/L 1.00 2090 2000 102 90 - 110 Parameter Unit Ug/L 1.00 2090 2000 104 80 - 120 Iron ug/L 1.00 2210 2000 111 80 - 120 Iron ug/L 1.00 2210 2000 111 80 - 120 Iron ug/L 1.00 2	Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Parameter Iron Unit ug/L DF ug/L Result 1.00 Expected/Added 2000(2000) Recovery 99.0 Acceptance Range 75 - 75 MRCCS - Secondary Parameter Unit DF Result Iron Unit Unit DF Result Expected Person Into Interference Check Standard AB Expected Recovery Person Into Interference Check Standard AB Acceptance Range Person Into Interference Check Standard AB Expected Recovery Person Into Interference Check Standard AB Acceptance Range Person Into Interference Check Standard AB Expected Recovery Person Interference Check Standard AB Acceptance Range Person Interference Check Standard AB Acceptance Range Person Interference Check Standard AB Expected Recovery Person Interference Check Standard AB Acceptance Range Person	Iron	ug/L	1.00	5040	5000		101.	90 - 11	0
Iron ug/L 1.00 1980 2000(2000) 99.0 75 - 75 MRCCS - Secondary Parameter Unit ug/L DF Result Expected Recovery 101 Acceptance Range 101 Iron ug/L 1.00 5050 5000 101 90 - 110 Parameter Unit ug/L DF Result Expected Recovery 200 Acceptance Range 100 Iron ug/L 1.00 5080 5000 102 90 - 110 Interference Check Standard A Parameter Unit ug/L DF Result Expected Recovery 2000 Acceptance Range 100 Interference Check Standard A Parameter Unit ug/L DF Result Expected Recovery Acceptance Range 110 Acceptance Range 110 Iron ug/L 1.00 2000 101 80 - 120 Interference Check Standard A Parameter Unit ug/L DF Result Result Expected Recovery Acceptance Range 111 80 - 120 Interference Check Standard AB Parameter </td <td>Matrix Spike</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Lab ID =</td> <td>993429-001</td>	Matrix Spike							Lab ID =	993429-001
MRCCS - Secondary Parameter Unit ug/L DF note of the parameter of the parameter Unit ug/L DF note of the parameter of the	Parameter	Unit	DF	Result	Expected/Adde	ed	Recovery	Accepta	ance Range
Parameter Iron Unit ug/L DF ug/L Result 5050 Expected 5000 Recovery 101 Acceptance Range 90 - 110 MRCVS - Primary Parameter Unit ug/L DF ug/L Result Expected 5000 Recovery 102 Acceptance Range 90 - 110 Iron ug/L 1.00 5100 5000 102 90 - 110 Parameter Iron ug/L Unit ug/L DF Result Expected 7000 Recovery 102 Acceptance Range 90 - 110 Interference Check Standard A Parameter Unit ug/L 1.00 2090 2000 Expected 700 Recovery 100 Acceptance Range 80 - 120 Interference Check Standard A Parameter Unit DF Result Expected 700 Recovery 100 Acceptance Range 80 - 120 Iron ug/L 1.00 2210 2000 111. 80 - 120 80 - 120 Interference Check Standard AB Expected 8000 111. Recovery 8000 111. Acceptance Range 80 - 120 Parameter Unit DF Result Expected 8000 111. Recovery 9000 111. Acceptance Range 80 - 120 Interference Check Standard AB Expected 8000 111. Recovery 9000 111. Acceptance Range 80 - 120	Iron	ug/L	1.00	1980	2000(2000)		99.0	75 - 75	
Iron	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 5080 5000 102. 90 - 110 Interference Check Standard A Parameter Unit DF Result Expected Recovery Acceptance Range Iron ug/L 1.00 2090 2000 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 2210 2000 111. 80 - 120 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range Interference Check Standard AB	Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Parameter Unit DF Result Expected Recovery Acceptance Range 100 102 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range 1ron ug/L 1.00 5080 5000 102. 90 - 110 Interference Check Standard A Parameter Unit DF Result Expected Recovery 90 - 110 Interference Check Standard A Parameter Unit DF Result Expected Recovery Acceptance Range 1ron ug/L 1.00 2090 2000 104. 80 - 120 Interference Check Standard A Parameter Unit DF Result Expected Recovery Acceptance Range 1ron ug/L 1.00 2210 2000 111. 80 - 120 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range 1ron ug/L 1.00 2210 2000 111. 80 - 120 Interference Check Standard AB	Iron	ug/L	1.00	5050	5000		101	90 - 11	0
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 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 2210 2000 111. 80 - 120	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 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 Expected Recovery Acceptance Range Iron Result Expected Recovery Acceptance Range Iron Result Expected Recovery Acceptance Range Iron Result Expected Recovery Acceptance Range	Parameter	Unit	DF	Result	Expected		Recovery	•	_
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 2210 2000 111. 80 - 120 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range	Iron	ug/L	1.00	5100	5000		102	90 - 11	0
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 2210 2000 111. 80 - 120 Interference Check Standard AB	MRCVS - Primary								
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 2210 2000 111. 80 - 120 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range	Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Parameter Unit DF Result Expected Recovery Acceptance Range 100 100 2090 2000 104. 80 - 120 Interference Check Standard A Parameter Unit DF Result Expected Recovery Acceptance Range 100 111. 80 - 120 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range 111. 80 - 120 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range	iron	ug/L	1.00	5080	5000		102.	90 - 11	0
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	Interference Check S	Standard A							
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	Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
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	2090	2000		104.	80 - 12	0
Iron ug/L 1.00 2210 2000 111. 80 - 120 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range	Interference Check S	Standard A							
Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range	Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Parameter Unit DF Result Expected Recovery Acceptance Range	Iron	ug/L	1.00	2210	2000		111.	80 - 12	0
	Interference Check S	Standard AB							
Iron ug/L 1.00 2040 2000 102. 80 - 120	Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
	Iron	ug/L	1.00	2040	2000		102.	80 - 12	0



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

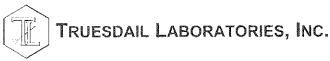
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Parameter		Unit	Analyzod	DF	MIDI	ום	Doguil
raiametei		UIII	Analyzed	DF	MDL	RL	Result
993429-001	Antimony	ug/L	02/04/2011 21:23	5.00	0.190	10.0	ND
	Arsenic	ug/L	02/04/2011 21:23	5.00	0.260	1.0	ND
	Barium	ug/L	02/04/2011 21:23	5.00	0.185	10.0	11.8
	Chromium	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



Client: E2 Consulting Eng	ineers, Inc		oject Name: oject Number:	PG&E Topock Pro 408401.01.DM	ject	Page 15 of 29 Printed 4/5/2011 Revised
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	00.0	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



Client: E2 Consulting En	gineers, Inc.		oject Name: oject Number	PG&E Topock Pro : 408401.01.DM	ject	Page 16 of 29 Printed 4/5/2011 Revised
Matrix Spike Duplicate	Э					Lab ID = 993429-001
Parameter Arsenic	Unit ug/L	DF 5.00	Result 242.	Expected/Added 250.(250.)	Recovery 96.9	Acceptance Range 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	-9-			, ,		
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



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Reactive Silica by SM4500-Si D Batch 02Si11A 2/4/2011

Parameter		Unit	An:	alyzed	DF	MDL	RL	Result
993429-002 Silica		mg/L	02/0	4/2011	25.0	0.350	1.00	22.8
Method Blank							1,00	22.0
Parameter Silica	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID =	993448-001
Parameter Silica Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.00		RPD 0	Accepta 0 - 20	ance Range
Parameter Silica Matrix Spike	Unit mg/L	DF 1.00	Result 0.864	Expected 0.800		Recovery 108.	90 - 110	ance Range) 993448-001
Parameter Silica MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.381	Expected/Ac 0.400(0.400		Recovery 95.3		ance Range
Parameter Silica MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.431	Expected 0.400		Recovery 108.	Accepta 90 - 110	ance Range)
Parameter Silica	Unit mg/L	DF 1.00	Result 0.406	Expected 0.400		Recovery 102.	Accepta 90 - 110	ince Range
Total Dissolved Solids I	oy SM 2540	0 C	Batch	02TDS11F			2/8/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993429-001 Total Dissolved	Solids	mg/L	02/07	7/2011	1.00		250.	3890
Method Blank								5000
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND					
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 3070	Expected 3120		RPD 1.62		993428-001 nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 484	Expected 500.		Recovery 96.8	Accepta: 90 - 110	nce Range

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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Total Dissolved Solids b	y SM 254	0 C	Batch	04TDS11C	.,		4/8/2011		
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
993429-002 Total Dissolved	Solids	mg/L	04/08	3/2011	1.00	0.434	125	4820	- J
Method Blank						······			-
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND						
Duplicate							Lab ID = 9	993429-002	
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4940	Expected 4820	F	RPD 2.36	Accepta 0 - 5	nce Range	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 485	Expected 500.	F	Recovery 97.0	Acceptai 90 - 110	nce Range	



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Total Organic Carbon (T/DOC) SM 5310 C

Batch 02TOC11A

Total Oldanic Carpon (1)	DOC! SW	1 23 10 C	Datu	I UZTOCTIA				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993429-002 Total Organic Ca	rbon	mg/L	02/08	3/2011 21:08 1	.00	0.0250	0.300	0.790
Method Blank								****
Parameter Total Organic Carbon Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID =	993355-006
Parameter Total Organic Carbon Lab Control Sample	Unit mg/L	DF 1.00	Result 1.92	Expected 1.81	F	RPD 5.79	Accepta 0 - 20	nce Range
Parameter Total Organic Carbon Matrix Spike	Unit mg/L	DF 1.00	Result 21.9	Expected 20.0	F	Recovery 109.	90 - 110	nce Range 993520-004
Parameter Total Organic Carbon MRCCS - Secondary	Unit mg/L	DF 1.00	Result 21.3	Expected/Adde 20.7(20.0)	d F	Recovery 103.	Accepta 75 - 125	nce Range
Parameter Total Organic Carbon MRCVS - Primary	Unit mg/L	DF 1.00	Result 10.6	Expected 10.0	F	Recovery 106.	Accepta 90 - 110	nce Range
Parameter Total Organic Carbon MRCVS - Primary	Unit mg/L	DF 1.00	Result 10.4	Expected 10.0	F	Recovery 104	Accepta: 90 - 110	nce Range
Parameter Total Organic Carbon	Unit mg/L	DF 1.00	Result 10.4	Expected 10.0	F	lecovery 104.	Accepta 90 - 110	nce Range



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Total Phosphate, SM 450	0-PB,E		Batch	02TP11A			2/9/2011	
Parameter		Unit	Anal	lyzed	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 Phosphate, Total As P	Unit mg/L	DF · 1.00	Result ND					
Duplicate							Lab ID = 9	93429-002
Parameter Phosphate, Total As P Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.00	F	RPD 0	Acceptar 0 - 20	nce Range
Parameter Phosphate, Total As P Matrix Spike	Unit mg/L	DF 1.00	Result 0.109	Expected 0.100	F	Recovery 109.	90 - 110	nce Range 193429-002
Parameter Phosphate, Total As P Matrix Spike Duplicate	Unit mg/L	DF 1.00	Result 0.0641	Expected/Adde 0.0650(0.0650		Recovery 98.6	75 - 125	nce Range 93429-002
Parameter Phosphate, Total As P MRCCS - Secondary	Unit mg/L	DF 1,00	Result 0.0631	Expected/Adde 0.0650(0.0650		Recovery 97.1	Acceptar 75 - 125	ice Range
Parameter Phosphate, Total As P MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0601	Expected 0.0600	F	Recovery 100.	Acceptar 90 - 110	nce Range
Parameter Phosphate, Total As P	Unit mg/L	DF 1.00	Result 0.0662	Expected 0.0650	F	Recovery 102.	Acceptar 90 - 110	ice Range



Unit

ug/L

Unit

Unit

ug/L

ug/L

DF

1.00

DF

1.00

DF

1.00

Result

46.0

Result

45.8

Result

46.9

Expected

Expected

Expected

50.0

50.0

50.0

Recovery

91.9

Recovery

91.6

Recovery

93.9

Report Continued

Client: E2 Consulting Engineers, Inc.

Metals by EPA 200.8, Dissolved

Parameter

Manganese

Parameter

Manganese

Parameter

Manganese

MRCVS - Primary

MRCVS - Primary

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Project Number: 408401.01.DM

Batch 020411C

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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 Manganese	Unit ug/L	DF 1.00	Result ND					
Duplicate	J						Lab ID =	993429-00
Parameter Manganese Lab Control Sample	Unit ug/L	DF 5.00	Result 2.80	Expected 3.01	I	RPD 7.34		ance Range
Parameter Manganese Matrix Spike	Unit ug/L	DF 1.00	Result 46.4	Expected 50.0	f	Recovery 92.7	90 - 110	ance Rang) 993429-00
Parameter Manganese Matrix Spike Duplicate	Unit ug/L	DF 5.00	Result 216.	Expected/Adde 253.(250.)	ed f	Recovery 85.4	75 - 125	ance Rang 5 993429-00
Parameter Manganese MRCCS - Secondary	Unit ug/L	DF 5.00	Result 217.	Expected/Adde 253.(250.)	ed f	Recovery 85.5	Accepta 75 - 125	ince Rang
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 45.7	Expected 50.0	F	Recovery 91.3	Accepta 90 - 110	ince Rangi)
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.8	Expected 50.0	F	Recovery 93.7	Accepta 90 - 110	ince Rangi

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.

037

Acceptance Range

Acceptance Range

Acceptance Range

90 - 110

90 - 110

90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Metals by 200.7, Dissolved

Batch 021711B

B								
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993429-002 Iron		ug/L	02/17	//2011 16:57 1	1.00 3.0	00	20.0	ND
Method Blank								
Parameter Iron	Unit ug/L	DF 1.00	Result ND					
Duplicate							Lab ID =	993540-002
Parameter Iron	Unit ug/L	DF 1.00	Result ND	Expected 0.00	RPD 0		Accepta 0 - 20	ince Range
Lab Control Sample Parameter Iron Matrix Spike	Unit ug/L	DF 1.00	Result 5040	Expected 5000	Reco 101	-	90 - 110	ince Range) 993540-002
Parameter Iron MRCCS - Secondary	Unit ug/L	DF 1.00	Result 1910	Expected/Adde 2000(2000)	ed Reco	-	Accepta 75 - 125	ince Range
Parameter Iron MRCVS - Primary	Unit ug/L	DF 1.00	Result 5050	Expected 5000	Reco 101	-	Accepta 90 - 110	ince Range
Parameter Iron MRCVS - Primary	Unit ug/L	DF 1.00	Result 5100	Expected 5000	Reco ^r 102	•	Accepta 90 - 110	ince Range
Parameter Iron Interference Check S	Unit ug/L	DF 1.00	Result 5080	Expected 5000	Reco ¹	•	Accepta 90 - 110	ince Range
Parameter Iron Interference Check S	Unit ug/L	DF 1.00	Result 2210	Expected 2000	Reco	•	Accepta 80 - 120	ince Range
Parameter Iron Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 2090	Expected 2000	Reco ¹	-	Accepta 80 - 120	ince Range
Parameter Iron	Unit ug/L	DF 1.00	Result 2040	Expected 2000	Recor 102	•	Accepta 80 - 120	nce Range

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039



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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040

Project Number: 408401.01.DM

Printed 4/12/2011

Interference Check St	tandard AB							
Parameter Iron	Unit ug/L	DF 1.00	Result 2160	Expected 2000	R	Recovery 108.	Accepta 80 - 120	nce Range
Turbidity by SM 2130 B			Batch	02TUC11C			2/2/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993429-001 Turbidity		NTU	02/02	2/2011	1.00	0.0140	0.100	ND
993429-002 Turbidity		NTU	02/02	2/2011	1.00	0.0140	0.100	ND
Method Blank								
Parameter Turbidity	Unit NT U	DF 1.00	Result ND					
Duplicate							Lab ID = !	993429-002
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0.00	R	RPD 0	Accepta 0 - 20	nce Range
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result 7.70	Expected 8.00	R	Recovery 96.2	Accepta 90 - 110	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.80	Expected 8.00	R	ecovery 97.5	Accepta 90 - 110	nce Range



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	Ana	lyzed	DF	MDL	RL	Result
993429-001 Ammonia as N		mg/L	02/04	l/2011 ·	1.00	0.0630	0.500	ND
993429-002 Ammonia as N		mg/L	02/04	1/2011	1.00	0.0630	0.500	ND
Method Blank					***************************************			
Parameter	Unit	DF	Result					
Ammonia as N	mg/L	1.00	ND					
Duplicate							Lab ID = 9	993429-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Ammonia as N	mg/L	1.00	ND	0.00		0	0 - 20	noo range
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	10.5	10.0		105.	90 - 110	ioo i tango
Matrix Spike							Lab ID = 9	93429-002
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Acceptar	nce Range
Ammonia as N	mg/L	1.00	5.70	6.00(6.00)		95.0	75 - 125	.ooagc
Matrix Spike Duplicate							Lab ID = 9	93429-002
Parameter	Unit	DF	Result	Expected/Adde	d F	Recovery	Acceptar	nce Range
Ammonia as N	mg/L	1.00	5.76	6.00(6.00)		96.0	75 - 125	ioo range
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	decovery	Accentar	ice Range
Ammonia as N	mg/L	1.00	5.76	6.00		96.0	90 - 110	ioo riango
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptar	ice Range
Ammonia as N	mg/L	1.00	5.89	6.00		98.2	90 - 110	

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

√or Mona Nassimi

Manager, Analytical Services





Calculations

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

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, 9	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	78.3882	78.3895	78.3895	0.0000	No	0.0013	13.0	25.0	ND	1
993428-1	20	49.3591	49.4216	49.4216	0.0000	No	0.0625	3125.0	125.0	3125,0	1
993428-2	10	48.1853	48.2323	48.2323	0.0000	No	0.0470	4700.0	250.0	4700.0	1
993429-1	10	49.7261	49.765	49.765	0.0000	No	0.0389	3890.0	250.0	3890.0	1
993429-2	10	51.5134	51.5814	51.5814	0.0000	No	0.0680	6800.0	250.0	6800.0	1550 (주 년년
QC1 1/19	100	68.1821	68.1956	68,1956	0.0000	No	0.0135	135.0	25.0	135.0	1
QC2	100	74.7175	74.7315	74.7315	0.0000	No	0.0140	140.0	25.0	140.0	1
PE1	100	76.5261	76,5392	76.5392	0.0000	No	0.0131	131.0	25.0	131.0	1
PE2 V	100	48,1918	48.2043	48.2043	0.0000	No	0.0125	125.0	25.0	125.0	1
993428-1D	20	110.2323	110.2937	110.2937	0.0000	No	0.0614	3070.0	125.0	3070.0	1
LCS	100	121.7176	121.766	121.766	0.0000	No	0.0484	484.0	25.0	484.0	1
LCSD										<u> </u>	1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$$

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)

Reviewer Printed Name

Reviewer Signature

TDS/EC CHECK

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

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
			ļ	
993428-1	5240	0.60	3406	0.92
993428-2	8720	0.54	5668	0.83
993429-1	7200	0.54	4680	0.83
993429-2	8080	0.84	5252	1.29
QC1		 	·	
QC2			: !	
PE1				
PE2				
993428-1D	5240	0.59	3406	0.90
LCS			<u> </u>	
			ļ	
			ļ	
			Armone measure. Westernament	
	<u> </u>			
			1	
[J			
	1		:	





Calculations

Batch: 04TDS11C

Date Calculated: 4/12/11

Laboratory Number	Sample volume, mi	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	112.3568	112.3588	112.3586	0.0002	No	0.0018	18,0	25.0	ND	1
994431-11	100	108.6473	108.704	108.704	0.0000	No	0.0567	567.0	25.0	567.0	1
994431-12	100	112.9756	113.0308	113.0307	0.0001	No	0.0551	551.D	25.0	551.0	 1
994496-1	50	67.7989	67.8832	67.8832	0.0000	No	0.0843	1686.0	50.0	1686.0	·· <u>··</u>
994496-2	50	67.7686	67.8077	67.8073	0.0004	Nο	0.0387	774.0	50.0	774.0	1
994496-3	50	73.0136	73.1125	73.1121	0.0004	No	0.0985	1970.0	50.0	1970.0	1
994136	10	67.7264	67.7718	67.7718	0.0000	No	0.0454	4540.0	250.0	4540.0	
994259	10	68.2275	68.2728	68.2727	0.0001	No	0.0452	4520.0	250.0	4520.0	1
994537-1	100	111.3960	111.439	111.439	0.0000	No	0.0430	430.0	25.0	430.0	' 1
994537-2	100	112.9000	112.9613	112.9608	0.0005	No	0.0608	608.0	25.0	608.0	1
993429-2	10	47.9736	48.0199	48.0196	0.0003	No	0.0460	4600.0	250.0	4600.0	1
994496-3D	50	76.2120	76.311	76.3108	0.0002	No	0.0988	1976.0	50.0	1976.0	<u>-</u> 1
LCS	100	110.3632	110.4117	110.4117	0.0000	No	0.0485	485.0	25.0	485.0	<u>-</u>
993429-2	20	68.2018	68.2981	68.2981	0.0000	No	0.0963	4815.0	125.0	4815.0	'1
993429-2D	20	65.9795	66.0782	66.0782	0.0000	No	0.0987	4935.0	125.0	4935.0	11
· · · · · · · · · · · · · · · · · · ·	1		OF THE PART OF THE STATE OF THE			FR 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.					
LCSD											1

Calculation as follows:

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)

alvst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

TDS/EC CHECK

Batch: 04TDS11C Date Calculated: 4/12/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	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			1	
993429-2	8120	0.59	5278	0.91
993429-2D	8120	0.61	5278	0.94



2/2/11

Date of Analysis: Start of Analysis:

