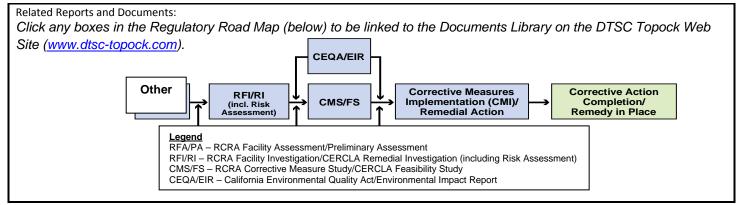
Topock Project I	Executive Abstract
Document Title:	Date of Document: April 13, 2012
Topock IM-3 First Quarter 2012 Monitoring Report	Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)
Submitting Agency/Authored by: U.S. Department of the Interior and Regional Water Quality Control Board	PG&E
Final Document? Yes No	Document ID Number: PGE20120413A
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 the ARARs for waste discharge as documented in Attachment A to the Letter Agreement issued July 26, 2011.	
Brief Summary of attached document:	
This report covers the Interim Measures No. 3 (IM-3) groundwa 2012 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 Remody or Regulatory Reg	uiramente?
groundwater treatment system as authorized by the U.S. Depart and Appropriate Requirements (ARARs) as documented in Attacolorado River Basin Regional Water Quality Control Board (Reconcurrence issued August 18, 2011 from DOI to the Regional N	ed to the Interim Measure. PG&E is currently operating the IM-3 rtment of the Interior (DOI) Waste Discharge Applicable or Relevant chment A to the Letter Agreement issued July 26, 2011 from the gional Water Board) to DOI, and the subsequent Letter of
Other requirements of this information? None.	



Version 9



Curt Russell

Topock Site Manager GT&D Remediation

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April 13, 2012

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73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Subject: Topock IM-3 First Quarter 2012 Monitoring Report

PG&E Topock Compressor Station, Needles, California Interim Measure No. 3 Groundwater Treatment System

(Document ID: PGE20120413A)

Dear Ms. Innis and Mr. Perdue:

Enclosed is the First Quarter 2012 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Interim Measure No. 3 (IM-3) Groundwater Treatment System.

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

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

Pamela S. Innis Robert Perdue April 13, 2012 Page 2

Since initial operation in July 2005, the IM-3 groundwater treatment system has treated approximately 439,513,663 gallons of water and removed 5,292 pounds of total chromium through March 31, 2012.

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:

Topock IM-3 First Quarter 2012 Monitoring Report

cc: Jose Cortez, Colorado River Basin Regional Water Board Thomas Vandenberg, Colorado River Basin Regional Water Board Aaron Yue, California Department of Toxic Substances Control

First Quarter 2012 Monitoring Report

Interim Measure No. 3 Groundwater Treatment System

Document ID: PGE20120413A

PG&E Topock Compressor Station Needles, California

Prepared for

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

on behalf of

Pacific Gas and Electric Company

April 13, 2012

CH2MHILL 155 Grand Avenue, Suite 800 Oakland, CA 94612

First Quarter 2012 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

PG&E Topock Compressor Station Needles, California

Prepared for

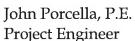
United States Department of the Interior Colorado River Basin Regional Water Quality Control Board

on behalf of

Pacific Gas and Electric Company

April 13, 2012

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



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Appendix

A First Quarter 2012 Laboratory Analytical Reports

Acronyms and Abbreviations

ARARs Applicable or Relevant and Appropriate Requirements

DOI United States Department of the Interior

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 Colorado River Basin Regional Water Quality Control Board

RO reverse osmosis

Truesdail Laboratories, Inc.

WDR Waste Discharge Requirements

1.0 Introduction

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

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

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

This report covers monitoring activities related to operation of the IM-3 groundwater treatment system during the First Quarter 2012. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

2.0 Sampling Station Locations

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

3.0 Description of Activities

The treatment system was initially operated between July 25 and July 28, 2005 for the Waste Discharge Requirement (WDR)-mandated startup phase. Discharge to the injection wells was initiated July 31, 2005 after successfully completing the startup phase in accordance with Order No. R7-2004-0103. Full-time operation of the treatment system commenced in August 2005. Since initial operation in July 2005, the IM-3 groundwater treatment system has treated approximately 439,513,663 gallons of water and removed 5,292 pounds of total chromium through March 31, 2012.

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

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

During the First Quarter 2012, extraction wells TW-3D and PE-1 operated at a target pumping 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 2012. The operational run time for the IM groundwater extraction system (combined or individual pumping), by month, was approximately:

- 99.6 percent during January 2012
- 99.5 percent during February 2012
- 96.9 percent during March 2012

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 2012 are detailed in Section 4.

4.0 Groundwater Treatment System Flow Rates

The First Quarter 2012 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-PR-10-10-03). The treatment system effluent flow rate was measured by flow meters in the piping into injection wells IW-2 and IW-3 (Figure TP-PR-10-10-11). The RO concentrate flow rate was measured by a flow meter at the piping carrying water from RO concentrate tank T-701 to the truck load-out station (Figure PR-10-04).

The IM-3 facility treated approximately 17,165,892 gallons of extracted groundwater during the First Quarter 2012. The IM-3 facility also treated approximately 3,355 gallons of water generated from the groundwater monitoring program and 17,100 gallons of injection well backwashing/re-development water.

Four containers of solids (sludge) were transported offsite from the IM-3 facility during First Quarter 2012.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 1.4 percent of downtime during First Quarter 2012) 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 2012

During January 2012, extraction wells TW-3D and PE-1 operated at a target pumping rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during January 2012. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 99.6 percent during the January 2012 reporting period.

The IM-3 facility treated approximately 5,916,268 gallons of extracted groundwater during January 2012. The IM-3 facility did not treat any water generated from the groundwater monitoring program, but did treat approximately 7,200 gallons of injection well backwashing/re-development water. Two containers of solids from the IM-3 facility were transported offsite during January 2012.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 0.4 percent of downtime during January 2012) are summarized below.

• **January 4, 2012 (planned):** The extraction well system was offline from 12:28 p.m. to 12:30 p.m. and 12:34 p.m. to 12: 36 p.m. due to critical alarm and leak detection system testing. Extraction system downtime was 4 minutes.

- **January 9, 2012 (planned):** The extraction well system was offline from 2:20 p.m. to 3:46 p.m. due to microfilter flow meter repair. Extraction system downtime was 1 hour and 26 minutes.
- **January 12, 2012 (planned):** The extraction well system was offline from 11:18 a.m. to 12:54 p.m. due to clarifier cleaning. Extraction system downtime was 1 hour and 36 minutes.

4.2 February 2012

During February 2012, extraction wells TW-3D and PE-1 operated at a target pumping rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during February 2012. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 99.5 percent during the February 2012 reporting period.

The IM-3 facility treated approximately 5,481,131 gallons of extracted groundwater during February 2012. The IM-3 facility treated approximately 3,355 gallons of water generated from the groundwater monitoring program and approximately 6,300 gallons of injection well backwashing/re-development water. Two containers of solids from the IM-3 facility were transported offsite during February 2012.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 0.5 percent of downtime during February 2012) are summarized below.

- **February 1, 2012 (planned):** The extraction well system was offline from 10:04 a.m. to 11:22 a.m. due to tank management to control tank levels and critical alarm and leak detection system testing. Extraction system downtime was 1 hour and 18 minutes.
- **February 3, 2012 (unplanned):** The extraction well system was offline from 11:42 p.m. to 11:46 p.m. due to air compressor failure. Extraction system downtime was 4 minutes.
- **February 7, 2012 (planned):** The extraction well system was offline from 1:04 p.m. to 1:30 p.m. due to replacement of a pressure relief valve on the air compressor tank. Extraction system downtime was 26 minutes.
- **February 18, 2012 (planned):** The extraction well system was offline from 8:18 a.m. to 9:56 a.m. due to microfilter performance testing. Extraction system downtime was 1 hour and 38 minutes.
- **February 24, 2012 (unplanned):** The extraction well system was offline from 1:28 p.m. to 1:30 p.m. due to City of Needles power imbalance that shut down the extraction wells. Extraction system downtime was 2 minutes.

4.3 March 2012

During March 2012, extraction wells TW-3D and PE-1 operated at a target pumping rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during March 2012. The operational run time for the IM-3

groundwater extraction system (combined or individual pumping) was 96.9 percent during the March 2012 reporting period.