Alkalinity by SM 2320B calculations

Er Center

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

Date Sampled:										***************************************	Date Calculated:		212/41	
Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL litrant to reach pH 0.3 unit Jower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as CaCO, (ppm)	CO3 Alkalinity as CaCO, (ppm)	OH Alkalinity as CaCO, (ppm)	Low Alkalinity as CaCO ₃
BLANK	202	50	200		0.0	0.05		1,0	5	QΝ	ON	CN	Q	
001	7.94	50	0.02		0.0	300		60.0	5	60.0	60.0	ON	DN	
ge2	8.01	50	0.02	I	0.0	3.10		62.0	rs.	62.0	62.0	QN	QN	
PEI	8.27	50	0.02		0.0	4.50		0.06	5	90'06	0.06	QN	ON	
PE2	8.28	- 20	0.02		0.0	4.50		90.0	5	90.0	90.0	QN	QN	
993360-7	8 09	50	0.02		0.0	5,00		100.0	5	100.0	100.0	ON CO	QN	
933303-20	8.72		0.02	9.0	10,0	3.65		73.0	αı	73.0	53.0	20	QN	
993429-2	7.71	- 20	0.02		0.0	7.55		151.0	ιΩ	151,0	151.0	NO	QN	
993443-2	7.28	- 20	0.02		0.0	8.70		174.0	ໝ	174.0	174.0	QN	QN	-
993443-3	7.29	- 20	0.02		0.0	11.20		224.0	2	224.0	224.0	QN	QN	
953444-7	808	50	0.02		0.0	4.90	100	98.0	જ	98.0	98.0	QN	Q	
993406-1	66.6	5	0.02	24	480.0	4.50		0,006	æ	900.0	QN ND	840	09	
993406-2	11.12	5	0.02	6.5	1290.0	12.25		2450.0	23	2450.0	ON	2320	130	
993443-2 DUP	7.28	90	0.02		0.0	8.80	13 13 15	176.0	5	176.0	176.0	QN	GN.	
993443-3 MS	9.95	. 50	0.02	2.0	40.0	16.00		320.0	co	320,0	240.0	80	QN	
993443-3 MS	08.6	. 20	20.0	2.1	41.0	16.10		322.0	5	322.0	240.0	82	ON	
And the comment of th														
				(i)			- 60							
ISON	10.25	50	0 02	2.3	45.0	5.10		102.0	5	102.0	12.0	08	GN	
LCS2			- C ()									QN		
Normalistic and the state of th														

Calculations as follows:

 $A \times N \times 50000$ T or P ==

mL sample T = Total Alkalinity, mg CaCO3/L

Where:

ND: Not Detected (below the reporting limit)

LCSD: Laboratory Control Standard Duplicate

MSD: Matrix Spike Duplicate

MS: Matrix Spike

MSD: Matrix Spike Dug

LCS: Laboratory Control Standard

P = Phenoiphthalein Alkalinity, mg CaCO3/L

N = normality of standard acid A = mL standard acid used

as mg/L CaCO3

 $(2 \times B - C) \times N \times 50000$ mL sample

Low Alkalinity:

Where: B = mL titrant to first recorded pH

C = total mL titrant to reach pH 0.3 unit lower

N = normality of standard acid

Reviewer Signature

Analyst Signature

Analyst Printed Name

Rec'd 02/01/11 Lab#:**9 9 34 2 9**

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

[iM3Plant-WDR-294]

Р PAGE 1 10 Days TURNAROUND TIME DATE 02/01/11 COC Number

COMMENTS 2- 70 NUMBER OF CONTAINERS Soluable Silica - Reactive (4500-Si Corb) 6 Dissolved Metals (200.7) Fe, Mn lab mered × × (300.0) F, NO3, SO4 TOC (5310 C) × × (4-0024) a letoT 常 \times Total Metals (200.7) See List Below × \times 70S (2540 c) × × EC (150.1) Alkalinity (2320-B) Cr(NI) (218.6) Lab Fillered × × × × DESCRIPTION FAX 530-339-3303 TIME 02/01/11 02/01/11 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 PG&E Topock IM3 530-229-3303 CH2M HILL Æ2 408401.01.DM SC-100B-WDR-294 SC-700B-WDR-294 SAMPLERS (SIGNATURE PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE

	CHAIN OF CUSTODY SIGNATU	IGNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed Name Sold Way	Company/	Date/ 2 - (- / / Time /5 : 30 **	RECEIVED COOL \blacksquare WARM \square 3.6 \degree $^{\circ}$ $^{\circ}$
Signature (Received) Kalau I) a u	UI Printed Ratary	Company/ \nearrow . \swarrow . \swarrow	Date/ 2 - 1 - 7 / Time / 5:30	CUSTODY SEALED YES NO
Signature (Relinquished)	Printed Comment	Company/ / / /	Date/ 2 - / - //	SPECIAL REQUIREMENTS:
Signature (Received)	Printed Living Name Living	Company/	Date/ 7-1, 5 C Time x///// 34/:34	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn,
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

TOTAL NUMBER OF CONTAINERS

K

120

Ų 1

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	A/14	12/4	NA	SR
<u> </u>	1 -2		,	N		
	-3					
	-4					
<u> </u>	1 -5	*	u u		4	1
01/28/11	993577-1	9.5	4/4	1/A	12/4	SB
	・・・・・ン		<u> </u>	\		1
	-3					
	4		·	·		
<u> </u>	¥ -5	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
01/28/11	993378-1	9.5	4/4	N/A	NA	32
_	1 2	_				
- - - - - - - - - - - - - -	-3					
		<u> </u>	*	<u> </u>	<u> </u>	_ \tau_
01/28/4	993379-1	9.5	A/4	AL	N/A	SB
	-3					
	J -5					
et 28/11		<u> </u>			<u> </u>	_ \
SUNDIC	993380-1	9.5	N/A	AU	A/A	<u>\$23</u>
	-2					
	-4					
	-5					
	-5 V-6					
01/28/11	993381	9.5	N/A	NA		<u> </u>
	993428-1	7.0	5.00	9.5	N/K	SB
, ,	193429-1	7.0	5.00	9.5	8:50	SB
T	1 -2	1	1	ا ملا	9:00	3B
02/02/11/9	193430	7-0	5.00	9.5	9:05	\$B
	793431-1	9.5	N/A	12/A	1).63 A/A	
J	1-2	<u>J</u>	J	10/13	- N/N	SB J

Turbidity/pH Check

Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
993382	social	Ú	02/03/11	$M \cdot M$	yes	TTLC
993453-2	- 1	_		1/	1/2	TTLC
1 -3	_			M-M	Yes	
1, -4	_		1/	1/	11	1/
993464	- 1	***	02/03/11		yes	TTLC
993470	71	42	02/03/1	Mill	/yes	
993301645810		42.	2/3/1	RE	yes	
493478 (1-2)	41	42	2/3/11	Vek-	No	
993429 (1-2)	4	22	1	1	No	
993431 (1-11)	41	22			100	
993432 (1-4)	41	L2			120	
993433(18,10		42		,	No	
993436 (13		22		1	NO	
993437(1-8)	2	12			10	
993438 (2-10		<u> </u>			No	
993439 (1-10	4	42			100	
	10) 21			ļ.	No	_
99344111-9) [2]	L2 L2		T .	N6	
993412 (1-3		<u> </u>	<u> </u>	├	No	
993044 (1-6)	41	12	1/2/11	1	No	
(93096(1-6)	4	42	1/250/1		No	
		62	2/6/11	1 1	100	
99 3506(1-3)	121	42	219111	E3	HO	
997517	41	72	219111	1		
943514	121	22	 			
997515 (16,23		72	 			yualling and
	151	122	t	+	<u> </u>	3
993572						
997504	 		 	-	 	
993566		 		-		
993 560		 	 			
993 547	+		+-1	 	+ + +	
993 508	+ $+$ $+$ $+$ $+$	+ 1-	 		Yes	20100
19358	10/solid		02/10/11	H.M	1 7.	TTLC
99358 H	18 21	49	2/10/11	VL	No	
493609	4 4	127	12/1/11	世	TNIA	
((())/()	+ = !	22 22 22	 	1,1,	100 100 100 100 100 100	30104
993669		30	+ *	T T	Ues	3010A 3010A
493621		52 52 42 42	+.1	1	105	301014
9922101 64		42	1	4	TNG	1 2 10 13
9931021(Hz both	41	12	<u> </u>		710	
993619	1/41	30	+ 3,		100	@9 30 am
	1) 2	12 12 22	+ 1	*	No	@930am
78 And 1		10	17/	1/2	No No	
	2 2	10	2/10/11	VII	100	
993493 19	4 41	47 42 42	2/10/11	KK	N6 N0	
993378	21	12	2/2/1		100	****
110510	6 / 1	1 2	2/50/			
993489 1-	2 / 4	22 22		KK	N6 N6	
993490 (1-)	<u> </u>	<u> </u>	1419(1	1 100	<u></u>



Sample Integrity & Analysis Discrepancy Form

Clien	t: CHAMHIUL	Lab	#_9	93429
Date	Delivered: <u>02/01</u> /11 Time: <u>21·3</u> 0 By: □Mail ØFi	eld Serv	rice (⊐ <i>Client</i>
1.	Was a Chain of Custody received and signed?			□N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes	□No	√ZIN/A
3.	Are there any special requirements or notes on the COC?	□Yes	□No	√ZIN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes	□No	. ₽ N/A
<i>5</i> .	Were all requested analyses understood and acceptable?	_Q ⊉Yes	□No	□ <i>N/A</i>
6.	Were samples received in a chilled condition? Temperature (if yes)??	ØYes	□No	□ <i>N/A</i>
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	y⊿Yes	□No	□ <i>N/A</i>
8.	Were sample custody seals intact?	□Yes	⊠No	□ <i>N/A</i>
9.	Does the number of samples received agree with COC?	y⊈iYes	□No	□ <i>N/A</i>
10.	Did sample labels correspond with the client ID's?	⊈ÍYes	□No	□ <i>N/A</i>
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail ☑Client	⊠(Yes	□No	□ <i>N/A</i>
12.	Were samples pH checked? pH = $\frac{\int \ell \ell \cdot \mathcal{U} \cdot \mathcal{U}}{\mathcal{U}} \cdot \mathcal{U} \cdot \mathcal{U}$	Yes	□No	□ <i>N/A</i>
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	⊠Yes	□No	□N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid □C	/ater [Other	⊒Wast Wali	e Water
16.	Comments:			
17.	Sample Check-In completed by Truesdail Log-In/Receiving:		A	



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. Byen

K.R.P. Iver

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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	lordan 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

EXCELLENCE IN INDEPENDENT TESTING

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



Established 1931

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Laboratory No.: 993563

Date Received: February 8, 2011

Analytical Results Summary

R	2.00	10	70	0.20	0.100	250
Units	umhos/cm	na/L	1/bn	1/61 na/r	J DLN	mg/L
Result	7200	QN	4.3	0.25	Q.	4040
Parameter	EC	Chromium	Manganese	Chromium, hexavalent	Turbidity	Total Dissolved Solids
Sample Time	15:15	15:15	15:15	15:15	15:15	15:15
Sample Date	2/8/2011	2/8/2011	2/8/2011	2/8/2011	2/8/2011	2/8/2011
Extraction Method	NONE	NONE	NONE	LABFLT	NONE	NONE
Analysis Method	E120.1	E200.8	E200.8	E218.6	SM2130B	SM2540C
) Field ID	SC-700B-WDR-295 E120.1	SC-700B-WDR-295	SC-700B-WDR-295	SC-700B-WDR-295	SC-700B-WDR-295	SC-700B-WDR-295
Lab Sample IO Field IO	993563-001	993563-001	993563-001	993563-001	993563-001	993563-001

ND; Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Result above or equal to 0.01ppm will have three (3) significant figures. Note: The following "Significant Figures" rule has been applied to all results: Results below 0.01ppm will have two (2) significant figures.

Ouality 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. 993563

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Printed 3/15/2011

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

Field ID				Lab ID	Col	lected	Matr	ix
SC-700B-WDR-295				993563-001	02/08	/2011 15:15	Wat	
Specific Conductivity - E Parameter	PA 120.1	Unit		1 02EC11B	DF	MDL	2/9/2011 RL	Result
993563-001 Specific Conduct	ivity	umhos/c	m 02/09	9/2011	1.00	0.0380	2.00	7200
Method Blank								1200
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				1 ab 10 -	000 405 000
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 3800	Expected 3800	R	PD 0		993435-002 nce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 712.	Expected 706.	R	ecovery 101	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 704.	Expected 706.		ecovery 99.7	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 715.	Expected 706.		ecovery 101	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 994.	Expected 999.		ecovery 99.5	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 991.	Expected 999.		ecovery 99.2	Acceptar 90 - 110	nce Range

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Chrome VI by EPA 218.6		i Hiji ka asa	Batch	02CrH11O				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993563-001 Chromium, Hexa	valent	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	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.05	10.6	10.6		0.376	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	-	nce 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/Add	led	Recovery	-	nce 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/Add	led	Recovery	-	nce 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/Add	led	Recovery	-	ince 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/Add	led	Recovery	-	ince 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/Add	led	Recovery	-	ince 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/Add	led	Recovery	_	ince 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/Add	led	Recovery	-	nce Range
Chromium, Hexavalent	ug/L	1.06	17.0	17.8(10.6)		92.3	90 - 110)

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Client: E2 Consulting Eng	ineers, Inc.		oject Name: oject Number	ject	Page 4 of 7 Printed 3/15/2011		
Matrix Spike						Lab ID = 993493-006	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.43	Expected/Added 8.84(5.30)	Recovery 92.3	Acceptance Range 90 - 110 Lab ID = 993493-008	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.42	Expected/Added 8.68(5.30)	Recovery 95.2	Acceptance Range 90 - 110 Lab ID = 993559-001	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.57	Expected/Added 1.49(1.06)	Recovery 108	Acceptance Range 90 - 110 Lab ID = 993563-001	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 6.11	Expected/Added 5.75(5.25)	Recovery 107	Acceptance Range 90 - 110 Lab ID = 993563-001	
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.26	Expected/Added 1.31(1.06)	Recovery 95.6	Acceptance Range 90 - 110	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.92	Expected 5.00	Recovery 98.5	Acceptance Range 90 - 110	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.84	Expected 10.0	Recovery 98.4	Acceptance Range 95 - 105	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.1	Expected 10.0	Recovery 101	Acceptance Range 95 - 105	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.53	Expected 10.0	Recovery 95.3	Acceptance Range 95 - 105	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.1	Expected 10.0	Recovery 101	Acceptance Range 95 - 105	



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401,01,DM

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Parameter		Unit	Ana	lyzed	DF MDL		RL	Result
993563-001 Chromium		ug/L	03/12	1/2011 19:45 5	5.00	0.0950	1.0	ND
Manganese		ug/L	03/12	2/2011 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	Accepta	ance Range
Chromium	ug/L	5.00	ND	0		0	0 - 20	J
Manganese	ug/L	5.00	4.17	3.67		12.8	0 - 20	
Lab Control Sample)							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance 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 =	993705-00
Parameter	Unit	DF	Result	Expected/Adde	ed	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	51.6	50.0(50.0)		103	75 - 12	_
Manganese	ug/L	5.00	52.4	53.7(50.0)		97.5	75 - 12	5
MRCCS - Secondar	ry							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance 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	כ
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance 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	Accepta	ance Range
Chromium	ug/L	1.00	ND	o o		· · · · · · · ,	,	
Interference Check	Standard A							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	ND	0			pt	gt

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Client: E2 Consulting Er	igineers, In		roject Name: roject Numbe	ck Project DM	Page 6 of 7 Printed 3/15/2011		
Interference Check S	tandard A						
Parameter Manganese Interference Check S	Unit ug/L tandard A	DF 1.00	Result N D	Expected 0	Recovery	Acceptance Range	
Parameter Manganese Interference Check S	Unit ug/L tandard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range	
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 11.5	Expected 10.0	Recovery 115	Acceptance Range 80 - 120	
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 11.8	Expected 10.0	Recovery 118	Acceptance Range 80 - 120	
Parameter Manganese Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 11.6	Expected 10.0	Recovery 116.	Acceptance Range 80 - 120	
Parameter Manganese	Unit ug/L	DF 1.00	Result 11.6	Expected 10.0	Recovery 116	Acceptance Range 80 - 120	
Total Dissolved Solids I	oy S M 254 () C Unit		02TDS11H lyzed	DF MDL	2/10/2011 RL Result	
993563-001 Total Dissolved	Solids	mg/L	02/10	/2011	1.00 0.434	250. 4040	
Method Blank							
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND			Lab ID = 993548-010	
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 922.	Expected 922.	RPD 0	Acceptance Range 0 - 5	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 494.	Expected 500.	Recovery 98.8	Acceptance Range 90 - 110	

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Printed 3/15/2011

Project Number: 408401.01.DM

Turbidity by SM 2130 B			Batch			2/9/2011		
Parameter	i sui lista e paesa inta é L	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	F	RPD	Accepta	nce Range
Turbidity	NTU	1.00	0.100	0.0980		2.02	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.73	8.00		96.6	90 - 110)
Lab Control Sample D	Ouplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
Turbidity	NTU	1.00	7.81	8.00		97.6	90 - 110)

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

√ _ Mona Nassimi

Manager, Analytical Services





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	0,000	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	11
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	11
993563	10	110,7140	110.7545	110.7544	0.0001	No	0.0404	4040.0	250.0	4040.0	(MEC 1608)
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	11

LCS	100	92.1015	92.1510	92.1509	0.0001	No	0.0494	494.0	25.0	494.0	1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$$

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

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS11H Date Calculated: 2/10/11

EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
			0.88
			0.99
			0.87
994	0.58	646.1	0,89
1112	0.56	722.8	0.87
1270	0.61	825.5	0,94
856	0,56	556.4	0.86
1552	0,69	1008.8	1.06
1491	0.63	969.15	0.97
1629	0.63	1058.85	0.97
1514	0.61	984.1	0.94
1514	0.61	984.1	0.94
7112	0.57	4622.8	0.87
862	0.59	560,3	0.90
1073	0.57	697.45	0.88
831	0.59	540.15	0.91
808	0.61	525.2	0.94
8.7	ND	5.655	ND
	15.23 1683 898 994 1112 1270 856 1552 1491 1629 1514 1514 7112 862 1073 831 808	15.23	EC IDS/EC Ratio: 0.559 TDS (EC*0.65) 15.23 0.57 9.8995 1683 0.64 1093.95 898 0.57 583.7 994 0.58 646.1 1112 0.56 722.8 1270 0.61 825.5 856 0.56 556.4 1552 0.69 1008.8 1491 0.63 969.15 1629 0.63 1058.85 1514 0.61 984.1 1514 0.61 984.1 7112 0.57 4622.8 862 0.59 560.3 1073 0.57 697.45 831 0.59 540.15 808 0.61 525.2



M

Rec'd 02/08/11

Lab#: 993563

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

PROJECT NAME

COMPANY

P.O. NUMBER

ADDRESS

PHONE

SAMPLE 1.0.

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-295]

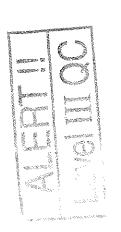
TURNAROUND TIME DATE 02/08/11 COC Number

능

Days

19 PAGE

DM = 6(2001) COMMENTS NUMBER OF CONTAINERS Turbidity (SM2730) (30\$5ZWS) SQI Specific Conductance (120.1) × Tobs) Metals (200.7) × Cro (218.6) Lab Fillered × × DESCRIPTION Water FAX (530) 339-3303 TEAM 15:15 02/08/11 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 408401.01.DM PG&E Topock SAMPLERS (SIGNATURE SC-700B-WDR-295 囧



To Sable Configura Section of the sectio

TOTAL NUMBER OF CONTAINERS

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Signature Man Printed Mac Lem2 Agency Cmp any Cmp Time 15/3 C CustoDy SEALED YES NO Company Comp			c		CHAIN	γ CHAIN OF CUSTODY SIGNATU	GNATURE RECORD		SAMPLE CONDITIONS
Printed Agency T. Time C.3.7 CUSTODY SEALED YES CUSTODY SEALED YES CUSTODY SEALED YES CONTRIBUTED Company T. Time 2.7.7 Secial Requirements: List Agency T. Time 3.1.3.0 Printed Company T. Time 4.81.3.2 Recial Requirements: Company T. Time 4.81.3.2 Printed Company Date Agency Time Agency Time Agency Time Name Agency Time Name Agency Time	√ .,	Signature (Relinquished) /	11100	X	Printe Name	_	<i>)</i> ⁄tι	Date/ 02-08-// Time /5:30	1000 Ed
Ind) And Date Agency T Time 2-3-1/2 Name Agency T T Time 3/3/1/3/2 Name Agency T T Time 3/3/1/3/2 Name Agency T T Time Agency T Time Agency T Time Agency Time Name Agency Date Name Agency Time Name Agency Time		Signature (Received)	411			73	Company/	Date/ Z-8-// Time /くころの	CUSTODY SEALED YES
LUGU Shubame Lugu Company 72 7 Printed Company Agency Name Agency Printed Company Name Agency		Signature / / / (Relinquished) →	Site		Print	ed A low	Companyl / Agency	Date 2-8ーパ Time タバンス	SPECIAL REQUIREMENTS:
Printed Company/ Name Agency Printed Company/ Name Agency	0	Signature (Received)	1200	47	Shelp Printe	A	Company/ 77 /7 Agency	Date 4/8/11 3/36	
Printed Company/ Name Agency	38	Signature (Refinquished)			Printe Name	ed e	Company/ Agency	Date/ Time	
	*	Signature (Received)			Print Name	e e	Company/ Agency	Date/ Time	

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
2108/11	993520-1	9.5	N.A.	NA	NO	ALi'
	-2			Î.	l	
	-3		,			
W .	1 4		V	J		1/
2/09/11	993559	9.5	NA NA	NA	NA	ALI
- (993560-1	9,5	NA	NA	NA	ALC
	-2				<u> </u>	
	-3					
	-4			•		
	-5					
	6					
	-7					
	-8					
	-9					
	-10					
	<u> </u>	_\/	<u> </u>	<u> </u>	\mathcal{L}	
	993561-1	NA	NA	NA	NA	
		(
	-3					
	-41					
	-5					
	-6					
	-7					
	-8					
	-4					
	1-10	<u> </u>	V		V	
-4-1	993563	<u> </u>	to Total Val. 100ml	9.5	9:05am	
V	***************************************		to Total Vol. Toom			
		L				

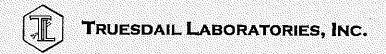
al.

Turbidity/pH Check

			bluity/pii C	o.k		A - Day-A
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to
994062(1-17)		22	3/11/11	FS	Les	
9940696-77	4	V			tes .	- 20104-
994671			2 12011	<u> </u>		1
1990	[7]	22	3/14/11	_ ES	70	2201073
994092	<u>~~1</u>	62 L			1 NO	
944043	1					
993563		£2	030911	KK	No	
9937.99	<u>د ا</u>	42				
993705	4	<u> </u>	4	4	$\overline{\psi}$	***************************************
993626 (1-18)	21	42	031111	4	4	_
994118	<u>21</u> 71	17	3/15/11	ES	<i>y</i> u	
994119	41	22	1011		7/4	
7941191						
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Sample Integrity & Analysis Discrepancy Form

Clie	ent: EL	Lab # <u>993563</u>
Dat	e Delivered: <u>Ø∠ / Ø</u> 8/11 Time: <u>∠/:\$</u> 0 By: □Mail □F	ield Service □Client
1,	Was a Chain of Custody received and signed?	ØYes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No pin/A
3.	Are there any special requirements or notes on the COC?	□Yes □No AN/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?	ØYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>Y ° C</u>	AYes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	AYes □No □N/A
8.	Were sample custody seals intact?	□Yes □No ZIN/A
9.	Does the number of samples received agree with COC?	Ø{Yes □No □N/A
10.	Did sample labels correspond with the client ID's?	ZeYes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	□Yes □No ÆN/A
12.	Were samples pH checked? pH = Sec Q- Cop	ų dYes □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 A Std	AYes □No □N/A
15.	Sample Matrix:	Vater □Waste Water
	□Sludge □Soil □Wipe □Paint □Solid 🕰	Other Water
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Healen



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-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.

Mona Nassimi

Manager, Analytical Services

K. R. P. Tye

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



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

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

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	lordan 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



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Laboratory No.: 993705

Date Received: February 15, 2011

Analytical Results Summary

ab Sample ID Field ID) Field ID	Analysis Method	Extraction Method	xtraction 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
93705-001	SC-700B-WDR-296	E200.8	NONE	2/15/2011	13:19	Manganese	3.7	ug/L	- -
993705-001	SC-700B-WDR-296	E218.6	LABFLT	2/15/2011	13:19	Chromium, hexavalent	QV	ng/L	0.20
993705-001	SC-700B-WDR-296	SM2130B	NONE	2/15/2011	13:19	Turbidity	0.112	NTO	0.100
393705-001	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.

Results below 0.01ppm will have two (2) significant figures. Result above or equal to 0.01ppm will have three (3) significant figures. Note: The following "Significant Figures" rule has been applied to all results: 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

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Printed 3/15/2011

Samples Received on 2/15/2011 9:30:00 PM

Field ID				Lab ID	Col	lected	Matr	iv
SC-700B-WDR-296				993705-001		/2011 13:19		
Specific Conductivity - E	EPA 120.1	Unit		n 02EC11D	DF	MDL	2/22/201 <i>1</i> RL	
993705-001 Specific Conduc	tivity	umhos		2/2011	1.00	0.0380	2.00	Result
Method Blank					1.00	0.0300	2.00	7150
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				LUD	
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 48.0	Expected 48.0	R	PD 0		993720-003 nce Range
Parameter Specific Conductivity Lab Control Sample D	Unit umhos uplicate	DF 1.00	Result 693.	Expected 706.		ecovery 98.2	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 695.	Expected 706.		ecovery 98.4	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 703.	Expected 706.		ecovery 99.6	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 998.	Expected 999.		ecovery 99.9	Acceptar 90 - 110	ice Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 1000	Expected 999.		ecovery 100	Acceptan 90 - 110	ce Range

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 3/15/2011

Chrome VI by EPA 218.6			Batch	02CrH11V				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993705-001 Chromium, Hexa	valent	ug/L	02/16	5/2011 10:14	1.05	0.0210	0.20	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	993562-003
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 10.5	Result 212	Expected 210		RPD 0.953	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.96	Expected 5.00		Recovery 99.2	90 - 110	ance Range) 993562-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.14	Expected/Ad 5.25(5.25)	ded	Recovery 97.9	90 - 110	ance Range) 993562-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.09	Expected/Ad 1.06(1.06)	ded	Recovery 103	90 - 110	ance Range) 993562-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.10	Expected/Ad 1.06(1.06)	ded	Recovery 104	90 - 110	ance Range) 993562-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 10.5	Result 411	Expected/Ad 420(210.)	ded	Recovery 95.8	90 - 110	ance Range) 993562-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.46	Expected/Ad 5.25(5.25)	ded	Recovery 104	90 - 110	ance Range) 993562-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 0.970	Expected/Ad 1.06(1.06)	ded	Recovery 91.5	90 - 110	ance Range) 993562-005
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 0.825	Expected/Ad 1.06(1.06)	ded	Recovery 77.8	Accepta 90 - 110	ance Range

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Client: E2 Consulting En	gineers, In		Project Name: Project Number	PG&E Topock Pr r: 408401.01.DM	oject	Page 5 of 9 Printed 3/15/2011
Matrix Spike						Lab ID = 993562-013
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 149	Expected/Added 144(78.8)	Recovery 106	Acceptance Range 90 - 110 Lab ID = 993562-014
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 10.5	Result 316	Expected/Added 307(158)	Recovery 106	Acceptance Range 90 - 110 Lab ID = 993562-015
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 59.4	Expected/Added 58,4(52.5)	Recovery 102	Acceptance Range 90 - 110 Lab ID = 993705-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.25	Expected/Added 1.22(1.06)	Recovery 103	Acceptance Range 90 - 110 Lab ID = 993705-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 5.25	Result 5.31	Expected/Added 5.46(5.25)	Recovery 97.2	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.96	Expected 5.00	Recovery 99.2	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.1	Expected 10.0	Recovery 101	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.68	Expected 10.0	Recovery 96.8	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103	Acceptance Range 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 3/15/2011

Metals by EPA 200.8,	Total		Batch	031211A				
Parameter		Unit	Ana	lyzed [)F	MDL	RL	Result
993705-001 Chromium		ug/L	03/12	2/2011 18:57 5	.00	0.0950	1.0	ND
Manganese		ug/L	03/12	2/2011 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	F	RPD	Accepta	ance 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	е							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance 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/Adde	d F	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	51.6	50.0(50.0)		103	75 - 12	5
Manganese	ug/L	5.00	52.4	53.7(50.0)		97.5	75 - 12	5
MRCCS - Seconda	ary							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance 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	F	Recovery	Accepta	ance 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	F	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	ND	o.		•	•	3-
Interference Check	Standard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	ND	oʻ			[

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Client: E2 Consulting E	ngineers, Ind		roject Name: roject Numbe	PG&E Topo er: 408401.01.0	•	Page 8 of 9 Printed 3/15/2011				
Interference Check S	Standard A									
Parameter Manganese Interference Check S	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range				
Parameter Manganese Interference Check S	Unit ug/L Standard AB	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range				
Parameter Chromium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 11.5	Expected 10.0	Recovery 115	Acceptance Range 80 - 120				
Parameter Chromium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 11.8	Expected 10.0	Recovery 118	Acceptance Range 80 - 120				
Parameter Manganese Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 11.6	Expected 10.0	Recovery 116.	Acceptance Range 80 - 120				
Parameter Manganese	Unit ug/L	DF 1.00	Result 11.6	Expected 10.0	Recovery 116	Acceptance Range 80 - 120				
Total Dissolved Solids by SM 2540 C Batch 02TDS11I 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 Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND							
Duplicate						Lab ID = 993705-001				
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4100	Expected 4080	RPD 0.489	Acceptance Range 0 - 5				
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 496.	Expected 500.	Recovery 99.2	Acceptance Range 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

Turbidity by SM 2130 B			Batch	02TUC11G			2/16/2011	ki istalik
Parameter		Unit	Ana	ılyzed	DF	MDL	RL	Result
993705-001 Turbidity		NTU	02/16	5/2011	1.00	0.0140	0.100	0.112
Method Blank								
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID = 9	993705-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accenta	nce Range
Turbidity	NTU	1.00	0.114	0.112		1.77	0 - 20	oo raange
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.83	8.00		97.9	90 - 110	_
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accentai	nce Range
Turbidity	NTU	1.00	7.78	8.00		97.2	90 - 110	_
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	Recovery	Acceptar	nce Range
Turbidity	NTU	1.00	7.98	8.00		99.8	90 - 110	-

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

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Total Dissolved Solids by SM 2540 C

Calculations

Batch: 02TDS111 Date Calculated: 2/18/11

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	50	67.8232	67.8241	67.824	0.0001	No	0,0008	16.0	50.0	ND	1
993651	50	78.3887	78,4539	78.4535	0.0004	No	0.0648	1296,0	50.0	1296.0	1
993682	1000	108.6901	108,6927	108.6926	0.0001	No	0.0025	2.5	2.5	ND	1
993705	10	65.8281	65.8691	65.8689	0.0002	No	0.0408	4080.0	250.0	4080.0	1
993715-1	20	50.3860	50.4297	50.4295	0.0002	No	0.0435	2175.0	125.0	2175.0	1
993715-2	20	51,1395	51,1864	51.1863	0.0001	No	0.0468	2340.0	125.0	2340.0	1
993729	200	105.6333	105,6435	105,6435	0.0000	No	0.0102	51.0	12,5	51.0	1
993730	1000	111.2901	111.2919	111.2918	0,0001	No	0.0017	1.7	2.5	ND	1
993731	200	110.3622	110.3742	110.374	0.0002	No	0.0118	59.0	12.5	59,0	1
993705 D	10	72.9825	73,0238	73.0235	0.0003	No	0.0410	4100.0	250.0	4100.0	1
LCS	100	67.7344	67.7843	67.784	0.0003	No	0.0496	496.0	25.0	496.0	1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$$

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

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS11I Date Calculated: 2/18/11

2080 8.14	0.62		
***************************************	0.62		
8.14		1352	0.96
	ND ND	5.291	ND
7150	0.57	4647.5	0.88
3670	0,59	2385.5	0.91
3780	0.62	2457	0,95
62.6	0.81	40.69	1.25
10.76	ND	6.994	ND
80	0,74	52	1.13
7150	0.57	4647.5	0.88
	3780 62.6 10.76 80	3780 0.62 62.6 0.81 10.76 ND 80 0.74	3780 0.62 2457 62.6 0.81 40.69 10.76 ND 6.994 80 0.74 52

Luch

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-296]

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

TURNAROUND TIME

Rec'd 02/16/11 COC Number

넁 10 Days PAGE 1 DATE 02/15/11

COMPANY	E2						_	_		_	_	_	_	_	_	_	_			
PROJECT NAME	PG&E Topock						_		_	_		\			<u></u>				COMMENTS	
PHONE	(530) 229-3303		FAX (530)	FAX (530) 339-3303		\	\							_						
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	e Ste 1000 14612			- <u>·</u>	A	UW 1	1501)									BABNIAT			
P.O. NUMBER	408401.01.DM		TEAM	-		E PHONE	2 (1%	971.		(OE					_		Vo _O			
SAMPLERS (SIGNATURE		e.(cuequi)-			1 (9)	(12) S/B ₁	Conduc	(30 pg Z)	-(IS),	1711						85	dO:			
SAMPLE I.D.	:	DATE	TIME	DESCRIPTION	Cre (27g	M/BOT OMOSQS	Specific Specific	18) SQ1	Purbidis.							BWNN				
SC-700B-WDR-296	ર-29 6	02/15/11 13:19	13:19	Water	×	×	×		×							3	[4]	1=6	(1,002)	
A CONTRACTOR OF THE CONTRACTOR	NATURAL CONTRACTOR OF THE PROPERTY OF THE PROP					d d	: :									3	, TOTAL	NUMBE	Q.	





CHAIN OF CUSTODY SIGNATURE RECORD SAMPLE CONDITIONS	Church Meme C. KNICHET Company Om CHILMLY Time 15:35/ RECEIVED COOL & WARM 0 3.9 °F	Land Range Roll Company - L. Time 15:30 CUSTODY SEALED YES NO	Agency Company L Time 2 1:30 SPECIAL REQUIREMENTS:	Date/ 2.1.5 イン Time 21:		Printed Company/ Date/ Name Anency Time
	Signature (Relinquished)	Signature (Received)	Signature / Kalas (Relinquished)	Signature (Received)	Signature (Relinquished)	Signature (Received)

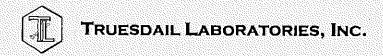
Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH		Final pH	Time Buffered	Initials
02/11/11	993626-8	9,5	N/A	N/A	N/A	SB
<u> </u>	-9					1
	-10		· ·			
	-11					
	-12					
	-14		<u> </u>			
	-16					
	-17-					
4	₩ -18	₩	J.	<u> </u>	N/	1/2
02/10/11	993624-1	9.5	A/A	A/A	N/A	SE
	1 -2					1
<u></u>	<u>√</u> −3	<u> </u>		→	1	1
02/16(h	993705	7.0	5.00	9.5	8,-60	SB
				Ì		
					-	
			•			

ah

Turbidity/pH Check

			I I I I I I I I I I I I I I I I I I I			A cities with a site
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to
99/10/01 (1-17)		22	311111	ES		
994069(1-7)	4	1	91111		tes	20104-
0046-1				L		
944071	[7]	22	3/14/11	ES	70	2201018
994092	EZ1	62			No	
994093					V	
993503	<i>/</i>	42	030911	KK	No	44477
993799	۷ ا			l l	1	-
993705	<u> </u>	<u> </u>	1			
992124 (1-18)	21			1	 	
994118	71	47	031111		¥	
974118	//	22	3/15/11	ES	yu	
994119	4	22				
	,					
	4					
			 			
		····				
				· · · · · · · · · · · · · · · · · · ·		
					,	
	····					
	··········					
	····					



Sample Integrity & Analysis Discrepancy Form

Clien	t: <u>E</u> 2	Lab# <u>9937</u> 05
Date	Delivered:02/ <u>/</u> 5/11 Time:2 <u>/:3</u> ° By:□Mail ★F	ield Service
1.	Was a Chain of Custody received and signed?	∕ZÍYes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ÆÎN/A
1.	Are there any special requirements or notes on the COC?	□Yes □No ⊠N/A
	If a letter was sent with the COC, does it match the COC?	□Yes □No ÁN/A
j.	Were all requested analyses understood and acceptable?	₫Yes □No □N/A
) <u>.</u>	Were samples received in a chilled condition? Temperature (if yes)?ଧ <u>୍</u> ଦି C	-dYes □No □N/A
	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	⊿(Yes □No □N/A
	Were sample custody seals intact?	□Yes -⊠No □N/A
).	Does the number of samples received agree with COC?	⊿dYes □No □N/A
0.	Did sample labels correspond with the client ID's?	∡aYes □No □N/A
1.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	□Yes ÆNo □N/A
2.	Were samples pH checked? $pH = \frac{\sum_{e} COC}{}$	MYes □No Φ N/A
3.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	□Yes □No □N/A
4.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH ÆStd	□Yes □No □N/A
5.	Sample Matrix: □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid	Nater □Waste Water Other Wale
6.	Comments:	
¹ 7.	Sample Check-In completed by Truesdail Log-In/Receiving:	#
Wiscrp.FormE	Hankdor [EUVELIII VV]	047

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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.

Mona Nassimi سے وہرا

Manager, Analytical Services

K.R.P. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



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

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

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

EXCELLENCE IN INDEPENDENT TESTING

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

Established 1931



14201 FRANKLIN AVENUE - TUSTIN. CALIFORNIA 92786-7008 [714] 730-6239 - FAX (714) 730-6462 - www.truesdail.com

Date Received: February 22, 2011 Laboratory No.: 993799

Analytical Results Summary

ā	2.00 1.0 1.0 0.20 0.100 250
<u>.</u>	umhos/cm ug/L ug/L ug/L NTU
Result	7430 ND 3.0 0.26 ND 4320
Parameter	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids
Sample Time	13:00 13:00 13:00 13:00 13:00
Sample Date	2/22/2011 2/22/2011 2/22/2011 2/22/2011 2/22/2011 2/22/2011
Extraction Method	NONE NONE NONE LABFLT NONE
Analysis Method	E120.1 E200.8 E200.8 E218.6 SM2130B SM2540C
) Field ID	SC-700B-WDR-297 SC-700B-WDR-297 SC-700B-WDR-297 SC-700B-WDR-297 SC-700B-WDR-297 SC-700B-WDR-297
Lab Sample ID Field ID	993799-001 993799-001 993799-001 993799-001 993799-001

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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 www.truesdail.com

Laboratory No. 993799

Page 1 of 7 Printed 3/17/2011

Samples Received on 2/22/2011 9:30:00 PM

Field ID				Lab ID	Col	lected	Matrix	(
SC-700B-WDR-297				993799-001	02/22	/2011 13:00	Wate	r
Specific Conductivity - E Parameter	PA 120.1	Unit	ar e y Theory	02EC11E	DF	MDL	2/28/2011 RL	Result
993799-001 Specific Conduct	ivity	umhos/	umhos/cm 02/28/2011		1.00	0.0380	2.00	7430
Method Blank					***************************************			
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID = 9	93799-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7430	Expected 7430	F	RPD 0	Acceptan 0 - 10	ce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 701.	Expected 706.	F	Recovery 99.3	Acceptan 90 - 110	ce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 705.	Expected 706.	F	Recovery 99.9	Acceptan 90 - 110	ce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 697.	Expected 706.	R	Recovery 98.7	Acceptan 90 - 110	ce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 995.	Expected 999.	R	decovery 99.6	Acceptan 90 - 110	ce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 998.	Expected 999.	R	decovery 99.9	Acceptan 90 - 110	ce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Chrome VI by EPA 218.6	5		A	02CrH11AA				1100
Parameter		Unit	Ana	llyzed	DF	MDL	RL	Result
993799-001 Chromium, Hex	avalent	ug/L	02/23	3/2011 09:20 1	.05	0.0210	0.20	0.26
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				lah ID =	993799-00 [,]
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 5.25	Result 0.464	Expected 0.459	R	RPD 1.08	Accepta 0 - 20	osc799-00
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 0.267	Expected 0.257	R	PD 3.82	Accepta 0 - 20	псе Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.79	Expected 5.00	R	ecovery 95.8	90 - 110	nce Range 993799-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.56	Expected/Added 5.71(5.25)		ecovery 97.1	Accepta 90 - 110	псе Range
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.24	Expected/Added 1.32(1.06)		ecovery 92.7		nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.30	Expected 5.00		ecovery 106	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.89	Expected 10.0		ecovery 98.9	Acceptai 95 - 105	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Parameter	Unit	Ana	alyzed [OF MDL	RL Result
993799-001 Manganese	ug/L			00 0.210	
Method Blank	<u> </u>		2,2011 13.01 3.	00 0.210	1.0 3.0
Parameter Un	it DF	Result			
Chromium ug/L	•	ND			
Manganese ug/L		ND			
Duplicate					Lab ID = 993705-001
Parameter Uni	it DF	Result	Expected	RPD	
Chromium ug/L		ND	0	0	Acceptance Range 0 - 20
Manganese ug/L	5.00	4.17	3.67	12.8	0 - 20
Lab Control Sample				12.0	0 20
Parameter Uni	it DF	Result	Expected	Recovery	Acceptance Range
Chromium ug/L		10.6	10.0	106	90 - 110
Manganese ug/L	1.00	10.4	10.0	104.	90 - 110
Matrix Spike			_	1012	Lab ID = 993705-001
Parameter Uni	t DF	Result	Expected/Added	d Recovery	
Chromium ug/L		51.6	50.0(50.0)	103	Acceptance Range 75 - 125
Manganese ug/L		52.4	53.7(50.0)	97.5	75 - 125
MRCCS - Secondary			, ,		10 120
Parameter Uni	t 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	t 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	Д				
Parameter Unit	t DF	Result	Expected	Recovery	Acceptance Range
Chromium ug/L	1.00	ND	0		7.000ptanoe range
Interference Check Standard	4				
Parameter Unit	t DF	Result	Expected	Recovery	Acceptance Range
Chromium ug/L	1,00	ND	0	,	oooptanoe range
Interference Check Standard A	4				
Parameter Unit	: DF	Result	Expected	Recovery	Acceptance Range



Client: E2 Consulting E	Engineers, Inc	; .	Project Name: Project Number:	PG&E Topock 408401.01.DM		Page 4 of 7 Printed 3/17/2011
Interference Check	Standard A					
Parameter Manganese Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check 5	Unit ug/L	DF 1.00	Result 11.5	Expected 10.0	Recovery 115	Acceptance Range 80 - 120
Parameter Chromium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 11.8	Expected 10.0	Recovery 118	Acceptance Range 80 - 120
Parameter Manganese Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 11.6	Expected 10.0	Recovery 116.	Acceptance Range 80 - 120
Parameter Manganese	Unit ug/L	DF 1.00	Result 11.6	Expected 10.0	Recovery 116	Acceptance Range 80 - 120



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Metals by EPA 200.8, Tot	al		Batch	031 <u>5</u> 11A		
Parameter		Unit	Ana	ilyzed D	F MDL	RL Result
993799-001 Chromium		ug/L	03/15	5/2011 21:15 5.0	0.0950	1.0 ND
Method Blank						
Parameter Chromium Duplicate	Unit ug/L	DF 1.00	Result ND			
Parameter						Lab ID = 993799-001
Chromium Lab Control Sample	Unit ug/L	DF 5.00	Result ND	Expected 0	RPD 0	Acceptance Range 0 - 20
Parameter Chromium	Unit ug/L	DF 1.00	Result 9.84	Expected 10.0	Recovery 98.4	Acceptance Range 90 - 110
Matrix Spike						Lab ID = 993799-001
Parameter Chromium	Unit ug/L	DF 5.00	Result 53.6	Expected/Added 50.0(50.0)	Recovery 107	Acceptance Range 75 - 125
Matrix Spike Duplicate						Lab ID = 993799-001
Parameter Chromium MRCCS - Secondary	Unit ug/L	DF 5.00	Result 51.6	Expected/Added 50.0(50.0)	Recovery 103	Acceptance Range 75 - 125
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 11.0	Expected 10.0	Recovery 110	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	Recovery 104	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.5	Expected 10.0	Recovery 105	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103	Acceptance Range 90 - 110
Parameter Chromium	Unit ug/L	DF 1.00	Result 9.67	Expected 10.0	Recovery 96.7	Acceptance Range 90 - 110



Client: E2 Consulting E	ngineers, Ir		Project Name: Project Numbe	: PG&E Topo er: 408401.01.I		Page 6 of 7 Printed 3/17/2011
MRCVS - Primary						
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 9,89	Expected 10.0	Recovery 98.9	Acceptance Range 90 - 110
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.68	Expected 10.0	Recovery 96.8	Acceptance Range 90 - 110
Parameter Chromium Interference Check S	Unit ug/L Standard A	DF 1.00	Result 10.4	Expected 10.0	Recovery 104	Acceptance Range 90 - 110
Parameter Chromium Interference Check S	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L	DF 1.00	Result ND	Expected 0	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 10.2	Expected 10.0	Recovery 102	Acceptance Range 80 - 120
Parameter Chromium	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	Recovery 104	Acceptance Range 80 - 120
Total Dissolved Solids I	oy SM 2540) C Unit	10 mg	02TDS11K		2/25/2011
993799-001 Total Dissolved	Solids	mg/L	02/22	yzed (2011	DF MDL	RL Result
Method Blank	00,140	mg/L	UZIZZ	120[1	1.00 0.434	250. 4320
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND			Lab ID = 993520-004
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 1110	Expected 1150	RPD 3.54	Acceptance Range 0 - 5
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 488.	Expected 500.	Recovery 97.6	Acceptance Range 90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Turbidity by SM 2130 B		an est des	Batch	02TUC11N			2/23/2011	v Visit
Parameter		Unit	Ana	llyzed	DF	MDL	RL	Result
993799-001 Turbidity		NTU	02/23/2011		1.00	0.0140	0.100	ND
Method Blank	, , , , , , , , , , , , , , , , , , , ,							
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID = 9	93799-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0	F	RPD 0	Acceptar 0 - 20	ice Range
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result 7.80	Expected 8.00	F	lecovery 97.5	Acceptar 90 - 110	ice Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.50	Expected 8.00	R	ecovery 93.8	Acceptan 90 - 110	ce Range

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services





Total Dissolved Solids by SM 2540 C

Calculations

Batch: 02TDS11K

Date Calculated: 2/28/11

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	73.6640	73.6640	73.6640	0.0000	No	0.0000	0.0	25.0	ДN	1
993776-1	1400	110.9549	110.9559	110.9559	0.0000	No	0.0010	0.7	1.8	ND	1
993776-2	100	74.7610	74,8043	74.8043	0.0000	No	0.0433	433.0	25.0	433.0	1
993776-2MS	100	69.2391	69.3319	69.3319	0.0000	No	0.0928	928.0	25.0	928.0	1
993776-2MSD	100	68.5377	68.6291	68.6291	0.0000	No	0.0914	914.0	25.0	914.0	1
993776-3	100	76.0026	76.0545	76.0545	0.0000	No	0.0519	519.0	25.0	519.0	1
993520-3	50	67.8725	67.9590	67.9590	0.0000	No	0.0865	1730.0	50.0	1730.0	1
993520-4	50	49.7204	49.7778	49.7778	0.0000	No	0.0574	1148.0	50.0	1148.0	1
993799	10	51.5127	51.5559	51.5559	0.0000	No	0.0432	4320.0	250.0	4320.0	1
993520-4D	50	49.3567	49.4122	49.4122	0.0000	No	0.0555	1110.0	50.0	1110.0	1
LCS	100	108.6461	108.6949	108.6949	0.0000	No	0.0488	488.0	25.0	488.0	1
QC1	100	67.9039	67.9218	67.9215	0.0003	No	0.0176	176.0	25.0	176.0	1
QC2	100	68.2027	68.2202	68.2202	0.0000	No	0.0175	175.0	25.0	175.0	<u>:</u> 1
QC3	100	74.7155	74.7333	74.7333	0.0000	No	0.0178	178.0	25.0	178.0	1
PE1	100	76.5222	76.5393	76.5391	0.0002	No	0.0169	169.0	25.0	169.0	1
PE2	100	65.6343	65.6514	65.6513	0.0001	No	0.0170	170.0	25.0	170.0	1
PE3	100	72,8314	72.8482	72.8482	0.0000	No	0.0168	168.0	25.0	168.0	1
						- A AVENTUAL AND AVENUE					
LCSD											1

Calculation as follows:

Filterable residue (TDS), mg/L = $\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

NO = not detected (below the reporting limit)

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS11K Date Calculated: 2/28/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.85)	Measured TDS / Calc TDS <1.3
003770.4				
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				- U.U.
QC1				
QC2			<u>-</u>	
QC3			<u> </u>	
PE1				
PE2				
PE3				



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

E2

COMPANY

PROJECT NAME

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-297]

10 Days PAGE 1 TURNAROUND TIME DATE 02/22/11 COC Number

6

COMMENTS Z NUMBER OF CONTAINERS 9937999 Rec'd Stol (OETSMS) VAIDIDINIT TDS (SMZS40C) Specific Conductance (120.1) Cro (218.6) Lab Fillered × × DESCRIPTION Water FAX (530) 339-3303 TEAM TIME 02/22/11 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 408401.01.DM PG&E Topock

SAMPLERS (SIGNATURE

P.O. NUMBER

ADDRESS

PHONE

SC-700B-WDR-297

SAMPLE (.D.