The IM-3 facility treated approximately 5,768,493 gallons of extracted groundwater during March 2012. The IM-3 facility did not treat any water generated from the groundwater monitoring program, but did treat approximately 3,600 gallons of injection well backwashing/re-development water. No containers of solids from the IM-3 facility were transported offsite during March 2012.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 3.1 percent of downtime during March 2012) are summarized below.

- March 6, 2012 (unplanned): The extraction well system was offline from 6:48 p.m. to 7:08 p.m. due to a City of Needles power imbalance that shut down the extraction wells. Extraction system downtime was 20 minutes.
- March 7, 2012 (planned): The extraction well system was offline from 2:40 a.m. to 2:46 a.m. due to switching to City of Needles power from generator power. Extraction system downtime was 6 minutes.
- March 7, 2012 (planned): The extraction well system was offline from 12:52 p.m. to 12:54 p.m., 1:02 p.m. to 1:04 p.m., 1:14 p.m. to 1:16 p.m., and 1:30 p.m. to 1:32 p.m. due to checking the specific capacity of extraction wells. Extraction system downtime was 8 minutes.
- March 20, 2012 (unplanned): The extraction well system was offline from 4:54 p.m. to 6:24 p.m. due to low air flow to the iron oxidation tanks. Extraction system downtime was 1 hour and 30 minutes.
- March 21, 2012 (planned): The extraction well system was offline from 11:52 a.m. to 5:12 p.m. due to extraction well PE-1 rehabilitation. Extraction system downtime was 5 hours and 20 minutes.
- March 21, 2012 (planned): The extraction well system was offline from 8:14 p.m. to 8:18 p.m. due to testing well PE-01 after maintenance. Extraction system downtime was 4 minutes.
- March 22, 2012 (planned): The extraction well system was offline from 6:08 p.m. to 6:24 p.m. and 6:26 p.m. to 7:28 p.m. due to a pressure regulating valve failure in well PE-01 which triggered the high level alarm in the raw water storage tank. Extraction system downtime was 1 hour and 18 minutes.
- March 24, 2012 (planned): The extraction well system was offline from 2:46 a.m. to 4:24 a.m. due to a pressure regulating valve failure in well PE-01 which triggered the high level alarm in the raw water storage tank. Extraction system downtime was 1 hour and 38 minutes.
- March 25, 2012 (planned): The extraction well system was offline from 11:48 a.m. to 12:50 p.m. due to a pressure regulating valve failure in well PE-01 which triggered the high level alarm in the raw water storage tank. Extraction system downtime was 1 hour and 2 minutes.

- March 26, 2012 (planned): The extraction well system was offline from 9:34 a.m. to 10:52 a.m. due to a pressure regulating valve failure in well PE-01 which triggered the high level alarm in the raw water storage tank. Extraction system downtime was 1 hour and 18 minutes.
- March 27, 2012 (planned): The extraction well system was offline from 6:08 a.m. to 7:44 a.m. due to a pressure regulating valve failure in well PE-01 which triggered the high level alarm in the raw water storage tank. Extraction system downtime was 1 hour and 36 minutes.
- March 28, 2012 (planned): The extraction well system was offline from 6:58 a.m. to 10:12 a.m., 10:14 a.m. to 2:18 p.m., and 2:20 p.m. to 2:38 p.m. due to monthly scheduled plant maintenance. Extraction system downtime was 7 hours and 36 minutes.
- March 31, 2012 (planned): The extraction well system was offline from 11:54 a.m. to 1:00 p.m. due to raw water tank management to control levels. Extraction system downtime was 1 hour and 6 minutes.

5.0 Sampling and Analytical Procedures

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

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

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

During the First Quarter 2012, analysis of pH was conducted by field method pursuant to the Regional Water Board letter dated October 16, 2007 (subject: Clarification of Monitoring and Reporting Program Requirements), authorizing pH measurements to be conducted in the field. The field method pH samples were collected at the designated sampling locations and field tested within 15 minutes of sampling.

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

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

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

6.0 Analytical Results

Laboratory reports for samples collected in the First Quarter 2012 were prepared by certified analytical laboratories, and are presented in Appendix A.

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

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

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

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

7.0 Conclusions

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

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

8.0 Certification

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: <u></u>	Schmin
Name:	Curt Russell
Company: _	Pacific Gas and Electric Company
Title:	Topock Site Manager
Date:	April 13, 2012



TABLE 1
Sampling Station Descriptions
First Quarter 2012 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.

ES041312202910BAO\121040001 TABLES-1

^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 2012 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 2012 Average Monthly Flowrate	132.5	130.8	2.3
February 2012 Average Monthly Flowrate	131.3	130.1	2.1
March 2012 Average Monthly Flowrate	129.2	128.8	1.3

Notes:

gpm: gallons per minute

ES041312202910BAO\121040001 TABLES-2

^a Extraction wells TW-3D and PE-1 were operated during the First Quarter 2012. Extraction wells TW-2D and TW-2S were not operated during the First Quarter 2012.

^b The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the First Quarter 2012 is approximately 0.58 percent.

TABLE 3
Sample Collection Dates
First Quarter 2012 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	Sample Collection Dates	Results
Influent	January 3, 2012	See Table 4
	February 7, 2012	
	March 6, 2012	
Effluent	January 3, 2012	See Table 5
	January 10, 2012	
	January 17, 2012	
	January 24, 2012	
	January 31, 2012	
	February 7, 2012	
	February 14, 2012	
	February 21, 2012	
	February 28, 2012	
	March 6, 2012	
	March 13, 2012	
	March 20, 2012	
	March, 27, 2012	
Reverse Osmosis Concentrate	January 3, 2012	See Table 6
Sludge ^a	January 3, 2012	See Table 7

Notes:

ES041312202910BAO\121040001 TABLES-3

^a Sludge samples analysis is required quarterly by composite.

TABLE 4 Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) Influent Monitoring Results ^a First Quarter 2012 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Sampling Frequency	,									Мс	nthly												
Analytes Units ^b	TDS mg/L	Turbidity NTU	Specific Conductance µmhos/cm	Field ^c pH pH units	Chromium µg/L	Hexavalent Chromium µg/L	Aluminium μg/L	Ammonia (as N) mg/L	Antimony µg/L	Arsenic μg/L	Barium μg/L	Boron mg/L	Copper µg/L	Fluorid mg/L	le Lead µg/L	Manganese μg/L	Molybdenum μg/L	Nickel μg/L	Nitrate (as N) mg/L	Nitrite (as N) mg/L	Sulfate mg/L	lron μg/L	Zinc µg/L
Sample ID Date	0.400	0.0140	0.0950		0.110	1.20	2.80	0.0012	0.120	0.280	0.200	0.0015	0.120	0.0310	0.110	0.280	0.270	0.0750	0.0270	0.00036	5.70	1.30	3.90
SC-100B-WDR-342 1/3/2012	4720	0.110	7840	7.1	901	922	ND (50.0)	ND (0.500)	ND (10.0)	3.40	29.0	1.08	ND (5.00)	2.61	ND (10.0)	7.60	19.8	ND (10.0)	3.47	ND (0.0050) 572 N	ID (20.0)	12.2
RL	250	0.100	2.00		2.00	10.5	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	0.500	0.0050	25.0	20.0	10.0
SC-100B-WDR-347 2/7/2012	4700	ND (0.100)	7870	7.2	842	831	ND (50.0)	ND (0.500)	ND (10.0)	3.40	26.8	1.08	ND (5.00)	0.964	ND (10.0)	6.60	20.0	ND (10.0)	3.20	ND (0.0050) 635 N	ID (20.0)	ND (10.0)
RL	250	0.100	2.00		1.00	10.5	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0
SC-100B-WDR-351 3/6/2012	4710	ND (0.100)	7830	7.3	811	805	ND (50.0)	ND (0.500)	ND (10.0)	3.70	25.6	1.03	ND (5.00)	2.48	ND (10.0)	6.40	19.6	ND (10.0)	3.28	ND (0.0050) 560 N	ID (20.0)	ND (10.0)
RL	250	0.100	2.00		1.00	10.5	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	25.0	20.0	10.0

NOTES:

(---) = not required by the ARARs Monitoring and Reporting Program

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

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

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

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

TABLE 5
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Effluent Monitoring Results ^a
First Quarter 2012 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

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		.5-8.4 6.5		16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sampl	ing Frequency			Weekly												Monthly								
	Analytes Units ^C	TDS mg/L	Turbidity NTU	Specific Conductand µmhos/cm	Field ⁶	Chromium	Hexavalent Chromium µg/L	Aluminium µg/L	Ammonia (as N) mg/L	Antimony µg/L	Arsenic	Barium µg/L	Boron mg/L	Copper	Fluoride mg/L			Molybdenum μg/L	Nickel µg/L	Nitrate (as N) mg/L	Nitrite (as N) mg/L	Sulfate mg/L	Iron μg/L	Zinc µg/L
	MDLd	0.400	0.0140	0.0950		0.110	0.0270	2.80	0.0012	0.120	0.280	0.200	0.0015	0.120	0.0310	0.110	0.280	0.270	0.0750	0.0270	0.00036	11.4	1.30	3.90
Sample ID	Date	000	0.01.10	0.000		00	0.02.0		0.00.2	020	0.200	0.200	0.00.0	00	0.00.0	01110	0.200	0.2. 0	0.0.00	0.02.0	0.00000			0.00
SC-700B-WDR-34	42 1/3/2012	4280	ND (0.100)	7190	7.00	ND (1.00)	ND (2.10)	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	18.0	1.01	ND (5.00)	2.21	ND (10.0)	14.3	17.8	ND (10.0)	3.15	ND (0.0050)	502	ND (20.0) ND (10.0)
RL		250	0.100	2.00		1.00	2.10	50.0	0.500	10.0	1.00	10.0	0.200	, ,	0.500	10.0	1.00	10.0	10.0	0.500	0.0050	50.0	20.0	10.0
SC-700B-WDR-34	43 1/10/2012	4150 J	ND (0.100)	7000	7.20	ND (1.00)	ND (1.00)										17.6							
RL		250	0.100	2.00		1.00	1.00										1.00							
SC-700B-WDR-34	44 1/17/2012	4230	ND (0.100)	7110	7.00	ND (1.00)	ND (1.00)										9.60							
RL		250	0.100	2.00		1.00	1.00										5.00							
SC-700B-WDR-34	45 1/24/2012	4290	ND (0.100)	7220	7.20	ND (1.00)	ND (1.00)										19.3							
RL		250	0.100	2.00		1.00	1.00										1.00							
SC-700B-WDR-34	46 1/31/2012	4240	ND (0.100)	7190	7.00	ND (1.00)	ND (1.00)										16.7							
RL		250	0.100	2.00		1.00	1.00										5.00							
SC-700B-WDR-34	47 2/7/2012	4100	ND (0.100)	6970	7.30	ND (2.00)	ND (1.00)	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	18.6	1.08	ND (5.00)	0.773	ND (10.0)	18.1	16.7	ND (10.0)	2.73	ND (0.0050)	597	ND (20.0) ND (10.0)
RL		250	0.100	2.00		2.00	1.00	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-34	48 2/14/2012	4440	ND (0.100)	7460	7.00	ND (1.00)	ND (1.00)										12.0							
RL		250	0.100	2.00		1.00	1.00										1.00							
SC-700B-WDR-34	49 2/21/2012	4360	ND (0.100)	7200	7.00	ND (1.00)	ND (1.00)										8.90							
RL		250	0.100	2.00		1.00	1.00										5.00							
SC-700B-WDR-35	50 2/28/2012	4460 J	ND (0.100)	7220	7.30	ND (1.00)	ND (0.200)										16.9							
RL		250	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-35	51 3/6/2012	4460	ND (0.100)	7500	7.00	ND (1.00)	ND (1.00)	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	14.6	0.990	ND (5.00)	2.12	ND (10.0)	5.60	17.8	ND (10.0)	3.14	ND (0.0050)	523	ND (20.0) ND (10.0)
RL		250	0.100	2.00		1.00	1.00	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-35	52 3/13/2012	4380	ND (0.100)	7540	7.10	ND (1.00)	ND (0.200)										7.40							
RL		250	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-35	53 3/20/2012	4340	0.110	7380	7.00	ND (1.00)	ND (1.00)										1.40							
RL		250	0.100	2.00		1.00	1.00										1.00							
SC-700B-WDR-35	54 3/27/2012	4480	ND (0.100)	7620	7.00	ND (1.00)	ND (1.00)										4.30							
RL		250	0.100	2.00		1.00	1.00										1.00							

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TABLE 5

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) Effluent Monitoring Results $^{\bf a}$

First Quarter 2012 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

NOTES:

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

NTU = nephelometric turbidity units RL = project reporting limit

μg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

- ^a Sampling location for all effluent samples is tap on pipe downstream from tank T-700 to injection wells (see attached P&ID TP-PR-10-10-04).
- b In addition to the listed effluent limits, the ARARs state that the effluent shall not contain heavy metals, chemicals, pesticides or other constituents in concentrations toxic to human health.
- ^c Units reported in this table are those units required in the ARARs.
- d MDL listed is the target MDL by analysis method; however, the MDL may change for each sample analysis due to the dilution required by the matrix to meet the method QC requirements. The target MDL for each method/analyte combination is calculated annually.
- 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.

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TABLE 6

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)

Reverse Osmosis Concentrate Monitoring Results ^a

First Quarter 2012 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Sampling Frequency											Quarter	ly										
Analytes Units b	TDS mg/L	Specific Conductance µmhos/cm	Field ^c pH pH units	Chromium	Hexavalent Chromium	Antimony mg/L	Arsenic mg/L	_	·	Cadmium		Copper	Fluoride		Molybdenum	n Mercury mg/L	Nickel	Selenium	_	Thallium	Vanadium	Zinc mg/L
Sample ID Date	0.400	0.0950	pri units	mg/L 0.00022	mg/L 0.00014	0.00024	0.00028	mg/L 0.00040	mg/L 0.00036	mg/L 0.00094	mg/L 0.00097	mg/L 0.00025	mg/L 0.620	mg/L 0.00022	mg/L 0.0040	0.00015	mg/L 0.0026	mg/L 0.00068	mg/L 0.00018	mg/L 0.00097	mg/L 0.00037	0.0039
SC-701-WDR-342 1/3/2012	33000	44200	7.5	0.00560	ND (0.0010)	ND (0.0100)	ND (0.0010) 0.133	ND (0.0020)	ND (0.0030)	ND (0.010	00ND (0.0100)) 16.7	ND (0.010	0) 0.122	ND (0.0020)	0.0157	0.0256	ND (0.0050	0) ND (0.002	0) ND (0.0050)	0.0187
RL	1250	2.00		0.0020	0.0010	0.0100	0.0010	0.0100	0.0020	0.0030	0.0100		2.00	0.0100	0.0100	0.0020	0.0100	0.0100	0.0050	0.0020	0.0050	0.0100

NOTES:

(---) = not required by the ARARs Monitoring and Reporting Program

MDL = method detection limit

mg/L = milligrams per liter

ND = parameter not detected at the listed value

RL = project reporting limit

μg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

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

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

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

TABLE 7

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)

Sludge Monitoring Results^a

First Quarter 2012 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Sampling F	requency										Qu	arterly									
	Analytes Units ^b MDL Date	Chromium mg/kg 0.0058	Hexavalent Chromium mg/kg 0.310	Antimony mg/kg 0.0059	Arsenic mg/kg 0.0078	Barium mg/kg 0.0045	Beryllium mg/kg 0.00036	Cadmium mg/kg 0.0055	Cobalt mg/kg 0.0053	Copper mg/kg 0.00025	Fluoride mg/kg 0.0310	Lead mg/kg 0.0094	Molybdenum mg/kg 0.0080	Mercury mg/kg 0.00015	Nickel mg/kg 0.0051	Selenium mg/kg 0.0064	Silver mg/kg 0.0111	Thallium mg/kg 0.0027	Vanadium mg/kg 0.0035	Zinc mg/kg 0.0078	
SC-Sludge-WDR-342	1/3/2012	4860 5.46	67.1 J 9.42	86.4 10.9	28.3 2.18	61.8 2.18	ND (1.09) 1.09	12.4 2.18	4.96 2.18	34.0 1.09	16.7 4.67	3.02 2.18	9.18 2.18	0.359 0.218	23.1 2.18	ND (2.18) 2.18	ND (5.46) 5.46	ND (2.18) 2.18	59.7 2.18	70.4 2.18	