Se Toir Allachad

TOTAL NUMBER OF CONTAINERS

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Printed Company MM Time I Time Company MM Time I Time Company MM Time Date/2-	Date 2-22-11 Time 5-30 Time 5-30 CUSTODY S Date 2-22-11 SPECIAL REQUI	RECEIVED COOL C WARM C S, I % F CUSTODY SEALED YES NO C SPECIAL REQUIREMENTS:
Printed Company L. T Date/ 2. Agency L. T Time 2. Printed Company Date/ 2.	Date 2-22-11 CUSTOI	YES 🗆
Printed / Company	Time 2.22 // SPECIAL RI	KEQUIREMENTS:
(Relinquished) Many Amy Mange Andry Agency / L Inne on a		
Signature (MM Name Augla Agency 77 Time Augl	1 77 Date 8/2/11 21:70	
Printed Company/	l Datel	
(Relinquished) Name Agency I ime	- Ime	
Printed Company/	/ Date/	
(Received) Name Agency Ime] ime	

Turbidity/pH Check

		,	rbiaity/pn (JIICOK		
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to
994062(1-17)		22	3/11/11	ES		pH<2 (Y/N)
994069(1-7)	4		0 (1)	······	tes .	- 20104-
994069(1-1)		L		<u> </u>	<u> </u>	4
994671	(7)	LV LV	3/14/1	ES	70	2201074
994092		62		f	\\ \tilde{\nu}\)	~
994093					V	
993563	21	42	030911	KK	NO	****
993799	<u> </u>	42	1	1		
993705	<u> </u>	42				
	<u>~ 1</u>		, ,	- Y	1 .	
993626 (1-18)	21 71	42	031111	\overline{V}	¥	
994118		22	3/15/11	ES	yu	
994119	4	62				
	'					

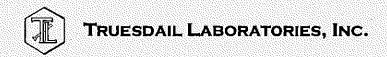
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Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Dota	I ab Nove to	T	· · · · · · · · · · · · · · · · · · ·			r
Date	Lab Number				Time Buffered	Initials
02/11/11	993626-8	9,5	A/U	A/u	A/10	SB
	-9	<u> </u>				11
	-10		· · · · · · · · · · · · · · · · · · ·		·	
	-11					
	-12					
<u> </u>	-14		·			
	-ib					
	-17-					
4	₩ -18	-	J	<u> </u>	\checkmark	1
02/10/11	993624-1	9.5	N/A	A/A	A/4	SB
	1 -2		<u> </u>			
<u> </u>	v ⁻3	<u>.</u>	\$.	→	1	1
02/16/4	993705	7.0	5.00	9.5	8'-00	\mathcal{Z}
02 23 11	993799	7.0	2.00	9.5	8:30	SB
				-		
		·			:	
L						





Sample Integrity & Analysis Discrepancy Form

Clie	nt:	Lab #	99379
Date	e Delivered: <u>0</u> と/ <u>22</u> /11 Time: <u>2/・30</u> By: □Mail 凶ド	ield Service	□Client
1.	Was a Chain of Custody received and signed?	ØYes □N	o □N/A
2 .	Does Customer require an acknowledgement of the COC?	□Yes □Ne	o palnia
З.	Are there any special requirements or notes on the COC?	□Yes □No	o ØNA
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	D PANA
5 .	Were all requested analyses understood and acceptable?	Ø Yes □No	o □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)?≲ <u>· / ° C</u>	χĹYes □Nα	o □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)? ERTII	√QYes □No	o □N/A
8.	Were sample custody seals intact?	□Yes □No	ANIKA C
9.	Does the number of samples received agree with COC?		D □N/A
10.	Did sample labels correspond with the client ID's?	ДÍYes □No	D DN/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: Truesdail Client	□Yes □No	AÍN/A
12.	Were samples pH checked? pH = \underline{Sel} $C.O.C.$	taYes □No	DN/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	pd(Yes □No	⊃ □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH	ØYes □No	DN/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid ☒		ste Water LCR
16.	Comments:		
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Luda	

1-760-326-3329 нь снѕевлет ғнх M905:5 1102 80 79A

Analytical Bench Log Book

Hil the m

WDR pH Results

SC-700B 2-1-11 10:30 21-11 10:35 METERAL SC-700B 2-15-11 13:18 2-15-11 13:28 NETERAL \$1 SC-700B 2-2-11 13:19 2-15-11 13:28 NETERAL \$1 SC-700B 2-2-11 13:19 2-15-11 13:28 NETERAL \$1 SC-700B 2-22-11 13:00 2-22	Date Time S pH meter pH meter o Calibrated Calibrated C	Slope Analyst Name of the (for the pH result)	pH Result
885. SC-1700133 21-11 (10:40) METERAL 1. SC-70013 2-11 (15:15 2-14) (15:24 METERAL 1. SC-70013 2-15-11 (13:14 2-15-11 (13:28 METER 1.) SC-70013 2-15-11 (13:14 2-15-11 (13:28 METER 1.) SC-70013 2-15-11 (13:14 2-15-11 (13:28 METER 1.) SC-70013 21-11 (13:14 2-15-11 (13:14 2.) SC-70013 21-11 (13:14 2.) SC-7001	51:1	-54.6 Has THEUS	1.2
-1008 2-611 15:15 2-611 15:24 NETRUF!		,	
56- 7006 2-811 15:15 2-811 1524 NEW #1 5524 NEW #1 552-7006. 2-15-11 13:19 2-15-11 13:28 NEW #1 553-11 13:04 NEW #1 553-11 1	1:12	54.6 Has 1/18.05	1.4
SC-700B 2-811 15:15 2-811 1524 NETEL #1 SC-700B. 2-15-11 13:19 2-15-11 13:28 NETEL #1 SC-700B. 2-15-11 13:19 2-15-11 13:28 NETEL #1 SC-700B. 2-15-11 13:09 2-15-11 13:28 NETEL #1 BBS:			
SC-700B. 2-15-11 13:19 2-15-11 13:28 NIETEL #1 SC-700B. 2-15-11 13:09 2-22-11 13:04 NNETEL#1 1. 18:05:	07:00	-54.7 C. Knight	7.0
2-15-11 13:19 2-15-11 13:28 NETEL #1			
2-22-11 1300 2-22-11 1304 METER#1	00:00	- 548 C.Kungth	7.0
-700 2-22-11 1304 METER#1			
Notes:	03:80	-55.0 How theys	2.0
Notes:			
Votes:		•	

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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.

لرير Mona Nassimi

Manager, Analytical Services

K.R.P. Iyer

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

14201 FRANKLIN AVENUE

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

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

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	lordan 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	lordan 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

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Established 1931

Date Received: March 1, 2011

Laboratory No.: 993921

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

Analytical Results Summary

Lab Sample 1D	Field ID	Analysis	Extraction	Sample	Sample	í	:		
		Mellion	Mernod	Date	Ime	Parameter	Result	Units	RL
993921-001	SC-700B-WDR-298	E120.1	NONE	3/1/2011	13:00	S	7450	mɔ/soquii	2.00
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011		Aluminum		1/01	20.05
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011		Barium	0.61		5.0
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011		BORON	555	1,05 1,05	20.0
993921-001	SC-700B-WDR-298	E200.7	NONE	3/1/2011		Iron) 2	1,01 1,01	202
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Antimony	Ş	מליר המליר	10.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Arsenic	2	1/01	5 -
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Chromium	2.2) [/D]	
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Copper	S	יים פיי	כי
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Lead	S) 	
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Manganese	2.5) [5 4 5 C
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Molybdenum	16.7) 	5 5
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Nickel	S	ממון	0.0
993921-001	SC-700B-WDR-298	E200.8	NONE	3/1/2011		Zine	<u> </u>) 1	5.0
993921-001	SC-700B-WDR-298	E218.6	LABFLT	3/1/2011		Chromium bexavalent	Ž	1,61	0.0
993921-001	SC-700B-WDR-298	E300	NONE	3/1/2011		Fluoride	177	1,06	0.50
993921-001	SC-700B-WDR-298	E300	NONE	3/1/2011		Nitrafe as N	3 03) (6) (1)	0.300
993921-001	SC-700B-WDR-298	E300	NONE	3/1/2011		Sulfate	50.2	7 /5	00.0
993921-001	SC-700B-WDR-298	SM2130B	NONE	3/1/2011		Turbidity	8 2	J - IFIN	400
993921-001	SC-700B-WDR-298	SM2540C	NONE	3/1/2011		Total Dissolved Solids	4350	0 0	0.100 250
993921-001	SC-700B-WDR-298	SM4500NH3D	NONE	3/1/2011		Ammonia-N	2	7 /S	230
9 93921-001	SC-700B-WDR-298	SM4500NO2B	NONE	3/1/2011	13:00	Nitrite as N	2	mg/L	0.0050



Revision 1; April 8, 2011

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	R
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	Q	na/L	50.0
993921-002	SC-100B-WDR-298	E200.7	NONE	3/1/2011	13:00	Barium	27.2	ng/L	10.0
993921-002	SC-100B-WDR-298	E200.7	NONE	3/1/2011	13:00	BORON	1040	na/L	200
993921-002	SC-100B-WDR-298	E200.7	NONE	3/1/2011	13:00	Iron	Q	l/g/l	20.0
993921-002	SC-100B-WDR-298	E200.7	LABFLT	3/1/2011	13:00	Iron	2	ng/L	20.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Antimony	QN	na/L	10.0
993921-002	SC-100B-WDR-298	E200.8	NON	3/1/2011	13:00	Arsenic	3.2	ua/L	10
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Chromium	1050	ng/L	2.0
993921-002	SC-100B-WDR-298	E200.8	NON	3/1/2011	13:00	Copper	QN	ng/L	5.0
993921-002	SC-100B-WDR-298	E200.8	NON	3/1/2011	13:00	Lead	QN	na/L	10.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Manganese	6.6	na/L	1.0
993921-002	SC-100B-WDR-298	E200.8	LABFLT	3/1/2011	13:00	Manganese	10.0	ng/L	1.0
993921-002	SC-100B-WDR-298	E200.8	NON	3/1/2011	13:00	Molybdenum	18.4	T/Bn	10.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Nickel	Q	ng/L	10.0
993921-002	SC-100B-WDR-298	E200.8	NONE	3/1/2011	13:00	Zinc	QN	ng/L	10.0
993921-002	SC-100B-WDR-298	E218.6	LABFLT	3/1/2011	13:00	Chromium, hexavalent	991	ng/L	21.0
993921-002	SC-100B-WDR-298	E300	NONE	3/1/2011	13:00	Fluoride	2.31	ma/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	ma/L	25.0
993921-002	SC-100B-WDR-298	SM2130B	NONE	3/1/2011	13:00	Turbidity	S	L DLN	0.100
993921-002	SC-100B-WDR-298	SM2320B	NONE	3/1/2011	13:00	Alkalinity	154	ma/L	5.00
993921-002	SC-100B-WDR-298	SM2320B	NONE	3/1/2011	13:00	Bicarbonate	154	ma/L	5.00
993921-002	SC-100B-WDR-298	SM2320B	NONE	3/1/2011	13:00	Carbonate	Q	mg/L	5.00
993921-002	SC-100B-WDR-298	SM2540C	NONE	3/1/2011	13:00	Total Dissolved Solids	4760	mg/L	250
993921002	SC-100B-WDR-298	SM4500NH3D	NONE	3/1/2011	13:00		Q	mg/L	0.500
993921-002	SC-100B-WDR-298	SM4500NO2B	NONE	3/1/2011	13:00	Nitrite as N	QN	ma/L	0.0050
993921-002	SC-100B-WDR-298	SM4500-PB_E	NONE	3/1/2011	13:00	Total Phosphorous-P	QN	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 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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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. 993921

Page 1 of 39

Printed 4/6/2011

Samples Received on 3/1/2011 9:30:00 PM

Field ID				Lab ID	Со	llected	Mat	rix
SC-700B-WDR-298 SC-100B-WDR-298				993921-001 993921-002		/2011 13:00 /2011 13:00	Wat Wat	
Anions By I.C EPA 3	00.0		Batch	03AN11C				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993921-001 Nitrate as Nitro	ogen	mg/L	03/02	2/2011 19:44	5.00	0.0550	1.00	3.02
Sulfate		mg/L	03/02	2/2011 20:09	50.0	1.00	25.0	503.
993921-002 Nitrate as Nitro	ogen	mg/L	03/02	2/2011 19:57	5.00	0.0550	1.00	3.22
Sulfate		mg/L	03/02	2/2011 20:21	50.0	1.00	25.0	558.
Method Blank								
Parameter Sulfate	Unit mg/L	DF 1.00	Result ND					
Nitrate as Nitrogen	mg/L	1.00	ND					
Duplicate	ū						Lab ID =	993889-001
Parameter Sulfate Nitrate as Nitrogen Lab Control Sample	Unit mg/L mg/L	DF 50.0 50.0	Result 247. 55,3	Expected 245 55.0	F	RPD 0.888 0.613	Accepta 0 - 20 0 - 20	ance Range
Parameter Sulfate Nitrate as Nitrogen Matrix Spike	Unit mg/L mg/L	DF 1.00 1.00	Result 20.0 3.96	Expected 20.0 4.00	F	Recovery 99.9 99.0	90 - 110 90 - 110	
Parameter Sulfate Nitrate as Nitrogen	Unit mg/L mg/L	DF 50.0 50.0	Result 748. 161.	Expected/Add 745(500.) 155(100.)	ed F	Recovery 100. 106.	Accepta 85 - 115 85 - 115	



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Anions By I.C. - EPA 300.0

Batch 03AN11D

Parameter		Unit	Anal	yzed D	F M	DL RL	Result
993921-001 Fluoride		mg/L	03/03	/2011 12:52 5,0	0.025	50 0.500	1.77
993921-002 Fluoride		mg/L	03/03	/2011 13:04 5.0	0.025	50 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	Accepta	ance Range
Fluoride	mg/L	1.00	ND	0.00	0	0 - 20	
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recover	y Accepta	ance 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	Recover	y Accepta	ance Range
Fluoride	mg/L	1.00	1.97	2.00(2.00)	98.6	85 - 11	5
Matrix Spike Duplicate						Lab ID =	993834-001
Parameter	Unit	DF	Result	Expected/Added	Recover	y Accepta	ance Range
Fluoride	mg/L	1.00	2.12	2.00(2.00)	106.	85 - 11	5
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recover	y Accepta	ance Range
Fluoride	mg/L	1.00	4.13	4.00	103.	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recover	y Accepta	ance Range
Fluoride	mg/L	1.00	3.13	3.00	104.	90 - 110	_
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recover	y Accepta	ance Range
Fluoride	mg/L	1.00	3.14	3.00	105.	90 - 110)



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Project Number: 408401.01.DM

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Nitrite SM 4500-NO2 B

Batch 03NO211C

			Daton	051402110				4.2
Parameter		Unit	Anal	yzed [F	MDL	RL	Result
993921-001 Nitrite as Nitroger	1	mg/L	03/03	/2011 12:18 1.	00	0.000200	0.0050	ND
993921-002 Nitrite as Nitroger	1	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 = 9	93921-001
Parameter	Unit	DF	Result	Expected	R	PD	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptan	ce Range
Nitrite as Nitrogen	mg/L	1.00	0.0392	0.0400		98.0	90 - 110	
Matrix Spike							Lab ID = 9	93921-001
Parameter	Unit	DF	Result	Expected/Added	i R	ecovery	Acceptan	ce Range
Nitrite as Nitrogen	mg/L	1.00	0.0206	0.0200(0.0200)		103	75 - 125	-
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptan	ce Range
Nitrite as Nitrogen	mg/L	1.00	0.0196	0.0200		98.0	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptan	ce Range
Nitrite as Nitrogen	mg/L	1.00	0.0203	0.0200		102.	90 - 110	



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Alkalinity by SM 2320E	3		Batch	03ALK11A			3/2/2011	2.5
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993921-002 Alkalinity as C	aCO3	mg/L	03/02	./2011	1.00	1.68	5.00	154
Bicarbonate (0	Calculated)	mg/L	03/02	!/2011 ·	1,00	0.153	5.00	154
Carbonate (Ca	alculated)	mg/L	03/02	!/2011	1.00	0.153	5.00	ND
Method Blank								
Parameter Alkalinity as CaCO3	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID = 9	993921-001
Parameter Alkalinity as CaCO3 Lab Control Sample	Unit mg/L	DF 1.00	Result 31.0	Expected 32.0	F	RPD 3.17	Acceptal 0 - 20	nce Range
Parameter Alkalinity as CaCO3 Matrix Spike	Unit mg/L	DF 1.00	Result 101	Expected 100.	F	Recovery 101	90 - 110	nce Range 993921-001
Parameter Alkalinity as CaCO3 Matrix Spike Duplica	Unit mg/L ate	DF 1.00	Result 133	Expected/Adde 132(100.)	ed F	Recovery 101	75 - 125	nce Range 993921-001
Parameter Alkalinity as CaCO3	Unit mg/L	DF 1.00	Result 131	Expected/Adde 132(100.)	ed F	Recovery 99.0	Accepta 75 - 125	nce Range



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Specific Conductivity - El	PA 120.1			Batch	03EC11B			3/3/2011	.*
Parameter		Unit		Analy	zed	DF	MDL	RL	Result
993921-001 Specific Conducti	vity	umhos/	/cm	03/03/2	2011	1.00	0.0380	2.00	7450
993921-002 Specific Conducti	vity	umhos/	/cm	03/03/2	2011	1.00	0.0380	2.00	8120
Method Blank									
Parameter	Unit	DF	Res	ult					
Specific Conductivity	umhos	1.00	ND						
Duplicate								Lab ID =	993921-002
Parameter	Unit	DF	Res	ult	Expected	F	RPD	Accepta	ince Range
Specific Conductivity	umhos	1.00	818	0	8120		0.736	0 - 10	
Lab Control Sample									
Parameter	Unit	DF	Res	ult	Expected	F	Recovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	717	,	706		102.	90 - 110)
Lab Control Sample Du	uplicate								
Parameter	Unit	DF	Res	ult	Expected	F	Recovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	718	3	706		102.	90 - 110)
MRCCS - Secondary									
Parameter	Unit	DF	Res	ult	Expected	F	Recovery	Accepta	nce Range
Specific Conductivity	umhos	1.00	703	}	706		99.6	90 - 110)
MRCVS - Primary									
Parameter	Unit	DF	Res	ult	Expected	F	Recovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	103	30	999		103.	90 - 110)
MRCVS - Primary									
Parameter	Unit	DF	Res	ult	Expected	F	Recovery	Accepta	nce Range
Specific Conductivity	umhos	1.00	998	5	999		99.6	90 - 110	י



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Chrome VI by EPA 218.6

Batch 03CrH11A

Chrome VI by EPA 218.6			Batch	USCITITA				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
993921-001 Chromium, Hexa	valent	ug/L	03/02	/2011 12:51	1.05	0.0210	0.20	ND
993921-002 Chromium, Hexa	valent	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	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.05	13.1	12.9		1.26	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	5.09	5.00		102.	90 - 110	כ
Matrix Spike							Lab ID =	993920-001
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accepta	ance 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/Add	ed	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	5.25	5.58	5.25(5.25)		106.	90 - 110	0
Matrix Spike							Lab ID =	993921-001
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.06	1.21	1,17(1.06)		103.	90 - 11	0
Matrix Spike							Lab ID =	993921-002
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	105	2060	2040(1050)		102.	90 - 11	0
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	5,11	5.00		102.	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0		104.	95 - 10	5
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0		104.	95 - 10	5



Client: E2 Consulting Engineers, Inc.