NOTES:

(---) = not required by the ARARs Monitoring and Reporting Program mg/kg = milligrams per killogram mg/L = milligrams per liter MDL = method detection limit

ND = parameter not detected at the listed reporting limit RL = project reporting limit

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

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

TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 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-342	Ron Phelps	1/3/2012	1:30:00 PM	TLI	EPA 120.1	SC	1/5/2012	Kim Luck
					TLI	EPA 200.7	AL	1/12/2012	Ethel Suico
					TLI	EPA 200.7	В	1/12/2012	Ethel Suico
					TLI	EPA 200.7	FE	1/12/2012	Ethel Suico
					TLI	EPA 200.7	MO	1/12/2012	Ethel Suico
					TLI	EPA 200.7	NI	1/12/2012	Ethel Suico
					TLI	EPA 200.7	ZN	1/16/2012	Ethel Suico
					TLI	EPA 200.8	AS	1/16/2012	Katia Kiarashpoor
					TLI	EPA 200.8	BA	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CR	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CU	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	РВ	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	SB	1/8/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/6/2012	Maksim Gorbunov/George Wahba
					TLI	EPA 300.0	FL	1/4/2012	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/4/2012	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	1/4/2012	Giawad Ghenniwa
					FIELD	HACH	PH	1/3/2012	Ron Phelps
					TLI	SM2130B	TRB	1/5/2012	Kim Luck
					TLI	SM2540C	TDS	1/3/2012	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	1/5/2012	Maria Mangarova
					TLI	SM4500NO2B	NO2N	1/4/2012	Jenny Tankunakorn
SC-100B	SC-100B-WDR-347	Ron Phelps	2/7/2012	12:30:00 PM	TLI	EPA 120.1	SC	2/9/2012	Gautam Savani
					TLI	EPA 200.7	AL	2/27/2012	Ethel Suico
					TLI	EPA 200.7	В	2/27/2012	Ethel Suico
					TLI	EPA 200.7	FE	2/27/2012	Ethel Suico
					TLI	EPA 200.7	FETD	2/27/2012	Ethel Suico
					TLI	EPA 200.7	NI	2/27/2012	Ethel Suico
					TLI	EPA 200.7	ZN	2/27/2012	Ethel Suico
					TLI	EPA 200.8	AS	2/17/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	BA	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	CR	3/2/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	CU	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	MN	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	MND	2/17/2012	Katia Kiarashpoor/Bita Emami

TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 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-347	Ron Phelps	2/7/2012	12:30:00 PM	TLI	EPA 200.8	MO	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	PB	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	SB	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 218.6	CR6	2/22/2012	George Wahba/Maksim Gorbunov
					TLI	EPA 300.0	FL	2/9/2012	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	2/8/2012	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	2/9/2012	Giawad Ghenniwa
					FIELD	HACH	PH	2/7/2012	Ron Phelps
					TLI	SM 2320B	ALKB	2/10/2012	Kim Luck
					TLI	SM 2320B	ALKC	2/10/2012	Kim Luck
					TLI	SM2130B	TRB	2/8/2012	Gautam Savani
					TLI	SM2540C	TDS	2/8/2012	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	2/10/2012	Maria Mangarova
					TLI	SM4500NO2B	NO2N	2/9/2012	Jenny Tankunakorn
SC-100B	SC-100B-WDR-351	C.Knight	3/6/2012	1:02:00 PM	TLI	EPA 120.1	SC	3/9/2012	Gautam Savani
					TLI	EPA 200.7	AL	3/19/2012	Ethel Suico
					TLI	EPA 200.7	В	3/19/2012	Ethel Suico
					TLI	EPA 200.7	FE	3/19/2012	Ethel Suico
					TLI	EPA 200.7	FETD	3/19/2012	Ethel Suico
					TLI	EPA 200.7	MO	3/19/2012	Ethel Suico
					TLI	EPA 200.7	ZN	3/19/2012	Ethel Suico
					TLI	EPA 200.8	AS	3/15/2012	Katia Kiarashpoor
					TLI	EPA 200.8	BA	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CR	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CU	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MND	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	NI	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	PB	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	SB	3/13/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/7/2012	George Wahba
					TLI	EPA 300.0	FL	3/7/2012	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	3/7/2012	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	3/7/2012	Giawad Ghenniwa
					FIELD	HACH	PH	3/6/2012	C.Knight
					TLI	SM 2320B	ALKB	3/13/2012	Bita Emami

TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 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-351	C.Knight	3/6/2012	1:02:00 PM	TLI	SM 2320B	ALKC	3/13/2012	Bita Emami
					TLI	SM2130B	TRB	3/7/2012	Gautam Savani
					TLI	SM2540C	TDS	3/7/2012	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	3/7/2012	Bita Emami
					TLI	SM4500NO2B	NO2N	3/7/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-342	Ron Phelps	1/3/2012	1:30:00 PM	TLI	EPA 120.1	SC	1/5/2012	Kim Luck
					TLI	EPA 200.7	AL	1/12/2012	Ethel Suico
					TLI	EPA 200.7	В	1/12/2012	Ethel Suico
					TLI	EPA 200.7	FE	1/12/2012	Ethel Suico
					TLI	EPA 200.7	MO	1/12/2012	Ethel Suico
					TLI	EPA 200.7	NI	1/12/2012	Ethel Suico
					TLI	EPA 200.7	ZN	1/16/2012	Ethel Suico
					TLI	EPA 200.8	AS	1/16/2012	Katia Kiarashpoor
					TLI	EPA 200.8	BA	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CR	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CU	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	PB	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	SB	1/8/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/27/2012	Maksim Gorbunov/George Wahba
					TLI	EPA 300.0	FL	1/4/2012	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/4/2012	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	1/4/2012	Giawad Ghenniwa
					FIELD	HACH	PH	1/3/2012	Ron Phelps
					TLI	SM2130B	TRB	1/5/2012	Kim Luck
					TLI	SM2540C	TDS	1/3/2012	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	1/5/2012	Maria Mangarova
					TLI	SM4500NO2B	NO2N	1/4/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-343	C.Knight	1/10/2012	2:37:00 PM	TLI	EPA 120.1	SC	1/16/2012	Kim Luck
					TLI	EPA 200.8	CR	1/18/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/18/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/12/2012	Maksim Gorbunov/George Wahba
					FIELD	HACH	PH	1/10/2012	C.Knight
					TLI	SM2130B	TRB	1/12/2012	Kim Luck
					TLI	SM2540C	TDS	1/27/2012	Jenny Tankunakorn

TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 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-344	Ron Phelps	1/17/2012	11:00:00 AM	TLI	EPA 120.1	SC	1/25/2012	Gautam Savani
					TLI	EPA 200.8	CR	2/2/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	2/2/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/19/2012	Maksim Gorbunov/George Wahbe
					FIELD	HACH	PH	1/17/2012	Ron Phelps
					TLI	SM2130B	TRB	1/18/2012	Kim Luck
					TLI	SM2540C	TDS	1/23/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-345	Ron Phelps	1/24/2012	11:15:00 AM	TLI	EPA 120.1	SC	1/25/2012	Gautam Savani
					TLI	EPA 200.8	CR	1/28/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/30/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/27/2012	Maksim Gorbunov/George Wahbe
					FIELD	HACH	PH	1/24/2012	Ron Phelps
					TLI	SM2130B	TRB	1/25/2012	Gautam Savani
					TLI	SM2540C	TDS	1/27/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-346	Ron Phelps	1/31/2012	2:00:00 PM	TLI	EPA 120.1	SC	2/1/2012	Gautam Savani
					TLI	EPA 200.8	CR	2/7/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	2/7/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	2/1/2012	Maksim Gorbunov/George Wahbe
					FIELD	HACH	PH	1/31/2012	Ron Phelps
					TLI	SM2130B	TRB	2/1/2012	Gautam Savani
					TLI	SM2540C	TDS	2/1/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-347	Ron Phelps	2/7/2012	12:45:00 PM	TLI	EPA 120.1	SC	2/9/2012	Gautam Savani
					TLI	EPA 200.7	AL	2/27/2012	Ethel Suico
					TLI	EPA 200.7	В	2/27/2012	Ethel Suico
					TLI	EPA 200.7	FE	2/27/2012	Ethel Suico
					TLI	EPA 200.7	NI	2/27/2012	Ethel Suico
					TLI	EPA 200.7	ZN	2/27/2012	Ethel Suico
					TLI	EPA 200.8	AS	2/17/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	BA	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	CR	3/2/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	CU	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	MN	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	MO	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	РВ	2/16/2012	Katia Kiarashpoor/Bita Emami
					TLI	EPA 200.8	SB	2/16/2012	Katia Kiarashpoor/Bita Emami

TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 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-347	Ron Phelps	2/7/2012	12:45:00 PM	TLI	EPA 218.6	CR6	2/22/2012	George Wahba/Maksim Gorbunov
3C-700B	30-700B-WDR-347	Ron Frieips	2/1/2012	12.45.00 FW	TLI	EPA 210.0 EPA 300.0	FL	2/9/2012	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	2/8/2012	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	2/9/2012	Giawad Ghenniwa
					FIELD	HACH	PH	2/7/2012	Ron Phelps
					TLI	SM2130B	TRB	2/8/2012	Gautam Savani
					TLI	SM2540C	TDS	2/8/2012	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	2/0/2012	Maria Mangarova
					TLI				_
						SM4500NO2B	NO2N	2/9/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-348	Ron Phelps	2/14/2012	1:00:00 PM	TLI	EPA 120.1	SC	2/17/2012	Gautam Savani
					TLI	EPA 200.8	CR	2/24/2012	Bita Emami
					TLI	EPA 200.8	MN	2/24/2012	Bita Emami
					TLI	EPA 218.6	CR6	2/15/2012	Maksim Gorbunov/George Wahba
					FIELD	HACH	PH	2/14/2012	Ron Phelps
					TLI	SM2130B	TRB	2/15/2012	Gautam Savani
					TLI	SM2540C	TDS	2/17/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-349	C.Knight	2/21/2012	1:40:00 PM	TLI	EPA 120.1	SC	2/23/2012	Gautam Savani
					TLI	EPA 200.8	CR	2/28/2012	Bita Emami
					TLI	EPA 200.8	MN	2/28/2012	Bita Emami
					TLI	EPA 218.6	CR6	2/22/2012	Maksim Gorbunov/George Wahba
					FIELD	HACH	PH	2/21/2012	C.Knight
					TLI	SM2130B	TRB	2/22/2012	Gautam Savani
					TLI	SM2540C	TDS	2/22/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-350	C.Knight	2/28/2012	2:39:00 PM	TLI	EPA 120.1	SC	3/2/2012	Gautam Savani
		_			TLI	EPA 200.8	CR	3/1/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/1/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/2/2012	Maksim Gorbunov/George Wahba
					FIELD	HACH	PH	2/28/2012	C.Knight
					TLI	SM2130B	TRB	2/29/2012	Gautam Savani
					TLI	SM2540C	TDS	3/16/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-351	C.Knight	3/6/2012	1:31:00 PM	TLI	EPA 120.1	SC	3/9/2012	Gautam Savani
		Ŭ			TLI	EPA 200.7	AL	3/19/2012	Ethel Suico
					TLI	EPA 200.7	В	3/19/2012	Ethel Suico
					TLI	EPA 200.7	FE	3/19/2012	Ethel Suico
					TLI	EPA 200.7	MO	3/19/2012	Ethel Suico

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Date Printed 4/6/2012

TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 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-351	C.Knight	3/6/2012	1:31:00 PM	TLI	EPA 200.7	ZN	3/19/2012	Ethel Suico
		-			TLI	EPA 200.8	AS	3/15/2012	Katia Kiarashpoor
					TLI	EPA 200.8	BA	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CR	3/15/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CU	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	NI	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	PB	3/13/2012	Katia Kiarashpoor
					TLI	EPA 200.8	SB	3/13/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/7/2012	George Wahba
					TLI	EPA 300.0	FL	3/7/2012	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	3/7/2012	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	3/7/2012	Giawad Ghenniwa
					FIELD	HACH	PH	3/6/2012	C.Knight
					TLI	SM2130B	TRB	3/7/2012	Gautam Savani
					TLI	SM2540C	TDS	3/7/2012	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	3/7/2012	Bita Emami
					TLI	SM4500NO2B	NO2N	3/7/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-352	Ron Phelps	3/13/2012	1:00:00 PM	TLI	EPA 120.1	SC	3/15/2012	Gautam Savani
					TLI	EPA 200.8	CR	3/15/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/15/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/16/2012	Maksim Gorbunov/George Wahba/Melissa Sc
					FIELD	HACH	PH	3/13/2012	Ron Phelps
					TLI	SM2130B	TRB	3/14/2012	Gautam Savani
					TLI	SM2540C	TDS	3/14/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-353	George Gloria	3/20/2012	11:30:00 AM	TLI	EPA 120.1	SC	3/21/2012	Gautam Savani
					TLI	EPA 200.8	CR	3/27/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	3/27/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	3/21/2012	George Wahba/Melissa Scharfe
					FIELD	HACH	PH	3/20/2012	George Gloria
					TLI	SM2130B	TRB	3/21/2012	Gautam Savani
					TLI	SM2540C	TDS	3/21/2012	Jenny Tankunakorn
SC-700B	SC-700B-WDR-354	Ron Phelps	3/27/2012	10:00:00 AM	TLI	EPA 120.1	SC	3/28/2012	Gautam Savani
					TLI	EPA 200.8	CR	4/5/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	4/5/2012	Katia Kiarashpoor

TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 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-354	Ron Phelps	3/27/2012	10:00:00 AM	TLI	EPA 218.6	CR6	3/28/2012	Melissa Scharfe/Maksim Gorbunov
					FIELD	HACH	PH	3/22/2012	Ron Phelps
					TLI	SM2130B	TRB	3/28/2012	Gautam Savani
					TLI	SM2540C	TDS	3/29/2012	Jenny Tankunakorn
SC-701	SC-701-WDR-342	Ron Phelps	1/3/2012	1:30:00 PM	TLI	EPA 120.1	SC	1/5/2012	Kim Luck
					TLI	EPA 200.7	MO	1/12/2012	Ethel Suico
					TLI	EPA 200.7	NI	1/12/2012	Ethel Suico
					TLI	EPA 200.7	ZN	1/16/2012	Ethel Suico
					TLI	EPA 200.8	AG	1/16/2012	Katia Kiarashpoor
					TLI	EPA 200.8	AS	1/16/2012	Katia Kiarashpoor
					TLI	EPA 200.8	BA	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	BE	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CD	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CO	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CR	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	CU	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	HG	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	MN	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	PB	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	SB	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	SE	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	TL	1/8/2012	Katia Kiarashpoor
					TLI	EPA 200.8	V	1/16/2012	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	1/27/2012	Maksim Gorbunov/George Wahba
					TLI	EPA 300.0	FL	1/4/2012	Giawad Ghenniwa
					FIELD	HACH	PH	1/3/2012	Ron Phelps
					TLI	SM2540C	TDS	1/3/2012	Jenny Tankunakorn
hase Separator	SC-Sludge-WDR-342	Ron Phelps	1/3/2012	1:00:00 PM	TLI	EPA 300.0	FL	1/6/2012	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	1/6/2012	Giawad Ghenniwa
					TLI	EPA 6010B	AG	1/20/2012	Ethel Suico
					TLI	EPA 6010B	AS	1/12/2012	Ethel Suico
					TLI	EPA 6010B	BA	1/12/2012	Ethel Suico
					TLI	EPA 6010B	CD	1/12/2012	Ethel Suico
					TLI	EPA 6010B	CO	1/12/2012	Ethel Suico
					TLI	EPA 6010B	CR	1/20/2012	Ethel Suico
					TLI	EPA 6010B	MN	1/12/2012	Ethel Suico