Interference Check Standard AB

Parameter

Iron

Project Name: PG&E Topock Project

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Acceptance Range

80 - 120

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Metals by EPA 200.7,	Total		Batch	030911A-Th			169
Parameter		Unit	Ana	lyzed Df	MDL	RL	Result
993921-001 Iron		ug/L	03/09	/2011 14:06 1.0	0 3.00	20.0	ND
993921-002 Iron		ug/L	03/09	/2011 14:24 1.0	0 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		ance Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20	
Lab Control Sample	е						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Iron	ug/L	1.00	5080	5000	102.	90 - 110	כ
Matrix Spike						Lab ID =	993921-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	ance Range
Iron	ug/L	1.00	1860	2000(2000)	93.0	75 - 12	5
MRCCS - Seconda	ıry						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Iron	ug/L	1.00	5100	5000	102.	90 - 110	ס
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Iron	ug/L	1.00	4970	5000	99.4	90 - 11)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Iron	ug/L	1.00	4950	5000	99.0	90 - 11	D
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Iron	ug/L	1.00	1980	2000	99.0	80 - 12	0
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Range
Iron	ug/L	1.00	2000	2000	100.	80 - 12	0

Result

2030

Expected

2000

Recovery

102.

DF

1.00

Unit

ug/L



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 10 of 39

Project Number: 408401.01.DM Printed 4/6/2011

Metals by EPA 200.7, Total Batch 033011A-Th

media by Li A 2001, fold	21		Daton	00001171111				
Parameter		Unit	Ana	lyzed	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	F	RPD	Accepta	ince Range
Aluminum	ug/L	1.00	953.	940.		1.37	0 - 20	J
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	F	Recovery	Accepta	ince 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/Adde	ed F	Recovery	Accepta	ince Range
Aluminum	ug/L	1.00	3230	2940(2000)		114.	75 - 128	_
Barium	ug/L	1.00	2080	2050(2000)		101.	75 - 125	5
Boron	ug/L	1.00	2390	2320(2000)		104.	75 - 125	5
Matrix Spike Duplicate							Lab ID =	993300-009
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accepta	ince Range
Aluminum	ug/L	1.00	3160	2940(2000)		111.	75 - 125	5
Barium	ug/L	1.00	2160	2050(2000)		106.	75 - 125	5
Boron	ug/L	1.00	2440	2320(2000)		106.	75 - 125	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince 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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Project Number: 408401.01.DM Printed 4/6/2011

Metals by EPA 200.7. Total	Batch 040611A-Th
Wetals by EPA 200.7. Total	Datch 040011A-111

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	Accepta	ince 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	Accepta	ance 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	כ
Matrix Spike							Lab ID =	993921-002
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	Accepta	ance Range
Aluminum	ug/L	1.00	2040	2000(2000)		102.	75 - 12	5
Barium	ug/L	1.00	2120	2030(2000)		105.	75 - 12	5
Boron	ug/L	1.00	3240	3040(2000)		110.	75 - 12	5
Matrix Spike Duplicate							Lab ID =	993921-002
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	Accepta	ance Range
Aluminum	ug/L	1.00	2190	2000(2000)		110.	75 - 12	5
Barium	ug/L	1.00	2280	2030(2000)		112.	75 - 12	5
Boron	ug/L	1.00	3070	3040(2000)		102.	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Aluminum	ug/L	1.00	4920	5000		98.3	90 - 11	כ
Barium	ug/L	1.00	5070	5000		101.	90 - 11	0
Boron	ug/L	1.00	5070	5000		101.	90 - 11	ס



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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		Batch 032811A					
Parameter		Unit	Ana	lyzed C	F	MDL RL	Result
993921-002 Antimony		ug/L	03/28	/2011 23:10 5.	00 0.19	90 10.0	ND
Chromium		ug/L	03/28	/2011 23:17 10	0.0 0.19	90 2.0	1050
Copper		ug/L	03/28/2011 23:10		00 0.3	05 5.0	ND
Lead		ug/L	03/28/2011 23:10		0.0	950 10.0	ND
Molybdenum		ug/L	03/28/2011 23:10		00 0.60	50 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	Accep	tance Range
Chromium	ug/L	5.00	996.	1050	5.30	•	J
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	Recov	ery Accep	tance Range
Chromium	ug/L	1.00	51.1	50.0	102.	90 - 1 ⁻	10
Antimony	ug/L	1.00	47.1	50.0	94.1	90 - 1	10
Copper	ug/L	1.00	50.5	50.0	101.	90 - 1 ⁻	10
Lead	ug/L	1.00	46.6	50.0	93.1	90 - 1	10
Molybdenum	ug/L	1.00	48.0	50.0	96.1	90 - 1	10
Matrix Spike						Lab ID	= 994222-001
Parameter	Unit	DF	Result	Expected/Adde	d Recov	ery Accep	tance Range
Chromium	ug/L	5.00	252	252.(250.)	100.	0 75 - 12	25
Antimony	ug/L	5.00	230.	250.(250.)	91.9	75 - 12	25
Copper	ug/L	5.00	250.	250.(250.)	100.	75 - 12	25
Lead	ug/L	5.00	230.	250.(250.)	92.0	75 - 12	25
Molybdenum	ug/L	5.00	244.	250.(250.)	97.6	75 - 12	25



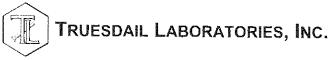
Client: E2 Consulting Engineers, Inc.			oject Name: oject Number	Page 21 of 39 Printed 4/6/2011		
Interference Check Sta	andard AB					
Parameter Antimony	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Copper Interference Check Sta	ug/L andard AB	1.00	50.5	50.0	101,	80 - 120
Parameter Copper Lead Interference Check Sta	Unit ug/L ug/L	DF 1.00 1.00	Result 51.0 ND	Expected 50.0 0.00	Recovery 102.	Acceptance Range 80 - 120
Parameter Lead Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Molybdenum Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Molybdenum Serial Dilution	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range Lab ID = 993921-002
Parameter Chromium	Unit ug/L	DF 50.0	Result 960.	Expected 1050	RPD 8.92	Acceptance Range 0 - 10



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Metals by EPA 200.8, To	tal		Batch	032911B				14
Parameter		Unit	Ana	lyzed	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					· · · · · · · · · · · · · · · · · · ·		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	·····
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	F	RPD	Accepta	nce 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	F	Recovery	Accepta	nce Range
Arsenic	ug/L	1.00	53.3	50.0		107.	90 - 110	1
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	1
Manganese	ug/L	1.00	50.0	50.0		100.	90 - 110	1
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** Lab ID = 993921-001 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 - 20Lead ug/L 5.00 ND 0.00 0 0 - 20 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 Lab ID = 993921-001 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 - 125Lead ug/L 5.00 194. 250.(250.) 77.8 75 - 125Matrix Spike Duplicate Lab ID = 993921-001 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 - 125Lead ug/L 5.00 195. 250.(250.) 77.8 75 - 125MRCCS - 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

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 045 ditten authorization from Truesdail Laboratories.

104.

90 - 110



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Revised

						r.ev	iseu
Reactive Silica by SM450	0-Si D		Batch	03SI11A	٠.	3/4/2011	
Parameter		Unit	Analyzed		F MDL	RL	Result
993921-002 Silica		mg/L	03/04	1/2011 25	5.0 0.350	1.00	22.8
Method Blank							
Parameter	Unit	DF	Result				
Silica	mg/L	1.00	ND				
Duplicate						Lab ID =	993921-002
Parameter Silica	Unit mg/L	DF 25.0	Result 23.1	Expected 22.8	RPD 1.17	Accepta 0 - 20	nce Range
Lab Control Sample							
Parameter Silica	Unit mg/L	DF 1.00	Result 0.748	Expected 0.800	Recovery 93.5	Accepta 90 - 110	ince Range
Matrix Spike						Lab ID =	993921-002
Parameter	Unit	DF	Result	Expected/Added	d Recovery	Accepta	nce 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	d Recovery	Accepta	ince Range
Silica MRCCS - Secondary	mg/L	25.0	33.9	32.8(10.0)	111.	75 - 125	•
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silica	mg/L	1.00	0.381	0.400	95.3	90 - 110	_
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silica	mg/L	1.00	0.373	0.400	93.2	90 - 110)



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Total Dissolved Solids b	y SM 254	10 C	Batch	1 03TDS11B	3/3/2011			
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
993921-001 Total Dissolved !	Solids	mg/L	03/03	3/2011	1.00	0.434	250.	4350
993921-002 Total Dissolved \$	Solids	mg/L	03/03	3/2011	1.00	0.434	250.	4760
Method Blank							200.	7700
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND					
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 251	Expected 260.	RPD 3.52			993872-010 Ince Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 518	Expected 500.	Recovery 104.		Accepta 90 - 110	ince Range
Total Organic Carbon (T	/DOC) SN	5310 C	Batch	03TOC11I				
Parameter	,	Unit		lyzed	DF	MDL	RL	Result
993921-002 Total Organic Ca	ırbon	mg/L	03/05/2011 09:30		1.00	0.0250	0.300	0.383
Method Blank						3,0200	0.000	0.000
Parameter Total Organic Carbon Dissolved Organic Carbon	Unit mg/L mg/L	DF 1.00 1.00	Result ND ND					
Duplicate							Lab ID =	993872-009
Parameter Total Organic Carbon Dissolved Organic Carbon Lab Control Sample	Unit mg/L mg/L	DF 1.00 1.00	Result 5.00 5.00	Expected 5.00 5.00	R	0.0200 0.00	Accepta 0 - 20 0 - 20	nce Range
Parameter Total Organic Carbon Dissolved Organic Carbon Matrix Spike	Unit mg/L mg/L	DF 1.00 1.00	Result 8.63 8.63	Expected 9.30 9.30	R	ecovery 92.8 92.8	90 - 110 90 - 110	
Parameter Total Organic Carbon Dissolved Organic Carbon	Unit mg/L mg/L	DF 1.00 1.00	Result 15.5 15.5	Expected/Ad 13.3(10.0) 13.3(10.0)	ded R	ecovery 122 122.		993872-010 nce Range



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Total Phosphate, SM 45	00-PB,E	Batch 03TP11B					3/4/2011	٠.
Parameter		Unit	Ana	lyzed ()F	MDL	RL	Result
993921-002 Phosphate, Tota	l As P	mg/L	03/04/2011		.00	0.00300	0.0200	ND
Method Blank								
Parameter Phosphate, Total As P Duplicate	Unit mg/L	DF 1.00	Result ND					
Parameter Phosphate, Total As P Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.0198	F	RPD 0		93921-002 ice Range
Parameter Phosphate, Total As P Matrix Spike	Unit mg/L	DF 1.00	Result 0.0988	Expected 0.100	R	ecovery 98.8	90 - 110	ce Range 93921-002
Parameter Phosphate, Total As P MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.0813	Expected/Adde 0.0848(0.0650)		ecovery 94.6	Acceptance Range 75 - 125	
Parameter Phosphate, Total As P MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0598	Expected 0.0600	R	ecovery 99.7	Acceptan 90 - 110	ce Range
Parameter Phosphate, Total As P	Unit mg/L	DF 1.00	Result 0.0653	Expected 0.0650	R	ecovery 100.	Acceptan 90 - 110	ce Range



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Ammonia Nitrogen by SM4500-NH3D		Batch 03NH3-E11A				3/2/2011	112	
Parameter		Unit	Ana	lyzed	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 = 9	93921-002
Parameter	Unit	DF	Result	Expected	F	RPD	Acceptar	nce Range
Ammonia as N	mg/L	1.00	ND	0.00		0	0 - 20	ioo range
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Acceptar	nce Range
Ammonia as N	mg/L	1.00	10.7	10.0		107.	90 - 110	
Matrix Spike							Lab ID = 9	93921-002
Parameter	Unit	DF	Result	Expected/Adde	ed R	lecovery	Acceptar	nce Range
Ammonia as N	mg/L	1.00	5.54	6.00(6.00)		92.4	75 - 125	.ooago
Matrix Spike Duplicate							Lab (D = 9	93921-002
Parameter	Unit	DF	Result	Expected/Adde	ed R	ecovery	Acceptar	nce 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	R	ecovery	Acceptar	ice Range
Ammonia as N	mg/L	1.00	5.52	6.00		92.0	90 - 110	3-
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptar	ice Range
Ammonia as N	mg/L	1.00	5.61	6.00		93.5	90 - 110	



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Metals by EPA 200.8, Dissolved

Batch 032911B

metals by Er A 200.0, Dis.	SOIAER		Daton	0029110				
Parameter		Unit	Ana	lyzed	DF	MDL	RĻ	Result
993921-002 Manganese		ug/L	03/29	9/2011 23:50	5.00	0.210	1.0	10.0
Method Blank			· · · · · · · · · · · · · · · · · · ·	. , , , , , , , , , , , , , , , , , , ,				
Parameter Manganese Duplicate	Unit ug/L	DF 1.00	Result ND				lah ID =	994222-001
Parameter Manganese Lab Control Sample	Unit ug/L	DF 5.00	Result 37.7	Expected 38.1		RPD 1.06		ance Range
Parameter Manganese Matrix Spike	Unit ug/L	DF 1.00	Result 50.0	Expected 50.0		Recovery 100.	90 - 110	ance Range) 994222-001
Parameter Manganese Matrix Spike Duplicate	Unit ug/L	DF 5.00	Result 300.	Expected/Add (288.(250.)	ed	Recovery 105.	75 - 125	ance Range 5 994222-001
Parameter Manganese MRCCS - Secondary	Unit ug/L	DF 5.00	Result 274.	Expected/Addo 288.(250.)	ed i	Recovery 94.2	Accepta 75 - 128	ance Range
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 51.0	Expected 50.0	1	Recovery 102.	Accepta 90 - 110	ince Range)
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 47.8	Expected 50,0	I	Recovery 95.5	Accepta 90 - 110	ince Range
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 46.8	Expected 50.0	ı	Recovery 93.6	Accepta 90 - 110	ince Range
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.8	Expected 50.0	į	Recovery 99.6	Accepta 90 - 110	ince Range
Parameter Manganese	Unit ug/L	DF 1.00	Result 48.7	Expected 50.0	F	Recovery 97.4	Accepta 90 - 110	nce Range



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Metals by 200.7, Dissolved

Batch 030911A-Th

metais by 200.7, Dissoit	veu		Batter	1 030911A-1h		
Parameter	·	Unit	Ana	ılyzed [DF MDI	L RL Result
993921-002 Iron		ug/L	03/09	9/2011 14:30 1	.00 3.00	20.0 ND
Method Blank		,				
Parameter Iron	Unit ug/L	DF 1.00	Result ND			
Duplicate						Lab ID = 993921-002
Parameter Iron Lab Control Sample	Unit ug/L	DF 1.00	Result ND	Expected 0.00	RPD 0	Acceptance Range 0 - 20
Parameter Iron Matrix Spike	Unit ug/L	DF 1.00	Result 5080	Expected 5000	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 993921-002
Parameter Iron MRCCS - Secondary	Unit ug/L	DF 1.00	Result 1860	Expected/Added 2000(2000)	d Recovery 92.8	Acceptance Range 75 - 125
Parameter Iron MRCVS - Primary	Unit ug/L	DF 1.00	Result 5100	Expected 5000	Recovery 102.	Acceptance Range 90 - 110
Parameter Iron MRCVS - Primary	Unit ug/L	DF 1.00	Result 4970	Expected 5000	Recovery 99.4	Acceptance Range 90 - 110
Parameter Iron Interference Check St	Unit ug/L	DF 1.00	Result 4950	Expected 5000	Recovery 99.0	Acceptance Range 90 - 110
Parameter Iron Interference Check St	Unit ug/L	DF 1.00	Result 1980	Expected 2000	Recovery 99.0	Acceptance Range 80 - 120
Parameter Iron Interference Check St	Unit ug/L andard AB	DF 1.00	Result 2000	Expected 2000	Recovery 100.	Acceptance Range 80 - 120
Parameter Iron	Unit ug/L	DF 1.00	Result 2030	Expected 2000	Recovery 102.	Acceptance Range 80 - 120



ORGIN. EZ GUNSUKUNU ENDINEERS INC	Client:	E2 Consulting	Engineers Inc	
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Interference Check Standard AB

Parameter Iron	Unit ug/L	DF 1.00	Result 2020	Expected 2000	F	Recovery 101.	Acceptar 80 - 120	nce Range
Turbidity by SM 2130 B	* 1		Batch	03TUC11C			3/2/2011	
Parameter		Unit	Ana	llyzed	DF	MDL	RL	Result
993921-001 Turbidity 993921-002 Turbidity		NTU NTU		2/2011 2/2011	1.00 1.00	0.0140 0.0140	0.100 0.100	ND ND
Method Blank			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	***************************************		0.0110	0.100	
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID = 9	93921-002
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0.00	F	RPD 0	Acceptar 0 - 20	ice Range
Parameter Turbidity Lab Control Sample D	Unit NTU uplicate	DF 1.00	Result 7.71	Expected 8.00	R	ecovery 96.4	Acceptan 90 - 110	ice Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.60	Expected 8.00	R	ecovery 95.0	Acceptan 90 - 110	ce Range

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services





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,	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	Nο	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	5180.0	125.0	5180.0	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	5 9 2.0	25.0	592.0	1
LCSD											1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$$

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)

Reviewer Signature

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



Start of Analysis: Date Sampled: Date of Analysis:

Alkalinity by SM 2320B Calculations

03ALK11A 3/2/11 Water Analytical Batch:[Date Calculated: Matrix:

EZ Condon

Lab ID	Sample pH	Sample Volume (mi)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant 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 CaCO, (ppm)	CO3 Alkalinity as CaCO ₃ (ppm)	OH Alkalinity as CaCO ₃ (ppm)	Low Alkalinity as CaCO ₃
BLANK	7.08	50	0 05		0.0	900		1.0	5	ON	ND	ΔN	Ū N	
993820-1	7.85	50	0.02		0.0	5.30		106.0	2	106.0	106.0	Q	ON	
993820-2	6.43	50	0.02		0.0	0.10		2.0	5	ON	QN	Q	ON	
993820-3	630	20	0.03		0.0	0.15		3.0	5	ON	ND	QN	ON	
993820-4	5.82	50	0.02		0.0	0.20		4.0	5	ON	ND	ND	QN	
993820-5	6.05	20	200		0.0	0.10		2.0	5	ON	ΟN	GN	GN	
963820-6	5.95	20	0.02		0.0	0.10		2.0	5	Q	ND	Q	Q	
993820-7	6.40	- 20	0.02		0.0	0.10		2.0	5	QN	QN	ON	QN	
993827-20	7.77	20	0.02		0.0	460		92.0	5	92.0	92.0	Q	Q	
993834.1	6.96	20	0.02		0.0	7.70		154.0	5	154.0	154.0	QN	QN	
993834-2	6.86	50	0.02		0.0	8.20		164.0	D.	164.0	164.0	ON	ON	
993843	7.41	20	0.02		0.0	5.95		119.0	ĽΩ	119.0	119.0	QN	Q	
993879-20	7.96	- 50	0.02		0.0	4.75		95.0	5	95.0	95.0	QN	ON	
993921-1	7.32	- 20	0.02		0.0	1.60		32.0	5	32.0	32.0	ON	ND	
993921-2	7.67	- 50	0.02		0.0	7.70		154.0	ĸ	154.0	154.0	QN	ND	
993921-1 DUP	7,29	50	0.02		0.0	1,55		31.0	5	31.0	31.0	QN	ND	
SW 1-126266	5.91	50	0.02	20	40.0	6.65		133.0	5	133.0	53.0	90	ON	
993921-1 MSD	9.91	50	80	20	40.0	6.55		131,0	ro	131.0	51.0	90	ND	
1857	10.40	20	0.02	က လ	45.0	505		101.0	κ'n	101.0	11.0	8	ON	
ICS2	- state state of	8										QN		

Calculations as follows:

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

P = Phenolphthalein Alkalinity, mg CaCO3/L T = Total Alkalinity, mg CaCO3/L

Where:

ND: Not Detected (below the reporting limit)

LCSD: Laboratory Control Standard Duplicate LCS: Laboratory Control Standard

MSD: Matrix Spike Duplicate TOPPAR

068

MS: Matrix Spike

A = mL standard acid used

N = normality of standard acid

(2 x B - C) x N x 50000 mL sample Low Alkalinity: = as mg/L CaCO3

Where: B = mL titrant to first recorded pH

C = total mL titrant to reach pH 0.3 unit lower

N = normality of standard acid

Analyst Signature

Mun / Reviewer Printed Name

Reviewer Signature

Analyst Printed Name

Rec'd 03/01/11
s 99392 Rec'd

CHAIN OF CUSTODY RECORD

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

[IM3Plant-WDR-298]

DATE 03/01/11

PAGE 1 10 Days TURNAROUND TIME COC Number

P

200, COMMENTS のエル 2 NUMBER OF CONTAINERS Soluable Silica - Reactive (4500-Si Corb) 3 Dissolved Metals (200.7) Fe, Mn lab fillered × × 70C (5310 C) (300.0) F, NO3, SO4 × (9-0084) q letot × × Total Metals (2002.7) See List Below (EHN-0024) EINOMINA × × Turb (2130) × 70S (2540 c) × × × EC (150.1) (8-0282) Kijuije (8-0-8) Cr(VI) (218.6) Lab Fillered × × × × × DESCRIPTION FAX 530-339-3303 B 13. HME 03/01/11 03/01/11 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 PG&E Topock IM3 530-229-3303 CH2M HILL /E2 408401.01.DM SC-700B-WDR-298 SC-100B-WDR-298 SAMPLERS (SIGNATURE PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE

	CHAIN OF CUSTODY SIGNATU	SIGNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Le Printed Scotto Danel	1 Company Chzwhill	Date/ Time 3-1-11 / 510	RECEIVED COOL WARM "F
Signature (Received)	Mrile Name Radal	Company/ T . L I	Date/ 3 ~ ! ~ !/ Time / 5 . ! O	CUSTODY SEALED YES 🔲 NO 🗖
Signature Signature (Relinquished)	Drub (Name Ka fort)	Company/ - L. L. L	Date/ 3-1-//	2/" > SPECIAL REQUIREMENTS:
Signature / C/Q/Q/	Printed / Stellus	Company TC	Date/ 3/1/1 41:30	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo. Ni. Fe. Zn
COSignature CorRelinguished)	Printed Name	Company/ Agency	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

TOTAL NUMBER OF CONTAINERS

 \mathcal{D}

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
02/11/11	993626-8	9,5	12/4	NA	A/10	SB
	-9	(,	1
	-10	·				
	-11					
	-12					
	-14		·	·		
	-16					
	-17					
4	J -18	*	d	1	*	1
02/18/H	993624-1	9.5	12/A	A/A	10/A	SE
	-2			f	İ	1
y .	√ ⁻³		· st	V	1	<u>بلا</u>
02/16/u	993705	7.0	5.00	9.5	8'-00	<u>53</u>
02 23 11	993799	7.0	2'00	9.5	8:30	SB
02/25/11	993866-2	9.5	N/A	NA	AKI	SB
02/28/11	993867	9.5	N/A ·	NA	N/A	SB
02/25/11	993868-1	9.5	A/N	AKA	N/A	SB
b	1 -2	<u>4</u>	J.	مل	J	4
03/02/11	993920-1	7.0	5.00	9.5	10:05	SB.
03/02/11	993921-1	7.0	5.00	9.5	10:10	SB
4	1 -2	<u></u>	J.	4	10:15	`2B
					·	
		<u> </u>				