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TABLE 8
Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)
Monitoring Information
First Quarter 2012 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Separator	SC-Sludge-WDR-342	Ron Phelps	1/3/2012	1:00:00 PM	TLI	EPA 6010B	MO	1/12/2012	Ethel Suico
					TLI	EPA 6010B	NI	1/12/2012	Ethel Suico
					TLI	EPA 6010B	PB	1/12/2012	Ethel Suico
					TLI	EPA 6010B	SB	1/12/2012	Ethel Suico
					TLI	EPA 6010B	SE	1/12/2012	Ethel Suico
					TLI	EPA 6010B	TL	1/12/2012	Ethel Suico
					TLI	EPA 6010B	V	1/12/2012	Ethel Suico
					TLI	EPA 6010B	ZN	1/12/2012	Ethel Suico
					TLI	SM2540B	MOIST	1/3/2012	Maria Mangarova
					TLI	SW 6020A	BE	1/13/2012	Katia Kiarashpoor
					TLI	SW 6020A	CU	1/20/2012	Katia Kiarashpoor
					TLI	SW 6020A	HG	1/13/2012	Katia Kiarashpoor
					TLI	SW 7199	CR6	2/6/2012	George Wahba
					TLI	SW 7199	CR6	2/6/2012	George Wahba

TABLE 8

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs)

Monitoring Information

alkalinity, bicarb as CaCO3

First Quarter 2012 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

MO =

NOTES:

ALKB =

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

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

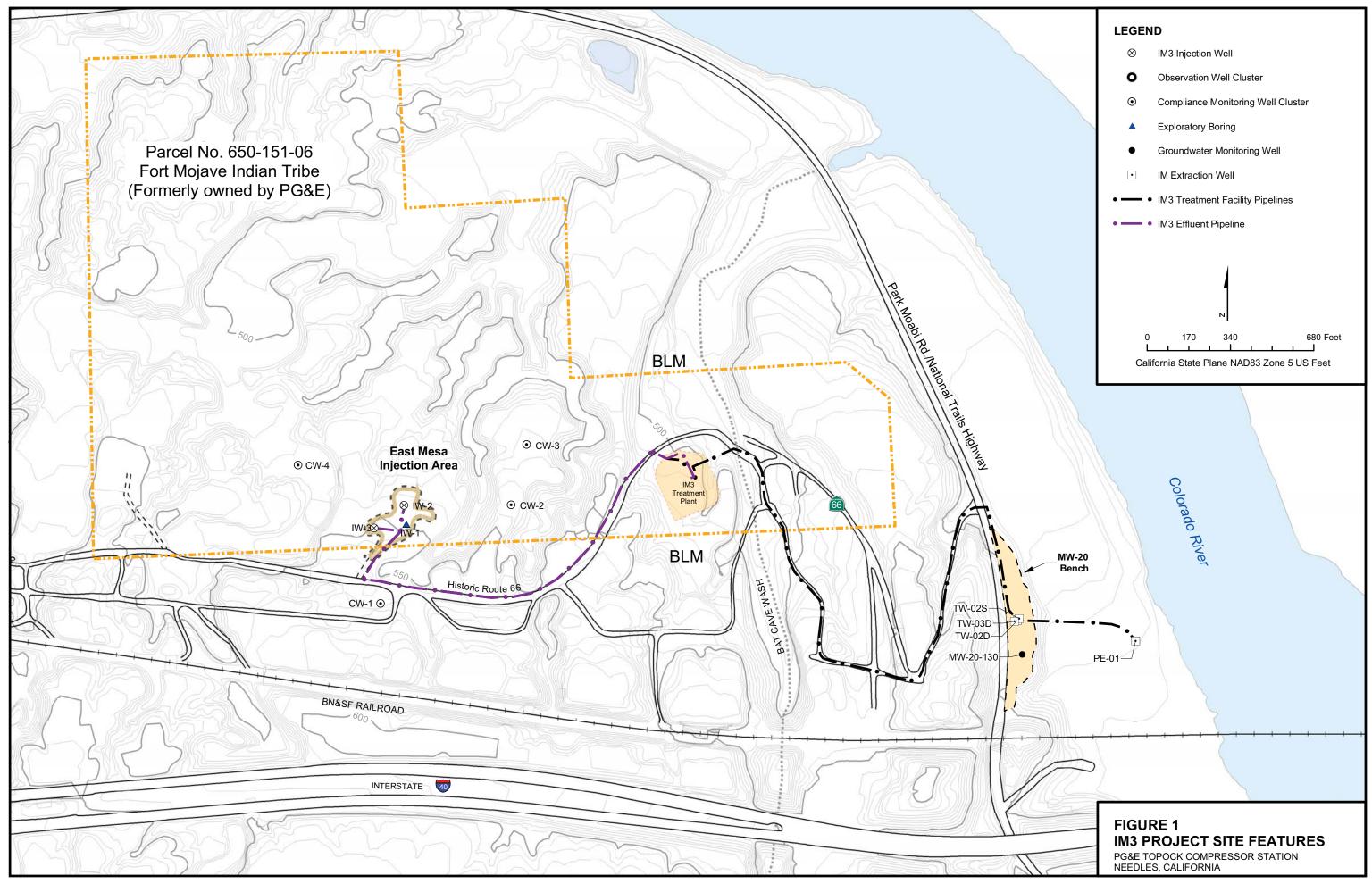
SC-701 = Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID PR-10-04).

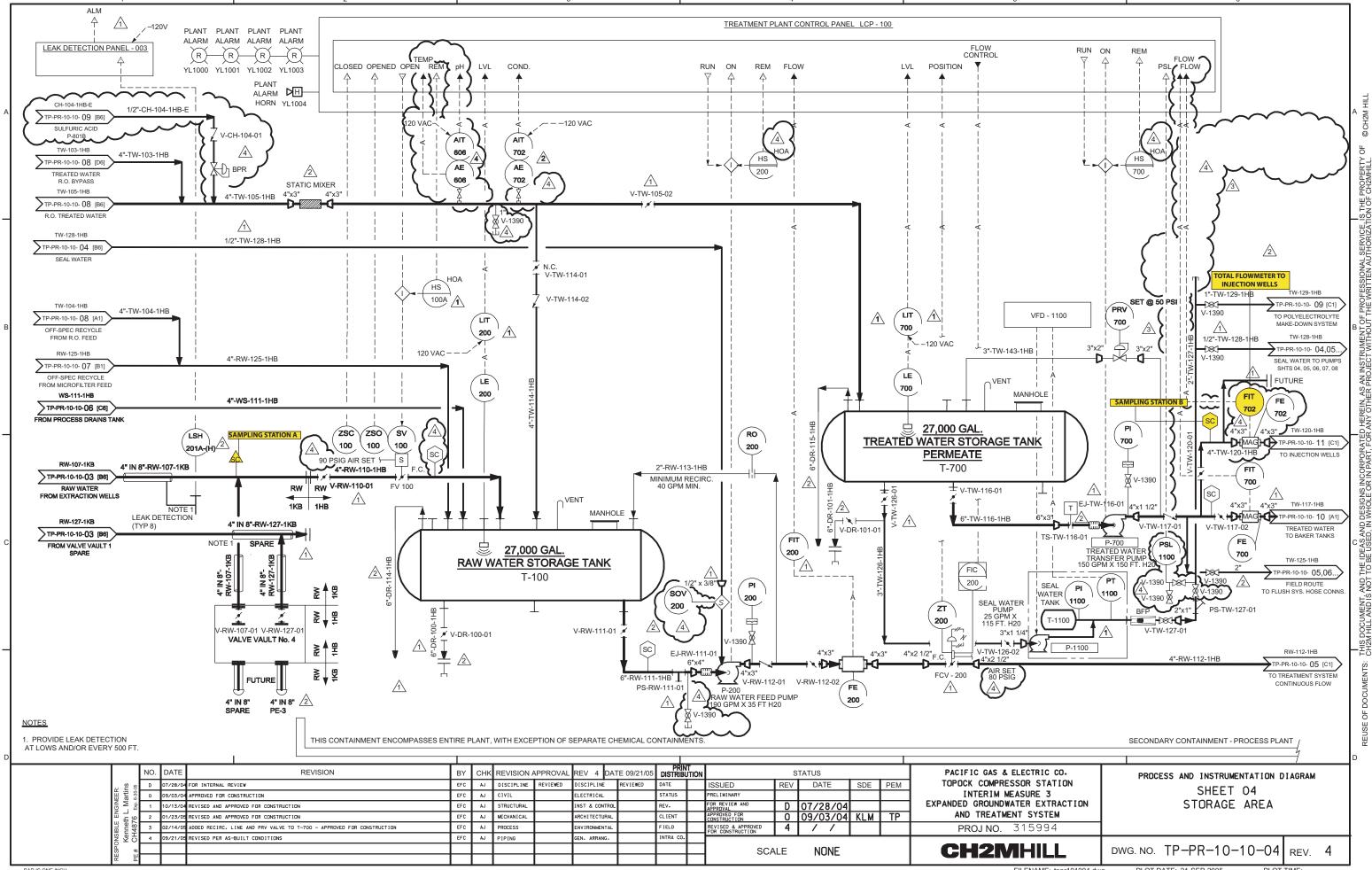
molvbdenum

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.

, (L. (D —	amaminy, bloarb ac cacco		monybaomann
ALKC =	alkalinity, carb as CaCO3	MOIST =	moisture
AL =	aluminum	NH3N =	ammonia (as N)
Ag =	silver	NI =	nickel
AS =	arsenic	NO2N =	nitrite (as N)
B =	boron	NO3N =	nitrate (as N)
BA =	barium	PB =	lead
BE =	beryllium	PH =	pH
CD =	cadmium	SB =	antimony
CO =	cobalt	SC =	specific conductance
CR =	chromium	SE =	selenium
CR6 =	hexavalent chromium	SO4 =	sulfate
CU =	copper	TDS =	total dissolved solids
FE =	iron	TL =	thallium
FETD =	iron, dissolved	TLI =	Truesdail Laboratories, Inc.
FL =	fluoride	TRB =	turbidity
HG =	mercury	V =	vanadium
MN =	manganese	ZN =	zinc
MND =	manganese, dissolved		







FILENAME: PR-10-03.dgn

PLOT DATE: 11/19/2009

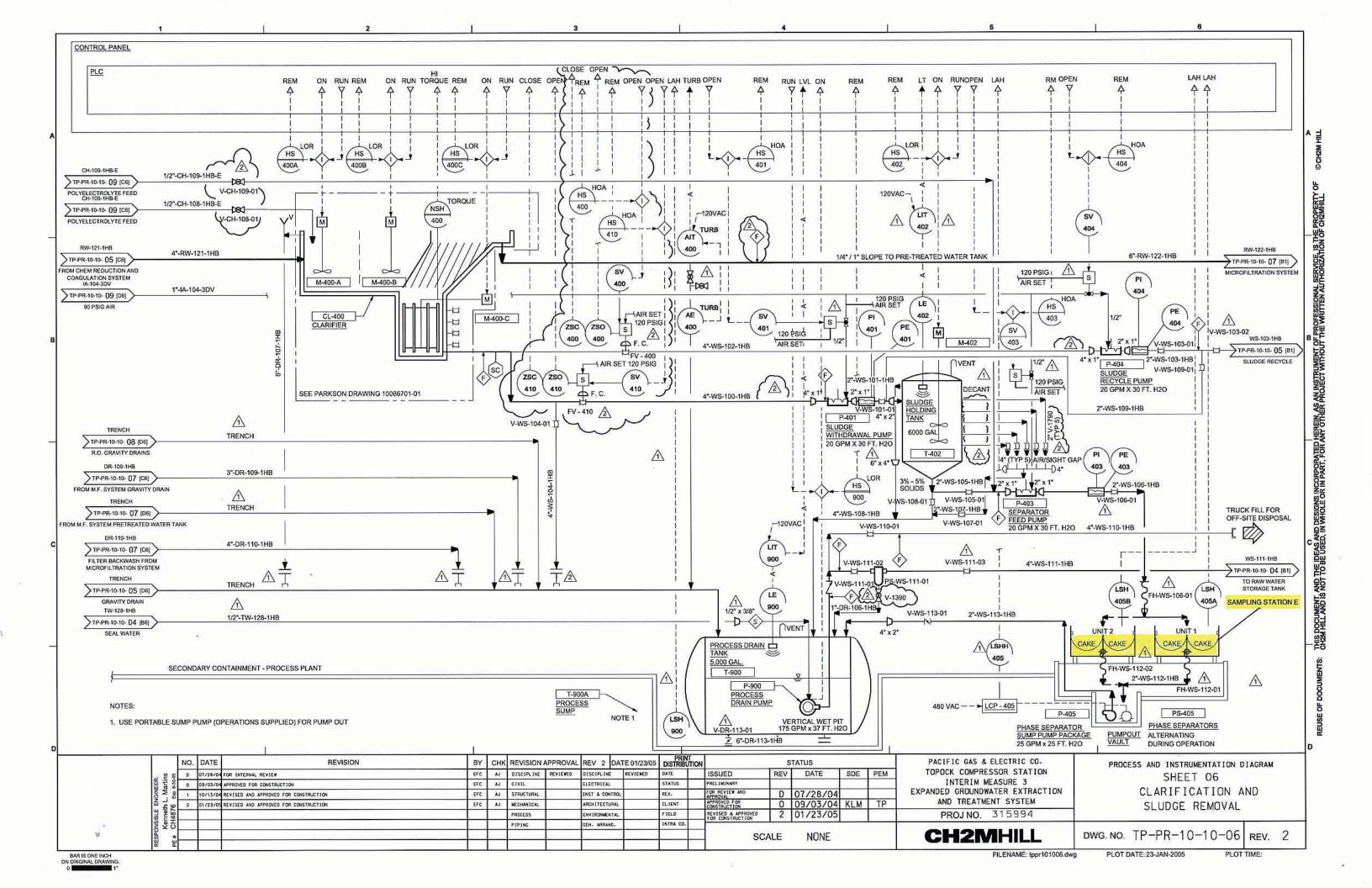
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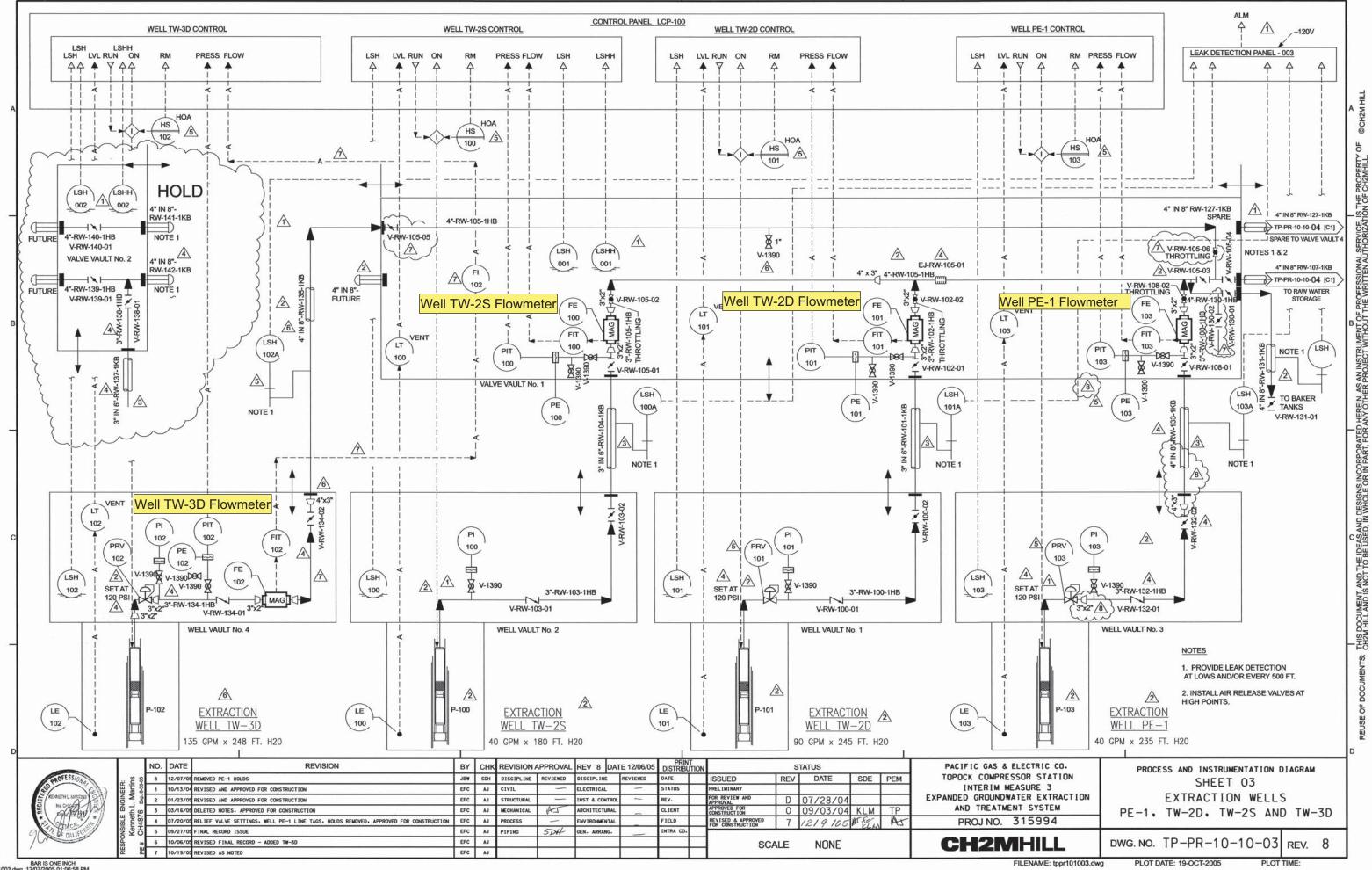
BAR IS ONE INCH ON ORIGINAL DRAWING.