Turbidity/pH Check

			ıuı	piaity/pn c	neck	,		
	Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)	
Ţ	997843	61	フス	2/25/11	B	No	44 D 2 20 P	አ
	993839(1-8)	41	イ ス	1	1		94 02:30 p.	ianto
Γ	1 840 (1-4)	1	1				· m	
	V 841(1-9)							
	993866-1	41	Z 2	2/25/11	KK	Ve8		
Ī	993867.	4	42	J	V	*	_	
	993262 (1-2)	۷1	42	1	1	T T		
	993502 (1-15) 41	42	2/13/11		Nio		
.	993653 (1-2)	41	72	2/28/11	ES ES	NU	iff a sulivip	3
.1	0993871(1-7)	つり	72		i	NO NU Yufertital	<i>y</i> - <i>y</i> - <i>t</i>	
	1 872(1-10)	ì	1			1		
	V 877(1-6)	T T			i l		_	
[993869(1-6)	フリ	47	3/11	ŁS	Yes 1	(1-4 SPC)(525,0	noica)
	993886	41	12			NO		
ļ	1 887					<u> </u>		1
	V 889		l					
ļ	993897 (1-10)	<u> </u>	72	<u> </u>			ysazzop.	}
ļ	993919 11-2	7/	<u> </u>	3/2/11	MIM	Yes	7	
	993953	7/	22	3/2/11	MOI	1/c 5	,—————————————————————————————————————	
ì	993297 (1-68)	41	12	01/31/11	WE,	100		
***************************************	193322 (1-11)	<u> </u>	47_	02 02 11	4	140	·	
***************************************	997966	71	12	3/7/11	ES	Yes		
	993967	41	42			70		
-	969	61	22			 		
	970	41	42		·	<u> </u>		
-	987	71	22]	<u> </u>	74		
1	9 44	21 C1	22			'Nu		
harri	999	71				V Clea		
-	99 4 00 0	21	22 22	-V-1.	ES.	yes	91/3/	ĺ
	993949(1-8)	21	12	3/7/11	<u> </u>	y-es	3010 A	
-	993991 (1-3)	41	42			1 1	1	
	993991 (1-3)		72	3/7/11	<u> </u>	No		[
	913705	<i>L</i> 1	72	3/8/11	ES	No	45 22:00 p. n	1.7
	993799	Zi	ファ	1 2 X 1'	<u> </u>		A2.05.00 h.w	
-	993920(1-2)	2	72 72			 	+ t	
1/1		4	62		- t		yu far Dissolve	1.2:000
'14	994023	21	42	3/8/11	+-5	No	1 200 100000000000000000000000000000000	warry,
-	994624			,				ĺ
	994025					1-1		
ŧ	994026							
and the state of t	027	1	L		1	17		
diameter	024	71	22	T.V		Y60		
dimension	006(160	ido)	The	I.		 		
•	994039	21	Z 2	3/9/11	ES	NO		
Ī	994040(1-3)	< 1	72	1		1	ys 211:20	
Ì	993560(2-12)	41	12	3/8/11	KK	No		
Ī	993561 (1-9)	4	12	3/8/11	. Kb-	No		
	793323(19	41	2	2/6/11	KK-	100		
-			- · · · · · · ·	. ,				



Sample Integrity & Analysis Discrepancy Form

Clie	int:E&	Lab #	13921
Date	e Delivered: <u>0</u> 3/ <u>0/</u> /11 Time: <u>2/-3</u> 0 By: □Mail ØF	ield 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	Ø N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No	Ø N⁄A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	¤ į N⁄A
5.	Were all requested analyses understood and acceptable?	Ø(Yes □No	□ <i>N/A</i>
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>V°C</u>	XQYes □No	□ <i>N/A</i>
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)?	Ø Yes □No	□N/A
8.	Were sample custody seals intact?	□Yes □No	ØN/A
9.	Does the number of samples received agree with COC?	Ø(Yes □No	□N/A
10.	Did sample labels correspond with the client ID's?	ØYes □No	□N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail △Client	ØlYes □No	□ <i>N/A</i>
12.	Were samples pH checked? pH = <u>Sel</u> C.O. C.	©Yes □No	□ <i>N/A</i>
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	A Yes □No	□N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH ☑ Std	ØYes □No	□ <i>N/A</i>
15.	Sample Matrix: □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid Xac		
16.	Comments:		
7.	Sample Check-In completed by Truesdai! Log-In/Receiving:	Ludg	

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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.

Mona Nassimi

Manager, Analytical Services

K. R. P. gre

K.R.P. Iyer

Quality Assurance/Quality Control Officer

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

Laboratory No.: 994045

www.truesdail.com

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

EXCELLENCE IN INDEPENDENT TESTING

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

Oakland, CA 94612

Attention: Shawn Duffy

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

Established 1931

Date Received: March 8, 2011 Laboratory No.: 994045

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

P.O. No.: 408401.01.DM

Analytical Results Summary

ab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
994045-001	SC-700B-WDR-299	.	NONE	3/8/2011	13:30	13:30 EC	7480	umhos/cm	2.00
994045-001	SC-700B-WDR-299		NONE	3/8/2011	13:30	13:30 Chromium	N Q	ug/L	1.0
994045-001	SC-700B-WDR-299	E200.8	NONE	3/8/2011	13:30	13:30 Manganese	4.2	ng/L	1.0
994045-001	SC-700B-WDR-299	E218.6	LABFLT	3/8/2011	13:30	3:30 Chromium, hexavalent	Ω	ng/L	0.20
994045-001	SC-700B-WDR-299	SM2130B	NONE	3/8/2011	13:30	13:30 Turbidity	ΩZ) NTC	0.100
994045-001	SC-700B-WDR-299	SM2540C	NONE	3/8/2011	13:30	3:30 Total Dissolved Solids	4230	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Result above or equal to 0.01ppm will have three (3) significant figures. Note: The following "Significant Figures" rule has been applied to all results: Quality Control data will always have three (3) significant figures. Results below 0.01ppm will have two (2) 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. 994045

Printed 4/5/2011

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Samples Received on 3/8/2011 9:30:00 PM

Field ID				Lab ID	Colle	ected	Matri	x
SC-700B-WDR-299				994045-001	03/08/2	2011 13:30	Wate	er .
Specific Conductivity - Ef	PA 120.1		Batch	03EC11C			3/11/2011	
Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
994045-001 Specific Conductiv	vity	umhos/	cm 03/11	/2011	1.00	0.0380	2.00	7480
Method Blank								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND				Lab ID =	994045-001
Duplicate Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7490	Expected 7480		PD 0.134	Accepta 0 - 10	ince Range
Parameter Specific Conductivity Lab Control Sample Du	Unit umhos	DF 1.00	Result 705	Expected 706		ecovery 99.8	Accepta 90 - 110	ince Range)
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 707	Expected 706	R	ecovery 100.	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 703	Expected 706	R	ecovery 99.6	Accepta 90 - 110	ance Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 1000	Expected 999	R	ecovery 100.	Accepta 90 - 11	ance Range

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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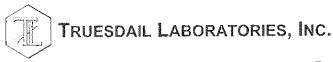
Project Number: 408401.01.DM

Printed 4/5/2011

Chrome VI by EPA 218.6

Batch 03CrH11D

				4901111112				
Parameter		Unit	Ana	iyzed [OF .	MDL	RL	Result
994045-001 Chromium, Hexa	valent	ug/L	03/09	/2011 17:09 1	.05	0.0210	0.20	ND
Method Blank	.,					77,81		
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate							Lab ID =	994045-001
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.05	ND	0.180		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ance 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/Adde	d R	tecovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.24(1.06)		101.	90 - 110)
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	5.07	5.00		101.	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	lecovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0		102.	95 - 10	5



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, Tota	ai		Batch	040111A				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
994045-001 Chromium		ug/L	04/01	/2011 19:15 5	5.00	0.0950	1.0	ND
Manganese		ug/L	04/01	/2011 19:15 5	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	F	RPD	Accepta	ance 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	F	Recovery	Accepta	nce 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/Adde	ed l	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	230.	250.(250.)		92.0	75 - 125	5
Manganese	ug/L	5.00	222.	254.(250.)		86.9	75 - 12	5
Matrix Spike Duplicate							Lab ID =	994045-001
Parameter	Unit	DF	Result	Expected/Adde	ed l	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	229.	250.(250.)		91.6	75 - 12	5
Manganese	ug/L	5.00	223.	254.(250.)		87.6	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance 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	כ
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	51.2	50.0		102.	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	51.6	50.0		103.	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

Project Number: 408401.01.DM

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Total Dissolved Solids b	y SM 2540	ОС	Batch	03TDS11C			3/10/2011	1.139.2 1.43
Parameter		Unit	Anal	yzed	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 Duplicate	mg/L	1.00	ND				Lab ID = 9	94029-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 1180	Expected 1140	F	3.45	Acceptar 0 - 5	nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 494	Expected 500.	F	Recovery 98.8	Acceptar 90 - 110	nce Range
Turbidity by SM 2130 B			Batch	03TUC11I			3/9/2011	1
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
994045-001 Turbidity		NTU	03/09	/2011	1.00	0.0140	0,100	ND
Method Blank								
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID = 9	994045-001
Parameter Turbidity	Unit NTU	DF 1.00	Result ND	Expected 0.00	F	RPD 0	Accepta 0 - 20	nce Range
Lab Control Sample								
Paramet e r Turbidity	Unit NTU	DF 1.00	Result 7.75	Expected 8.00	F	Recovery 96.9	Accepta 90 - 110	nce Range
Lab Control Sample I	Duplicate							
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.77	Expected 8.00	F	Recovery 97.1	Accepta 90 - 110	nce Range

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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

Batch: 03TDS11C Date Calculated: 3/15/11

Laboratory Number	Sample volume, ml	Initial weight _i 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	78.4032	78.4032	78.4032	0.0000	No	0.0000	0.0	25.0	ND	1
994005-16	50	68.6606	68.6999	68.6999	0.0000	No	0.0393	786.0	50.0	786.0	1
994029	50	69.5331	69.5901	69.5901	0.0000	No	0.0570	1140.0	50.0	1140.0	11
994045	10	73.0052	73.0475	73.0475	0.0000	No	0.0423	4230.0	250.0	4230.0	1
994056	50	67.7092	67.7734	67.7734	0.0000	No	0.0642	1284.0	50.0	1284.0	11
994063-1	100	105.6343	105.6891	105.6891	0.0000	No	0.0548	548.0	25.0	548.0	1
994063-2	50	47.0960	47,1741	47.1741	0.0000	No	0.0781	1562.0	50.0	1562.0	1
994063-3	50	74.7655	74.8709	74.8709	0.0000	No	0.1054	2108.0	50.0	2108.0	11
994063-4	100	73.6082	73.6667	73.6667	0.0000	No	0.0585	585.0	25.0	585.0	1
994029D	50	51.1392	51.1982	51.1982	0.0000	No	0.0590	1180.0	50.0	1180.0	1
LCS	100	49.3892	49.4386	49.4386	0.0000	No	0.0494	494.0	25.0	494.0	1
LCSD											1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1^{-6}$$

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)

Reviewer Signature

TDS/EC CHECK

Batch: 03TDS11C Date Calculated: 3/15/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
994005-16	1390	0.57	903.5	0.87
994029	1850	0.60	1202.5	0.92
994045	7560	0,56	4914	0.86
994056	2150	0.60	1397.5	0.92
994063-1	929	0.59	603.85	0.91
994063-2	2440	0.64	1586	0.98
994063-3	3260	0.65	2119	0.99
994063-4	947	0.62	615.55	0.95
994029	1850	0.64	1202.5	0.98
LCS				
	-			



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

CHAIN OF CUSTODY RECORD
[IM3Plant-WDR-299]

COC Number

TURNAROUND TIME

10 Days PAGE 1 DATE 03/08/11

9

OMPANY	E2									_	 •	_		_	_				COMMENTS	·
ROJECT NAME	PG&E Topock										 	_								······································
HONE	(530) 229-3303	***************************************	FAX (530)	FAX (530) 339-3303			(Carried Marie Mar			~ 	60	1/00					S			· · · · · · · · · · · · · · · · · · ·
DDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 612	******				UW	(501))sta			n -			TAINER	AINER.			
O. NUMBER	408401.01.DM		TEAM	_		Filtered	(2) (L)	() _{euce} ()		(08		\				COV				····
AMPLERS (S) GNATURE	ATURE				3.6)	GE) SIEJE	CONDUIC	V524OC)		(ISWS)	 					40 A3				
SAMPLE I.D.		DATE	TIME	DESCRIPTION	CVB (518	CA (278	Specific	Specific	-	6.						BWON				
SC-700B-WDR-299	R-299	03/08/11 /3:32	13:38	Water	×	×	×	×	×						3			70	W=6 200	282
															6		OTAL NU	, MBER OF	TOTAL NUMBER OF CONTAINERS	ERS



For Sample Conditions See Form Attached

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	NA	$\mathcal{Z}\mathcal{B}$
4	-3 -4	į		l .	1	
	-3					
	-4					
	-5					
	-6			· ·		
	-6 -7 -8					:
	-8					
ولا	-9	4	4	×	J	
03/07/11	993991-1	9.5	N/A	NA	NA	$\mathcal{Z}\mathcal{Z}$
ſ	1-2		l .			
	√ −3		J	-		1
0 3/09/4	994044	¥.0	5.00	9.5	givo	Be
3/9/11	994045	7.0	5,00	9,5	12:30	plh
03/10/11	994062-1	9.5	N/A	N/A	N/A	SB
	-2					ĺ
	-3					
	-4					
	- کے			-		
	-6					
	-7					
	-8					
	-8				·	
	(0					
	-11					
	-12				-	
	-13					
	-14					
	-15					
	-(6					
4	₩-17	المد	b	₩	4	th



Turbidity/pH Check

Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to
994062 (1-17)	· · · · · · · · · · · · · · · · · · ·	22	3 (1) (1)	ES		pH<2 (Y/N) - 3010 4
994069(1-7)	41	1.	1	<u> </u>	tes.	1
994071		w	3/14/11	ES		201013
994092	(7)	22	7/14-1	<u></u>	725	7767075
994093	4-1				No	
993563	-	42	030911	KK	NO	
993799	<u> </u>		03011	T I	100	
993705	<u> </u>	<u>42</u>			+ -	
002121 100		<u> </u>	031111	Ţ	V	
994118	21	47		E S		
994118		22	3/15/11	<u> </u>	yu	
994136	2	72	3/17/11	ES	No	14. 7/17/01/11
994152	21	12	9117111	<u> </u>	NU	yes 2 1:00 p.m
994157	2	75	 		740	3010A
	2	42		<i>-</i>	1705	1
994161	ZI	42		- 1 7	Yes NU	-
394/74	>1	1	3/18/11	MM	1/40	226/
994175	51	< 2	3//0/"	1	yes	3010 A
994116	121	< 2 < 2	 			
094180	71	<u>< </u>	 	<u> </u>	 	
	41	e 2	3 21/11	ES	V _{NO}	
1794163(1-4)	`d	72	9 21111	<u> </u>	140	2:10 1
994199	7/	42	+	 		ys 2 3 00 p.
994211	1	<u> </u>	<u> </u>		ys	
994202						
0011103	Li-	TIC			yes No	The
994203	41	Z 2		 	1 1/5	1/2
211	,	1			100	
994208 (1-2	21	Z2	 		+ +	
994212(1-2)		12	 		1 ys	
213	<u> </u>		 		1	
214 (1-2)			<u> </u>			
215 (1-4)	1 1			1	+ 1/	
094140	71	12	3/22/11	T.	1//	
994240	4	12	7/24-1	<u> </u>	ys Tes	
99420211-6	21	12 12 12				
994223(1-4) 994242 243 244	41	67			 	
994242		1			-	
243						
244						
245		1	1 1			
994257 (1-3)	1	72		1 1		igo a 3:30 p.1
994258	71	72 42		1/	7-43	10 1-1-
001250	21	72	3/24/11	ES	'N	yw N/2: 30 p
994279	21	72	1	1	NO	
994045	(2)	>9	3/27/1	pip	No	Yes 2 15:30p.
49419411	1/2/	> 2 < 2	3/24/11	N.M	No No	1/2-
994296	7/	< 2	3/24/11	MM	Yes	
		^			7	



Sample Integrity & Analysis Discrepancy Form

Clie	nt:	Lab # ⁹	94647
Date	e Delivered: <u>03</u> / <u>8</u> /11 Time:2 <u>/:30</u> By: □Mail 図F	ield Service	⊐Client
1.	Was a Chain of Custody received and signed?	Ż(Yes □No	□N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	`¤(N/A
З.	Are there any special requirements or notes on the COC?	□Yes □No	ŲN⁄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)? <u> </u>	ØYes □No	□ <i>N/A</i>
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	⊈lYes □No	□N/A
8.	Were sample custody seals intact?	□Yes □No	β ΩN/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	ŽŠÍN/A
12.	Were samples pH checked? pH = $\frac{SU}{C}$ C . C .	ØrYes □No	□N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	A Yes □ No	□ <i>N/A</i>
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH 总 Std	fØlYes □No	□ <i>N/A</i>
15.	Sample Matrix: □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid 💆	Water □Wast Other <u>Wa</u> &	
16.	Comments:		
47	Sample Check-In completed by Truesdail Log-In/Receiving:	Juda	



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.

, -

Fo - Mona Nassimi

Manager, Analytical Services

FOIKRP. Iyer

Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING



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

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

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	lordan 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

EXCELLENCE IN INDEPENDENT TESTING

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



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Established 1931

Laboratory No.: 994136

Revision 1; April 12, 2011

Date Received: March 15, 2011

Analytical Results Summary

Lab Sample ID Field ID) Field ID	Analysis Method	Extraction	Xtraction Method Sample Date	Sample	200		1	ā
		80	POLICE	campic Parc	11116	raiaineter	Result	Units	귚
994136-001	SC-700B-WDR-300 E120.1	E120.1	NONE	3/15/2011	14:30	EC	7490	mo/sodmi	00 0
994136-001	SC-700B-WDR-300	E200.8	NON	3/15/2011		Chromium	ב ב		
994136-001	SC-700B-W/DB-300			3/45/2044			Ž 4	ug/L) (
004400				1070170		wanganese	Ö.	ng/L	J.
100-081 486	SC-700B-WDK-300		LABFLT	3/15/2011		Chromium, hexavalent	0.23	חמ/ך	0.20
994136-001	SC-700B-WDR-300	SM2130B	NONE	3/15/2011	14:30	Turbidity	Ž		100
994136-001	SC-700B-WDR-300	SM2540C	HNCN	3/15/2011	14.30	Total Dissolved Solids	7 1) = - (S 2
]		9		1010	7/5	007

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

Result above or equal to 0.01ppm will have three (3) significant figures. Note: The following "Significant Figures" rule has been applied to all results: Quality Control data will always have three (3) significant figures. Results below 0.01ppm will have two (2) 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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Page 1 of 6

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Printed 4/2/2011

Laboratory No. 994136

REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

P.O. Number: 408401.01.DM

Samples Received on 3/15/2011 9:30:00 PM

Field ID				Lab ID	Colle	ected	Matr	ix
SC-700B-WDR-300				994136-001	03/15/2	2011 14:30	Wat	er
Specific Conductivity - E	PA 120.1		Batch	03EC11G			3/16/2011	l
Parameter		Unit	Ana	lyzed	DF	MDL	RĻ	Result
994136-001 Specific Conduct	ivity	umhos	/cm 03/16	6/2011	1.00	0.0380	2.00	7490
Method Blank						· · · · · · · · · · · · · · · · · · ·		
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	994136-001
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 7460	Expected 7490		PD 0.401	Accepta 0 - 10	nce Range
Lab Control Sample								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 701	Expected 706		ecovery 99.3	Accepta 90 - 110	nce Range
Lab Control Sample De	uplicate							
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 697	Expected 706		ecovery 98.7	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 708	Expected 706		ecovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 995	Expected 996		ecovery 39.9	Accepta 90 - 110	nce Range

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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	Anal	lyzed	DF	MDL	RL	Result
994136-001 Chromium, Hexa	valent	ug/L	03/17	/2011 14:50	1.05	0.0210	0.20	0.23
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	994157-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 3.73	Expected 3.78		RPD 1.41	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.07	Expected 5.00		Recovery 101.	90 - 110	ance Range) 994063-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 9.05	Expected/Ad 9.06(5.30)	ded	Recovery 99.8	90 - 110	ance Range) 994063-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1,06	Result 15.7	Expected/Ad 15.7(10.6)	ded	Recovery 100.	90 - 110	ance Range) 994063-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 6.90	Expected/Ad 6.85(5.30)	ded	Recovery 101.	90 - 11	ance Range 0 994063-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.98	Expected/Ad 9.03(5.30)	ded	Recovery 99.0	90 - 11	ance Range 0 994136-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.90	Expected/Ad 6.06(5.25)	ded	Recovery 96.9	90 - 11	ance Range 0 994136-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.35	Expected/Ad 1.29(1.06)	lded	Recovery 105.	90 - 11	ance Range 0 : 994157-001
Parameter Chromium, Hexavalent	Unit ug/L	DF 1,06	Result 9.06	Expected/Ad 9.08(5.30)	lded	Recovery 99.7	Accept 90 - 11	ance Range 0



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 4/2/2011

Metals	Ь.	EDA	200	0 T.	
Metals.	DV	EPA	200 .	8. IE	mai

•								
Parameter		Unit	Ana	lyzed I	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	R	PD	Accepta	ance 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	F	lecovery	Accepta	ance Range
Chromium	ug/L	1.00	53.6	50.0		107.	90 - 110	0
Manganese	ug/L	1.00	50.0	50.0		100.	90 - 110	0
Matrix Spike							Lab ID =	994094-023
Parameter	Unit	DF	Result	Expected/Adde	d R	lecovery	Accepta	ance Range
Chromium	ug/L	5.00	252.	250.(250.)		101.	75 - 12	5
Manganese	ug/L	5.00	218.	250.(250.)		87.2	75 - 12	5
Matrix Spike Duplicate	•						Lab ID =	994094-023
Parameter	Unit	DF	Result	Expected/Adde	ed F	lecovery	Accepta	ance Range
Chromium	ug/L	5.00	249.	250.(250.)		99.7	75 - 12	5
Manganese	ug/L	5.00	214.	250.(250.)		85.8	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	lecovery	Accepta	ance Range
Chromium	ug/L	1.00	48.9	50.0		97.7	90 - 11	0
Manganese	ug/L	1.00	51.0	50.0		102.	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	lecovery	Accepta	ance Range
Chromium	ug/L	1.00	49.2	50.0		98.4	90 - 11	0
Manganese	ug/L	1.00	48.7	50.0		97.4	90 - 11	0
Interference Check Sta	andard A							
Parameter	Unit	DF	Result	Expected	F	lecovery	Accepta	ance Range
Chromium	ug/L	1.00	ND	0.00		-	-	



Client: E2 Consulting I	Engineers, Ir	10.	Project Name Project Numb	: PG&E Top er: 408401.01.	ock Project DM	Printed Revised	Page 5 of 4/12/2011	
Interference Check	Standard A							
Parameter Chromium Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0.00	Recovery	Accep	tance Ran	ge
Parameter Manganese Interference Check	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Accep	tance Rang	ge
Parameter Manganese Interference Check	Unit ug/L Standard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Accept	tance Ranç	је
Parameter Chromium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 48.6	Expected 50.0	Recovery 97.2	Accept 80 - 12	ance Rang 0	je
Parameter Chromium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 48.5	Expected 50.0	Recovery 97.0	Accept 80 - 12	ance Rang 0	je
Parameter Manganese Interference Check S	Unit ug/L	DF 1.00	Result 49.2	Expected 50.0	Recovery 98.4	Accepta 80 - 120	ance Rang 0	е
Parameter Manganese	Unit ug/L	DF 1.00	Result 48.1	Expected 50.0	Recovery 96.1	Accepta 80 - 120	ance Range	е
Total Dissolved Solids I Parameter		C Unit	Batch Anal	04TDS11C yzed	DF MDL	4/8/2011 RL	Result	-
994136-001 Total Dissolved	Solids	mg/L	04/08/	2011	1.00 0.434	250.	4540	 J
Method Blank Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND					
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4940	Expected 4820	RPD 2.36		993429-002 nce Range	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 485	Expected 500.	Recovery 97.0	Acceptai 90 - 110	nce Range	ı

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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 4/2/2011

Turbidity by SM 2130 B			Batch 03TUC11L				3/16/2011	
Parameter	te e i i te i i te i i i i i i i i i i i	Unit	Ana	lyzed	DF	MDL	RL	Result
994136-001 Turbidity		NTŲ	03/16	5/2011	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	F	RPD	Acceptance Rang	
Turbidity	NTU	1.00	ND	0.00		0	0 - 20	_
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.75	8.00		96.9	90 - 110	
Lab Control Sample D	uplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.70	8.00		96.2	90 - 110	_

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Calculations

Batch: 03TDS11E

Date Calculated: 3/23/11

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,	Reported Value, ppm	DF
BLANK	100	72.4278	72.4284	72.4284	0.0000	No	0.0006	6.0	25.0	ND	1
994136	10	50.6111	50.6744	50.674	0.0004	No	0.0629	6290,0	250.0	6290.0	1
994141-1	1000	104.2456	104.2478	104.2478	0.0000	No	0.0022	2.2	2.5	ND	1
994141-2	1000	112.3602	112.3616	112,3616	0.0000	No	0.0014	1.4	2.5	ND	1
994201	200	109.1125	109.1225	109.1225	0.0000	No	0.0100	50,0	12.5	50.0	1
994202	200	111.5214	111.5306	111.5306	0.0000	No	0.0092	46.0	12.5	46.0	1
994221	200	92.1021	92.1186	92.1186	0.0000	Nο	0.0165	82.5	12.5	82.5	1
MDL1	1000	111.2891	111.2916	111.2916	0.0000	No	0.0025	2,5	2.5	מא	1
MDL2	1000	110.3681	110.3708	110.3708	0.0000	No	0.0027	2,7	2.5	2.7	1
MDL3	1000	115.2430	115.2456	115.2456	0.0000	No	0.0026	2.6	2.5	2.6	1
MDL4	1000	104.8931	104.8954	104.8954	0.0000	No	0.0023	2.3	2.5	ND	1
994136D	10	49.7210	49,7836	49.7836	0.0000	No	0.0626	6260.0	250.0	6260.0	1
LCS	100	73,6636	73.7135	73.7135	0.0000	No	0.0499	499.0	25.0	499.0	1
MDL5	1000	102.8502	102.8527	102.8527	0.0000	No	0.0025	2.5	2.5	ND	1
MDL6	1000	111.1884	111,191	111.191	0.0000	Nο	0.0026	2.6	2.5	2.6	1
MDL7	1000	109.3948	109.3974	109.3974	0.0000	No	0.0026	2.6	2.5	2.6	1

LCSD	į										1

Calculation as follows:

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

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

 ${\bf B}=$ weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

ne

Analyst Signature

Reviewer Printed Name

Reviewer Signature

TDS/EC CHECK

Batch: 03TDS11E Date Calculated: 3/23/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	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			<u> </u>	
MDL3				
MDL4				
994136D	7480	0.84	4862	1.29
LCS				
MDL5				
MDL6				
MDL7				
			 	
			1	



M

021



Calculations

Batch: 04TDS11C Date Calculated: 4/12/11

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	112.3568	112.3588	112.3586	0.0002	No	0.0018	18.0	25.0	ND	1
994431-11	100	108.6473	108,704	108.704	0.0000	No	0.0567	567.0	25.0	567.0	1
994431-12	100	112.9756	113.0308	113.0307	0.0001	No	0.0551	551.0	25.0	551.0	1
994496-1	50	67.7989	67.8832	67.8832	0.0000	No	0.0843	1686.0	50.0	1686.0	1
994496-2	50	67.7686	67.8077	67.8073	0.0004	No	0.0387	774.0	50.0	774.0	1
994496-3	50	73.0136	73.1125	73.1121	0.0004	No	0.0985	1970.0	50.0	1970.0	<u>:</u> -
994136	10	67.7264	67.7718	67.7718	0.0000	No	0.0454	4540.0	250.0	4540.0	<u>:</u> 1
994259	10	68.2275	68.2728	68.2727	0.0001	No	0.0452	4520.0	250.0	4520.0	<u>-</u> 1
994537-1	100	111.3960	111.439	111.439	0.0000	No	0.0430	430.0	25.0	430.0	1
994537-2	100	112.9000	112.9613	112.9608	0.0005	No	0.0608	608,0	25.0	608.0	<u>-</u> -
993429-2	10	47.9736	48.0199	48.0196	0.0003	No	0.0460	4600.0	250.0	4600.0	<u>-</u>
994496-3D	50	76.2120	76.311	76.3108	0.0002	No	0.0988	1976.0	50.0	1976.0	
LCS	100	110.3632	110.4117	110.4117	0.0000	No	0.0485	485.0	25.0	485.0	<u>'</u> 1
993429-2	20	68.2018	68.2981	68.2981	0.0000	No	0.0963	4815.0	125.0	4815.0	:
993429-2D	20	65.9795	66.0782	66.0782	0.0000	No	0.0987	4935.0	125.0	4935.0	1
LCSD	AVV										1

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$$

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

8 = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

TDS/EC CHECK

Batch: 04TDS11C

Date Calculated: 4/12/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	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
		agalahan halibangkan halibanga ny diagolypapak najigaliha ny lipon ny mby ariqosiy ay maso ny my		Total Care California and the bendance or security



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

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-300]

TURNAROUND TIME COC Number

PAGE 1 DATE 03/15/11

Р

10 Days

PH=6-200,7 COMMENTS NUMBER OF CONTAINERS m 0) 699 Rec'd Turbidity (SM2130) TOS (SMZSGOC) Tobs Metals (200.7) Cr6 (218.6) Lab Filtered DESCRIPTION FAX (530) 339-3303 Water 03/15/11 14:30 T.W. 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 408401.01.DM PG&E Topock SAMPLERS (SIGNATURE SC-700B-WDR-300 舀 PROJECT NAME P.O. NUMBER SAMPLE 1.D. COMPANY ADORESS PHONE



For Sample Conditions See Form Attached

TOTAL NUMBER OF CONTAINERS

10

	CHAIN OF CUSTODY SIGNATU	GNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed San William	Company!	Date/ 3-/5=// Time /5:30	RECEIVED COOL S WARM S 4. L.F
Signature (Received)	(Printed Rolan)	Company/ Agency	ムエ Date/3-15-11	CUSTODY SEALED YES \(\Boxed{\omega}\) NO \(\Boxed{\omega}\)
Signature (Relinquished) Kah.	printed take	Company/	L. Time 2/50	ン・プラ SPECIAL REQUIREMENTS:
Signature Lulian	Printed NO WING WAND	Company/ 72	Date/3/15/11 21:30	
Osignature OR:elinquished)	Printed Name	Company/ Agency	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

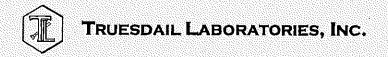
Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Addod (ml.)	Cinal all	T: D 65	
03/11/11	994094-24	9.5	Buffer Added (mL)			Initials
1001111		J. J.	N/A	N/A-	1/4	SB
	-22					
	1 20					
	-24					
03/16/11		7-0	4	<u> 4</u>	<u> </u>	4
03/7/4	994136	9 <i>S</i>	\$.00	9.5	9:15	82
03/17/11	374(24		N/A	NA-	NA	SB
DS11411	994158-1	9 <i>.S</i>	17/14	AU	NA	&B
- V	-2	<u></u>	<u> </u>	_1_	<u> </u>	7
	•		•			
				,		
				,		
					,	
						:
		·				



Turbidity/pH Check

		1 41	piaity/pn C	11001		Adjusted to
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	pH<2 (Y/N)
994062 (1-17)	41	22	3/11/11	FS	tes -	- 30104-
994069(1-7)				<u> </u>	1	4
994671	171	17/	3/14/11	ES	74	7010A
	41	LV				
994092		T			N6	
994093	-	42	030911	KK	No	
993503	- 		1	1	i	
9937-99		<u> </u>	1	1	1	
993705	<u> </u>		031111	1	¥	_
993626 (1-18) <u>21</u> 71	47	3/15/11	ES	40	
994118		22	7/10/11		J-9	
994119	5	72	3/17/11	ES	No	yes 2 1:00 p.in
994136	21	12	911/111	1	NU	190 - 1
994152		42	 	 	Yes	3010A
994157	21	22	1 1	 	+ /1/	17
994158	ţ	42	+-1/	+ J ,	NU	
994161	41	i	1.2/4	MM	yes	30.0 A
994174	<u> </u>	< 2	3/18/11	M. 1-1	1/13	30-075
994175	21	= 2	 	 		
994/16		Z 2	 	 	 	
094180	71	c2	1 1/	- J	WNO	
m/p994063(1-4) 41	12	3/21/11	ES	Llo	yes a 3:00 pm
994183(1-3))	72	<u> </u>	 		140 0 2 1 1
994199	フリ	1 22		 	ys	
994211	i	1 1				
994212	4			<u> · </u>		ne
994203	Li	TTCC			90	1100
994210	41	Z 2			yes No	
211						
994 208 (1-2		L2				
994212(1-2		12		<u> </u>	ys	
213	/	1				
214 (1-	27					
215 (1-1			V .	1		
094110	7 71	22 22 22	3/22/11	Ě	ys	
994240	2) 21	12		1	Yes	
994223 (1-4	1 21	42			1 31/	
G00000	1 4	42			NO.	
994242					*	
1112						
243						
249		$+$ \downarrow				
245	. - -			- 		igu a 3:30 p.n
994.257 (1-2	<u> </u>	72 /2	+-1-			
904258	7!		3/24/1	ES	70	UN W12: 20 1
994259	<u> </u>	72	9 1441	+ 1 7	NO	yes 2 15:30,
994279	21	12			No	Ver () 15:30,
994045		>2	3/27/	11 WH	No	1/53 =
994094	1-21 -1	<u> </u>		II N.M		
994896	7/		3 1	NW.	1/25	
-						



Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E I</u>	Lab# <u>99413-6</u>
Date	e Delivered:03 / <u>/ 5</u> /11 Time: <u>ℓ/:30</u> By: □Mail 1□F	ield Service □Client
1,	Was a Chain of Custody received and signed?	ÁLYes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ÞQN/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 ØN/A
5.	Were all requested analyses understood and acceptable?	⊠Yes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>Y・ル C</u>	Ø1Yes □No □N/A
7 .	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.) (i.e. broken bottles, leaks, air bubbles, etc.) (i.e. broken bottles, leaks, air bubbles, etc.) (i.e. broken bottles, leaks, air bubbles, etc.)	ДiYes □No □N/A
8.	Were sample custody seals intact?	Yes □No QN/A
9.	Does the number of samples received agree with COC?	Yes ONO ONA
10.	Did sample labels correspond with the client ID's?	/ daYes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: Truesdail Client	□Yes □No ÆNNA
12.	Were samples pH checked? pH = \underline{See} e . e .	ÆlYes □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	Ø(Yes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground V	Vater □Waste Water
	□Sludge □Soil □Wipe □Paint □Solid /ᡚ0	Other <u>Waser</u>
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Luda

M:\Discrp.FormBlank.doc



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.

L. Mona Nassimi

Manager, Analytical Services

Fol K.R.P. Iyer

Quality Assurance/Quality Control Officer

Al Khang

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

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

Established 1931

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

Date Received: March 22, 2011 Laboratory No.: 994259

Revision 1; April 12, 2011

Analytical Results Summary

-ab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	xtraction Method Sample Date	Sample Time	Parameter	Result	Units	格
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	2	ng/L	1.0
394259-001	SC-700B-WDR-301	E200.8	NONE	3/22/2011	14:00	Manganese	1.	ug/L	1.0
94259-001	SC-700B-WDR-301	E218.6	LABFLT	3/22/2011	14:00	Chromium, hexavalent	Q	ng/L	0.20
94259-001	SC-700B-WDR-301	SM2130B	NONE	3/22/2011	14:00	Turbidity	Q	DIN	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.

Result above or equal to 0.01 ppm will have three (3) significant figures. Note: The following "Significant Figures" rule has been applied to all results: Quality Control data will always have three (3) significant figures. Results below 0.01ppm will have two (2) 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. 994259

Page 1 of 8 Printed 4/5/2011

Samples Received on 3/22/2011 9:30:00 PM

Field ID				Lab ID	Coll	ected	Matr	ix
SC-700B-WDR-301				994259-001	03/22/	2011 14:00	Wate	er
Specific Conductivity - E	PA 120.1		Batch	03EC11K			3/31/2011	
Parameter		Unit	Ana	llyzed	DF	MDL	RL	Result
994259-001 Specific Conduct	ivity	umhos/d	cm 03/31	/2011	1.00	0.0380	2.00	7380
Method Blank								
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID =	994286-004
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 55.7	Expected 55.5	•	PD 0.360	Accepta 0 - 10	nce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 704	Expected 706		ecovery 99.7	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 703	Expected 706		ecovery 99.6	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 707	Expected 706		ecovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 975	Expected 996		ecovery 97.9	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 985	Expected 996		ecovery 98.9	Acceptar 90 - 110	nce Range

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

Project Number: 408401.01.DM

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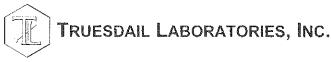
Chrome VI by EPA 218.6

Batch 03CrH11J

	•		24,0.	000111110			
Parameter		Unit	Ала	llyzed	DF M	DL RL	Result
994259-001 Chromium, Hexa	avalent	ug/L	03/23	3/2011 13:19 1	.05 0.021	0 0.20	ND
Method Blank							
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND			() 10	
Parameter	1.1	5-	.				994223-001
Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 26.2	Result 380.	Expected 384	RPD 1.02	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.26	Expected 5.00	Recovery 105.	90 - 110	ince Range) 994094-024
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.21	Expected/Adde 1.16(1.06)	d Recovery 104.	90 - 110	nce Range) 994094-025
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.22	Expected/Adde 1.19(1.06)	d Recovery 102.	90 - 110	ince Range 1 994222-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.40	Expected/Adde 1.36(1.06)	d Recovery 103.	y Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.31	Expected/Adde 1.27(1.06)	d Recovery 104.	90 - 110	nce Range 994223-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.47	Expected/Adde 1.50(1.06)	d Recovery 97.3	90 - 110	nce Range 994223-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 7.12	Expected/Adde 6.99(5.30)	d Recovery 102.	90 - 110	nce Range 994259-001
Parameter Chromium, Hexavalent	Unit ug/L	DF 5.25	Result 5.81	Expected/Added	d Recovery 105.	Accepta 90 - 110	nce Range

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010



Client: E2 Consulting Eng	jineers, Ind	> .	Project Name: Project Number:	PG&E Topock Pro 408401.01.DM	pject	Page 4 of 8 Printed 4/5/2011
Matrix Spike Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.30	Expected/Added 1.23(1.06)	Recovery 106.	Lab ID = 994259-001 Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.22	Expected 5.00	Recovery 104.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1,00	Result 10.2	Expected 10.0	Recovery 102.	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102.	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103.	Acceptance Range 95 - 105



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

Page 5 of 8 Printed 4/5/2011

Metals by EPA 200.8, Total

Batch 032711A

Metals by EPA 200.8, 100	aı		Batch	1 U32711A			
Parameter		Unit	Ana	alyzed D	F MDL	RL	Result
994259-001 Chromium		ug/L	03/27	7/2011 19:58 5.	00 0.0950	1.0	ND
Manganese		ug/L	03/27	7/2011 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	Accepta	ince 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	Accepta	ınce Range
Chromium	ug/L	1.00	52.7	50.0	105.	90 - 110	J
Manganese	ug/L	1.00	51.7	50.0	103.	90 - 110	
Matrix Spike							994259-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	nce 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 (D =	994259-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	nce Range
Chromium	ug/L	5.00	263.	250.(250.)	105.	75 - 125	_
Manganese	ug/L	5.00	230.	251.(250.)	91.4	75 - 125	i
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce 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	Accepta	nce Range
Chromium	ug/L	1.00	49.6	50.0	99.3	90 - 110	_
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accenta	nce Range
Chromium	ug/L	1.00	46.5	50.0	93.0	90 - 110	_
					_	, 10	

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

Revised

Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
994259-001 Total Dissolved S	olids	mg/L		/2011	1.00	0.434	250.	4520
Method Blank	, , , , , , , , , , , , , , , , , , , 	<u> </u>		· · · · · · · · · · · · · · · · · · ·	1.00		200.	4020
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate	mg/L	1.00	ND				Lab (D = 9	93429-002
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4940	Expected 4820	RF 2	PD 2. 3 6		ice Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 485	Expected 500.		covery 97.0	Acceptan 90 - 110	ce Range
Turbidity by SM 2130 B Parameter		Unit	A	03TUC110	DF	MDL	3/23/2011 RL	Result
994259-001 Turbidity		NTU	03/23	/2011	1.00	0.0140	0.100	ND
Method Blank								
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID = 9	94259-001
	Unit	DF 1.00	Result ND	Expected 0.00	RF C		Acceptan 0 - 20	ce Range
Parameter Turbidity	NTU	1.00	ND	5.55				
Turbidity Lab Control Sample								
Turbidity Lab Control Sample Parameter Turbidity	Unit NTU	DF 1.00	Result 7.55	Expected 8.00		covery 14.4	Acceptan 90 - 110	ce Range
Turbidity Lab Control Sample Parameter	Unit NTU	DF	Result	Expected		-	•	ce Range



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project

Page 8 of 8

Project Number: 408401.01.DM

Printed 4/5/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for Mona Nassimi

Manager, Analytical Services



Calculations

Batch: 03TDS11F

Date Calculated: 3/28/11

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,	Reported Value, ppm	DF
BLANK	100	68.9841	68.9850	68.9850	0.0000	No	0.0009	9.0	25.0	ND	1
994226-1	100	70.8985	70.921	70.921	0.0000	No	0.0225	225.0	25.0	225.0	1
994226-2	100	75.4526	75.4787	75.4787	0.0000	No	0.0261	261.0	25.0	261.0	1
994226-3	100	78.3864	78.4107	78.4107	0.0000	No	0.0243	243.0	25,0	243.0	1
994226-4	100	73.1471	73.1702	73.1702	0.0000	No	0.0231	231.0	25.0	231.0	1
994226-5	100	72.4730	72.496	72.496	0.0000	No	0.0230	230.0	25.0	230.0	1
994226-6	100	74.7200	74.7446	74.7446	0.0000	No	0.0246	246.0	25.0	246.0	1
994226-7	100	74.2776	74.2807	74.2807	0.0000	No	0.0031	31.0	25.0	31.0	1
994226-8	100	78.4059	78.4293	78.4293	0.0000	No	0.0234	234.0	25.0	234.0	1
994226-9	100	76.5647	76.5826	76.5826	0.0000	No	0.0179	179.0	25.0	179.0	1
994226-10	100	72.9820	73.0049	73.0049	0.0000	Nο	0.0229	229.0	25.0	229.0	1
994226-10D	100	74.5557	74.5789	74.5789	0.0000	No	0.0232	232.0	25.0	232.0	1
LCS	100	68.6390	68.6899	68.6899	0.0000	No	0.0509	509.0	25.0	509.0	1
994222-1	100	105.3546	105.3827	105.3827	0.0000	No	0.0281	281.0	25.0	281.0	1
994225-1	50	50.5318	50.6398	50.6398	0.0000	No	0.1080	2160.0	50.0	2160.0	1
994225-2	50	50.2380	50.3533	50.3533	0.0000	No	0.1153	2306.0	50.0	2306.0	1
994259	10	47.0852	47.1372	47.1372	0.0000	No	0.0520	5200.0	250.0	5200.0	1
994277	500	110.6525	110.6619	110.6619	0.0000	No	0.0094	18.8	5.0	18.8	1
LCSD											1

Calculation as follows:

Filterable residue (TDS), mg/L = $\left(\frac{A-B}{C}\right) x \cdot 1 \cdot 0^6$

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

TDS/EC CHECK

Batch: 03TDS11F Date Calculated: 3/28/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	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



M



Calculations

Batch: 04TDS11C Date Calculated: 4/12/11

Laboratory Number	Sample volume, mi	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	112.3568	112.3588	112.3586	0.0002	No	0.0018	18.0	25.0	ND	1
994431-11	100	108.6473	108,704	108.704	0.0000	No	0.0567	567.0	25.0	567.0	1
994431-12	100	112,9756	113.0308	113,0307	0.0001	No	0.0551	551.0	25.0	551.0	1
994496-1	50	67.7989	67.8832	67.8832	0.0000	No	0.0843	1686.0	50.0	1686.0	1
994496-2	50	67.7686	67.8077	67.8073	0.0004	No	0.0387	774.0	50.0	774.0	i 1
994496-3	50	73.0136	73,1125	73.1121	0.0004	No	0.0985	1970.0	50.0	1970.0	<u>-</u> -
994136	10	67.7264	67.7718	67.7718	0.0000	No	0.0454	4540.0	250.0	4540.0	<u>:</u> 1
994259	10	68.2275	68.2728	68.2727	0.0001	No	0.0452	4520.0	250.0	4520.0	<u></u> 1
994537-1	100	111.3960	111.439	111.439	0.0000	No	0.0430	430.0	25.0	430.0	1
994537-2	100	112.9000	112.9613	112.9608	0.0005	No	0.0608	608.0	25.0	608.0	
993429-2	10	47.9736	48.0199	48.0196	0.0003	No	0.0460	4600.0	250.0	4600.0	1
994496-3D	50	76.2120	76.311	76.3108	0.0002	No	0.0988	1976.0	50.0	1976.0	1
LCS	100	110.3632	110.4117	110.4117	0.0000	No	0.0485	485.0	25.0	485.0	1
993429-2	20	68.2018	68.2981	68.2981	0.0000	No	0.0963	4815.0	125.0	4815.0	1
993429-2D	20	65.9795	66.0782	66.0782	0.0000	No	0.0987	4935.0	125.0	4935.0	1
						V-200 to / to to - and to - and to -					
LCSD											1

Calculation as follows:

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)

TDS/EC CHECK

Batch: 04TDS11C

Date Calculated: 4/12/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	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. 14201 Franklin Avenue, Tustin, CA 92780-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdail.com

CHAIN OF CUSTODY RECORD [IM3Plant-WDR-301] 994259

TURNAROUND TIME DATE 03/22/11 COC Number

9

10 Days PAGE 1

COMMENTS	DH=6 (200.7)
NAMERS	
ZKOF CONTA	
NUMBER OF CONTAINERS	3
27	ļ
03/22/11	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
Rec'à	-
S R	<u> </u>
Turbidily (SM2130)	
NS) Kilpiquni	×
10S (SM2540C)	
Specific Conductance (120.1) TDS (SM2540C)	×
Specific Conductance (No. 7) Cf., Mn	×
Toby New York	×
Cr6 (218.6) Lab Fillered	×
FAX (530) 339-3303 TEAM 1	Water
FAX (530)	DE:31
312 1000 pare	03/22/11

155 Grand Ave Ste 10 Oakland, CA 94612

ADDRESS

408401.01.DM

P.O. NUMBER

SAMPLERS (SIGNATURE

SC-700B-WDR-301

SAMPLE 1.D.

(530) 229-3303

PHONE

PG&E Topock

PROJECT NAME

 Ξ

COMPANY

For Sample Conditions See Form Attached

TOTAL NUMBER OF CONTAINERS

SAMPLE CONDITIONS	RECEIVED COOL ET WARM 1 C °F	CUSTODY SEALED YES NO	Date 3-7-2-1 SPECIAL REQUIREMENTS:	250		
0	CH2MHT Date 3/22/11	Date/ 3-2 2-// Time / くこ3?	Time 2/30	T Date! 3/22/11 21:	Date/ Time	Date/ Time
DY SIGNATURE RECORD	Company/ Agency	Company T. K.	and Agency T. h.	Willy Agency TLL	Company/ Agency	Company/ Agency
CHAIN OF CUSTODY SIGNAT	UK Name C. KMgWt	Davidatine Rate	Dav. Name La La	Printed M. Compar Name M. Compar	Printed Name	Printed Name
	Signature (Relinquished) S. Kulay (K.)	X	Signature (Relinquished) $\mathcal{M}(\mathcal{A}(\alpha))$	Signature (Received) all (Signature (Relinquished)	Signature (Received)

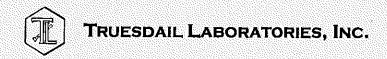
Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
03/11/11	994094-24	9.5	N/A	12/4	A/A	SIB
	1 -22	ſ			1	35
	-22					
	-24					
1	-24 -25					
03/16/11	994136	7-0	5.00	9.5	9:15	272
०अ।मीप	994157	95	12/14	NA	N/A	SB
03/17/11	994158-1	9.5	N/A	NA	NA	&B
\\ \tau_{-}	-2	4	٤	1	7	4
03/22/11	994222-1	9.5	13/4	A/G	A/4	SB
4	4-2	4	4	J.	1	1
03/22/11.		9.5	Ala	NA	4/4	8.B
	1 -2					
	-3					
**	₩ -4	4	<u> </u>	<u></u>	4	V
03/23/11	994259	7.0	2:00	9.5	9:30	SB
					·	



Turbidity/pH Check

	Sample Number	Turbidity		Date	Analyst	Need Digest	Adjusted to
	994062(1-17)	41	22	3/11/11	ES		pH<2 (Y/N) - 30 (0 4
	994069(1-7)	<u> </u>	L			tes	1
	994071	(7)	22	3/14/1	ES	70	201017
ļ	994092	<u>~~1</u>	62 L		r	No	
Ì	994093	+				V	
}	993503		42	030911	KK	No	
ŀ	993799	4	42			1	
-	993705	<u> </u>	42	4	Y		
	993626 (1-18)	21	<u> </u>	031111	<u> </u>	4	
	994118		22	3/15/11	ES	yu	
}	994 119 994 136	2	_22				
F	994152	21	72	3/17/11	ES	No	yes 2 1:00 p.in
ŀ	994157	2	42			NU	
F	994158	Z	12	1		Yes	3010A
F	994161	$\frac{\overline{z_1}}{\overline{z_1}}$	4	- //			
-	394/74			V	V	NU	
-	994175	$\frac{21}{21}$	_< 2	3/18/11	MM	yes	30.0 A
-	994/16	7	< 2	 			
ŀ	094180	71	<u>< 2</u>	├ <i>╌.</i> /			
Total/	994183(1-4)	41	=2	1 1/2	- / - 	-16	
MAIN	49411211-27	41	72	3/21/11	ES	NO NO	4
r	994199	71		 		160	ys a 3 or pn
	994211	- <u></u>	<u> </u>			yy	
	994212						
	994203		TIC		<u> </u>		
	994210	41	Z 2			ys No	ne
	211		1			<u></u>	
	994208/1-2	21	<u>~2</u>				
	994212(1-2)	71	12			ys -	
	213						
	214 (1-2)						
	215 (1-4)			V	4/		
l	794240	71	<i>L</i> 2	3/22/11	ES	ys	
(194222(1-2)	41	12	7	<u> </u>	yes Yes	
(794223(1-4)	4	12 12 12			1/2	
- (990241	41	47-			N _O	·
L	994 241	1	1				
_	244						
	244						
-	245		$\sqrt{}$				
	194 257 (1-3)	V	72				yu a) 3:30 p.m
	194258	71	<i>L</i> 2		1/2	721	yo w 3, 30 pm
	194259	21	72	3/24/11	ES	7es	yww/2:30 p-m
	794279	21	62			NO	1 10 10 10 10 10
	994045	<u> </u>	>2	3/2711	juja		405 0 15:30, m
1	394094(1-2)	<u> </u>	> 2 < 2	3/24/11	N.M	NO	1000000
19	194896	7/	<1	3 1	<i>M</i> M	Yes	-
	· ·		- 1		,	/	



Sample Integrity & Analysis Discrepancy Form

Clie	ent: E 2	Lab #	<u>19425</u>
Date	e Delivered: <u>ℓ3</u> / <u>3</u> 2/11 Time: <u>2/.'3</u> ⊘ By: □Mail ⊠ F	ield Service	□Client
1.	Was a Chain of Custody received and signed?	ØLYes □No	□ <i>N/A</i>
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	ØN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No	ØN⁄A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	ØNA
5.	Were all requested analyses understood and acceptable?	⊈ÍYes □No	□ <i>N/A</i>
6 .	Were samples received in a chilled condition? Temperature (if yes)? <u> </u>	ØYes □No	□N⁄A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	Æ(Yes □No	□N/A
8.	Were sample custody seals intact?	□Yes □No	ØN/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 □ Clien?	□Yes □No	X IN/A
12.	Were samples pH checked? pH = <u>See C. O. C.</u>	Yes □No	□ <i>N/A</i>
13.	Were all analyses within holding time at time of receipt? / If not, notify Project Manager.	√ ØYes □No	□N⁄A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH	ØYes □ <i>No</i>	□ <i>N/A</i>
15.	Sample Matrix: Liquid Drinking Water Ground V		
16.	Comments:		
17.	Sample Check-In completed by Truesdai! Log-In/Receiving:	Luda	



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.

Mona Nassimi

Manager, Analytical Services

Ali Klung

/O/ K.R.P. Ives

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

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

Oakland, CA 94612

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 408401.01.DM

Attention: Shawn Duffy

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

EXCELLENCE IN INDEPENDENT TESTING

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



14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92780-7008

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

Laboratory No.: 994349

Date Received: March 29, 2011

Analytical Results Summary

Lab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
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	Chramium	Q	ng/L	1.0
994349-001	SC-700B-WDR-302	E200.8	NON	3/29/2011	8:00	Manganese	14.4	ng/L	1.0
994349-001	SC-700B-WDR-302	E218.6	LABFLT	3/29/2011	8:00	Chromium, hexavalent	Ω 2	ng/L	0.20
994349-001	SC-700B-WDR-302	SM2130B	NON	3/29/2011	8:00	Turbidity	2	OLN	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.

Result above or equal to 0.01ppm will have three (3) significant figures. Note: The following "Significant Figures" rule has been applied to all results: Quality Control data will always have three (3) significant figures. Results below 0.01ppm will have two (2) 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. 994349

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Printed 4/6/2011

Samples Received on 3/29/2011 9:30:00 PM

Field ID				Lab ID	Col	llected	Matrix	
SC-700B-WDR-302				994349-001	03/29	/2011 08:00	Wate	-
Specific Conductivity - El	PA 120.1	Unit	Action to the second	03EC11J lyzed	DF	MDL	3/30/2011 RL	Result
994349-001 Specific Conducti	vity	umhos/cn	n 03/30	/2011	1.00	0.0380	2.00	7630
Method Blank								
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID = 9	94214-002
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 56.4	Expected 56.6		RPD 0.354	Acceptar 0 - 10	nce Range
Parameter Specific Conductivity Lab Control Sample D	Unit umhos uplicate	DF 1.00	Result 708	Expected 706		Recovery 100.	Acceptai 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 709	Expected 706		Recovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 704	Expected 706		Recovery 99.7	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 987	Expected 996		Recovery 99.1	90 - 110	
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 984	Expected 996		Recovery 98.8	Accepta 90 - 110	nce Range

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 properties authorization from Truesdail Laboratories.



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Chrome VI by EPA 218.6 Parameter	North Design	Unit		03CrH11K lyzed l	OF MDL	RL	Result
994349-001 Chromium, Hexay	/alent	ug/L	03/30	D/2011 13:31 1	.05 0.0210	0.20	ND
Method Blank						. , , , , , , , , , , , , , , , , , , ,	
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND			Lab ID =	994349-001
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.05	Result ND	Expected 0.118	RPD 0	0 - 20	ince Range 994349-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 5.25	Result ND	Expected 0.182	RPD 0	Accepta 0 - 20	ince Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.31	Expected 5.00	Recovery 106.	90 - 110	ince Range) 994349-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.50	Expected/Adde 5.43(5.25)	d Recovery 101.	90 - 110	ince Range) 994349-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.21	Expected/Adde 1.18(1.06)	ed Recovery 103.	Accepta 90 - 110	ince Range)
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.32	Expected 5.00	Recovery 106.	Accepta 90 - 110	ince Range)
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102.	Accepta 95 - 105	ince Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Metals by EPA	200.8,	Total
---------------	--------	-------

Parameter	···	Unit	Ana	alyzed [F	MDL	RL	Result
994349-001 Chromium		ug/L	04/06	3/2011 15:05 5.	00 (0.0950	1.0	ND
Manganese		ug/L	04/06	5/2011 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	RPI)	Accepta	ince Range
Chromium	ug/L	5.00	ND	0.00	0	_	0 - 20	oo range
Manganese	ug/L	5.00	14.3	14.4	0.	557	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	ince Range
Chromium	ug/L	1.00	48.8	50.0		7.7	90 - 110	_
Manganese	ug/L	1.00	46.7	50.0	93	3.4	90 - 110	
Matrix Spike								994349-001
Parameter	Unit	DF	Result	Expected/Added	Rec	overy	Accepta	nce Range
Chromium	ug/L	5.00	202	250.(250.)	80	0.8	75 - 125	_
Manganese	ug/L	5.00	214.	264.(250.)	79	9.6	75 - 125	;
Matrix Spike Duplicate							Lab ID =	994349-001
Parameter	Unit	DF	Result	Expected/Added	Rec	overy	Accepta	nce Range
Chromium	ug/L	5.00	201.	250.(250.)).5	75 - 125	_
Manganese	ug/L	5.00	212	264.(250.)	79	0.0	75 - 125	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	nce Range
Chromium	ug/L	1.00	48.2	50.0	96	•	90 - 110	_
Manganese	ug/L	1.00	45.8	50.0	91	.7	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	nce Range
Chromium	ug/L	1.00	47.1	50.0	94	-	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	nce Range
Chromium	ug/L	1.00	48.2	50.0	96	-	90 - 110	_
							, , , o	



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 b	y SM 254	0 C	Batch	04TDS11A			4/1/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
994349-001 Total Dissolved	Solids	mg/L	04/01	/2011	1.00	0.434	250.	4800
Method Blank								
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				Lob ID C	994386-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 270.	Expected 278	F	RPD 2.92		nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1,00	Result 501	Expected 500.	F	Recovery 100.	Acceptar 90 - 110	nce Range
Turbidity by SM 2130 B Parameter		Unit		03TUC11R	DF	MDL	3/30/2011 RL	Result
994349-001 Turbidity		NTU	03/30)/2011	1.00	0.0140	0.100	ND
Method Blank		, , , , , , , , , , , , , , , , , , , ,	,					
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID = 9	94349-001
Parameter Turbidity	Unit NTU	DF 1.00	Result ND	Expected 0.00	F	RPD 0	Acceptar 0 - 20	nce Range
Lab Control Sample								
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.52	Expected 8.00	F	Recovery 94.0	Acceptar 90 - 110	nce Range
Lab Control Sample D	uplicate							
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.42	Expected 8.00	F	Recovery 92.8	Acceptar 90 - 110	nce Range



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 6 of 6

Project Number: 408401.01.DM Printed 4/6/2011

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

o / Mona Nassimi

Manager, Analytical Services



Calculations

Batch: 04TDS11A Date Calculated: 4/4/11

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	76.8834	76.8837	76.8834	0.0003	Na	0.0000	0.0	25.0	ND	1
994349	10	51.5116	51.56	51,5596	0.0004	Na	0.0480	4800.0	250,0	4800.0	1
994382	50	49.8376	49.877	49.877	0,0000	No	0.0394	788.0	50.0	788.0	1
994383	50	51,1394	51.2133	51.213	0.0003	No	0.0736	1472.0	50.0	1472.0	1
994385	100	111.3792	111.4097	111.4093	0.0004	No	0.0301	301,0	25.0	301.0	1
994386	100	105.4001	105.428	105.4279	0.0001	No	0.0278	278.0	25.0	278.0	1
994386D	100	121.7187	121.7457	121.7457	0.0000	No	0.0270	270.0	25.0	270.0	1
LCS	100	78.3884	78.4387	78.4385	0.0002	No	0.0501	501.0	25.0	501.0	1_
					L						
LCSD			Control of the Contro								

Calculation as follows:

Filterable residue (TDS), mg/L =
$$\left(\frac{A-B}{C}\right) x \cdot 1^{-0.6}$$

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)

Reviewer Signature

TDS/EC CHECK

Batch: 04TDS11A Date Calculated: 4/4/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
994349	7630	0,63	4959,5	0.97
994382	1260	0.63	819	0.96
994383	2200	0.67	1430	1.03
994385	493	0.61	320.45	0.94
994386	490	0.57	318.5	0.87
994386D	490	0,55	318,5	0.85
LCS				
!			i.	
			1	
			1	
	· · · · · · · · · · · · · · · · · · ·			
***************************************	THE STATE OF THE S	PARTY LARGE VILLE AND ARREST CONTRACTOR AND MAKE VILLE VILLE		
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TRUESDAIL LABORATORIES, INC. 14201 Franklin Avenue, Tustin, CA 92780-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdail.com

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-302]

994349 DATE 03/29/11

片

5 Days PAGE 1

COC Number

2007 TOTAL NUMBER OF CONTAINERS COMMENTS NUMBER OF CONTAINERS m Turbidity (SM2130) IDS (SMS STOC) Specific Conductance (120,1) × × DESCRIPTION Ron Mela FAX (530) 339-3303 Water

TEAM

408401.01.DM

P.O. NUMBER

155 Grand Ave Ste 1000

ADDRESS

(530) 229-3303

PHONE

PG&E Topock

PROJECT NAME

舀

COMPANY

Oakland, CA 94612

CKMGUT

SAMPLERS (SIGNATURE

8

03/29/11

SC-700B-WDR-302

SAMPLE 1.D.

DATE



Rec'd 03/29/11

For Sample Conditions See Form Attached

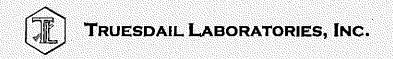
CH	CHAIN OF CUSTODY SIGNAT	IGNATURE RECORD		SAMPLE CONDITIONS ,,,
Signature C. Kugh	Printed C. Knight	Companyl CHZM thiLL	CH2MHL Time 15:17	RECEIVED COOL IM WARM ログC *F
Signature (Received) Kahai David	Printed A. C.	Companyl / K	Date/3、2ター// Time / タごえの	CUSTODY SEALED YES \(\Boxed{\omega}\) NO \(\Boxed{\omega}\)
Signature (Relinquished)	Printed Name	Companyl T & T	Datel 3 - 2 9-11	SPECIAL REQUIREMENTS:
Signature Communication Signature (Communication)	Printed Legy On Name Legy On	17	Date 3/49/11 9/19	
Algnature (Relinquished)	Printed Name		Date/ Time	2
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

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
03/11/11	994094-21	9.5	N/A	13/A	14/4	SB
	1 -22			ĺ		ı
	-23					
	-24					
7	4 -25	•	4	4	J	
03/16/11	994136	7-0	\$.00	9.5	9:15	222
03/7/4	934157	95	4/4	N/A	4/11	SB
03/17/11	994158-1	9.5	AG	NA	MA	8B
7	-2	4	٤	1	4	7
03/22/11	994222-1	9.5	A/4	A/41	A\4	SB
4	1-2	Ĵ	1	7	7	7
03/22/11	994223-1	9.5	4/4	NA	4/4	&B
	1 -2			1		
	-3					
	₩ -Y	7	7		4	4
03/23/11	994259	7.0	5.60	9.5	9:30	SIB
11/08/80	994349	7.0	5.00	9.5	7:50	\mathcal{Z}
	·					
					-	

Turbidity/pH Check

Sample Number 194287 288 994300(1-10)	Turbidity と i	pH 22	Date ১/25 (৫	Analyst 信う	Need Digest	pH<2 (Y/N)
283	'		1 1 1 1 1			
GOU DONT IN	: 1	}		<u></u>	NO	
	1		 		7es-4	
994703	71	22	 	 	<u> </u>	7
97430 (1-3)	71	47	3/29/11	- E'S	Yes	
994708(1-3)	71	73	7/27/1	7	yes_	
994739	Źi	er	 		1	
915			 		MU	
316					 	
339		-		}	<u> </u>	
	\	72	 	-	 	<i>(11)</i>
994340(1-13)	41		3/2./			yua 5:30 pm
994 349		72 22	3/30/11	<u>ES</u>	No	yu 210: 40 a.
974363	2د	72	3/3	KIC	182	
1997782 0007 80 2	41	LZ	4/11/	ES	4.8	30101
D944 98 3	1	1			Yafor OIS	<u>}· </u>
994384					'No	
n 994 385					Yes	7010A
994386		<u> </u>			<u>'</u> \	V
994394	<u> </u>		4////	M.H		LC .
914-15 (1-5)	71	Z 2	4/5/11	KK	YES	% —
994416 (1-6)	71	42	6	<u> </u>	23Y	
99417 (1-6)	71	<i>L</i> 2	4		yes	
994418 (-1)	<u></u>	47	14	+	YRR	
994403	21	<u>~2</u>			No	-
994404	21	42	4	V	No	
994411	دا	<2 <2	4	Y	No	-yes @ 1230
394415-1-51	c/	<i>C</i> 2	4/05/11	MM	Yes	
994416-11-61	۲,	4				
994417- (1-6	21	< 2		<i>J</i>	, J	
994389	«/	~ 2	9			-
99418-1	21	ا		11.	1	
99441-11-10	c	-2 -2 -2	4/06/11	Min	Ves	
99442-11-81	e1	C2	4/186/11	I	1	
39444J	71	22				
994448						F
99 44 49						5
99 4450						**
99 4451					 	•
994452	1//	1/		V	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	3
	<u> </u>			<u> </u>		
					<u> </u>	
			1	<u></u>		
	i	i			L	<u> </u>



Sample Integrity & Analysis Discrepancy Form

Clie	nt: E 2	Lab # <u>99434</u>
Date	e Delivered: <u>03</u> / <u>29</u> /11 Time: <u>1/3</u> 0 By: □Mail 🗃F	Field Service
1.	Was a Chain of Custody received and signed?	⊠iYes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ÞÞN/A
3 .	Are there any special requirements or notes on the COC?	□Yes □No XQN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ¤ÓN/A
5.	Were all requested analyses understood and acceptable?	ØYes □No □N/A
<i>6</i> .	Were samples received in a chilled condition? Temperature (if yes)? <u>Y°C</u>	⊠Yes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	ØYes □No □N/A
8.	Were sample custody seals intact?	P70 Yes ONO DIN/A
9.	Does the number of samples received agree with 600?	y diYes □No □N/A
10.	Did sample labels correspond with the client ID's?	Øves/□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.	QaYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	MÁYes □No □N/A
14.	Have Project due dates been chacked and accepted? Turn Around Time (TAT): (X RUSH 2 St	ØYes □No □N/A
15.	Sample Matrix:	Water
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Luda

erkid mizacej. Slo WDR pH Results

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Analytical Bench Log Book

vell should be shut down until the problem is fixed.

1 5c 700 B 3-1-11 1300 3-1-11 1303 1 5c 700 B 3-1-11 1300 3-1-11 1304 1 5c 700 B 3-1-11 1300 3-1-11 1335 1 5c 700 B 3-1-11 1300 3-1-11 1335 1 5c 700 B 3-1-11 1400 3-1-11 1404 1 5c 700 B 3-1-11 1400 3-1-11 1404		T		1:10	-543 %	Mas Musses Mas Husses	73 73
2.100 B					543	Konthews Martheus	7.0
2.100 B					-54.5	Kont HEWS Mast HELDS	7.0
-108 -108	11/1335 /	1. 1 1.		4:30	545	Mas Huses	20
-7008 -7008	11/335/	1. 1 1.		0e:h	545	thas Heers	20
2.2018 2.2018	111433		ļ				
2-120B	11433		, ,				
2003		WETEL#1	13-15-11	di.13	-54.4	HOW PHELIE	6.9
3003							
A 6:00.50	1-10/10/11	METER#1	3-22-11	4:20	54.07	Mas Males	2.0
						(
6 SC-7006 3-24-11 8:00 3-29.	3.29.11 8:09	METEL #1	3-29-11	06:00	-348	for thelps	7.1
i ntes:						~	
Potes:							
V. refuiend	WDR Required	Peminder: WDR Remired of Range for the Effluent (SC-700B) is: 6.5 - 8.4	Effluent (SC.	-700B) is: 6.	5 - 8.4		