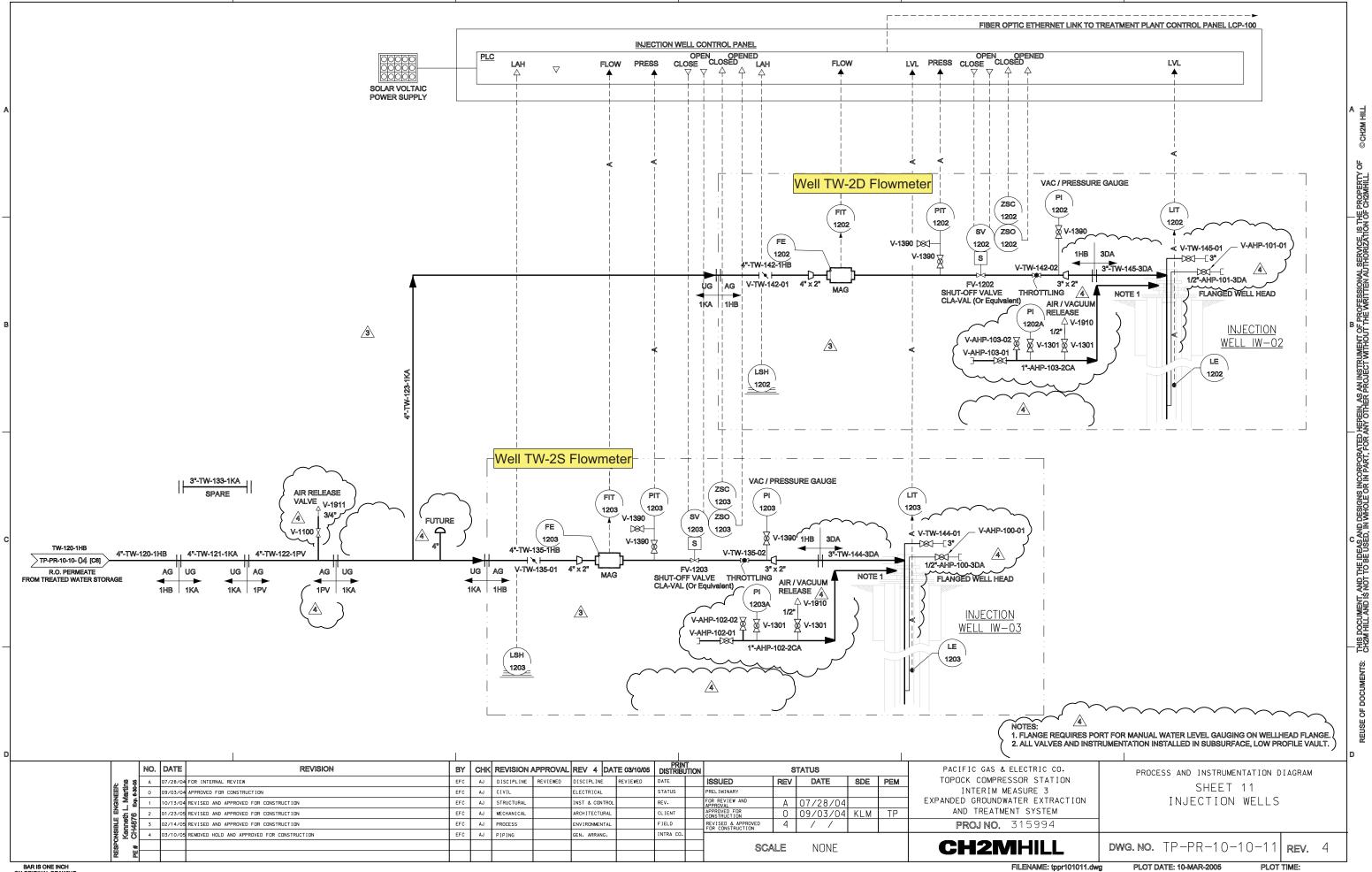
TO SEAL WATER TRUNK LINE PR-10-03 (HS 701 1 1/2" TW-154-1HB THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE. IS THE PROPERTY CHZM HILL AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF CHZMHILL. 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 <u></u> ∩ 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

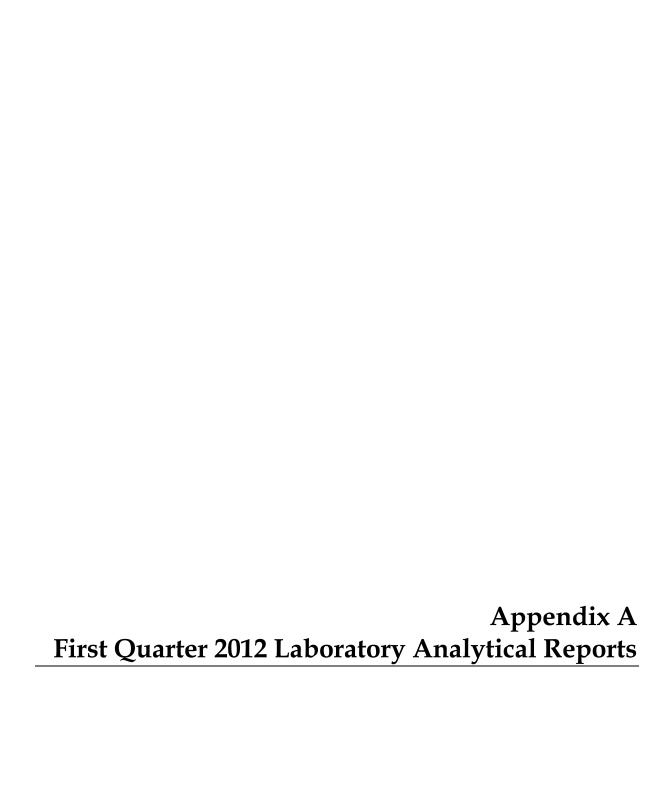
RUN ON FLOW







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 16, 2012

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-342 PROJECT, SLUDGE

MONITORING,

TLI NO.: 999361

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-342 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 3, 2012, 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.

The sample for Hexavalent Chromium by SW 7199 was initially extracted within the 28-day holding time. Due to instrument problems, the sample was not analyzed within seven days and the extract expired. The sample was re-extracted on February 2, 2012, 2 days past the 28-day holding time, and analyzed on February 7, 2012. All other QA/QC was within acceptable limits. Mr. Shawn Duffy was notified.

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

Alidael 200

Michael Ngo

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.: 999361

Date: February 16, 2012 Collected: January 3, 2012 Received: January 3, 2012

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 300.0	Anions	Giawad Ghenniwa
SM 2540 B	% Moisture	Maria Mangarova
SW 6010B	Metals by ICP	Ethel Suico
SW 6020	Metals by ICP/MS	Katia Kiarashpoor
SW 7199	Hexavalent Chromium	George Wahba

Established 1931

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

Date Received: January 3, 2012 Laboratory No.: 999361

Attention: Shawn Duffy

Client: E2 Cansulting 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

SM 2540 B % Moisture	%	57.2
EPA 300.0 Nitrate as N	mg/kg	67.1 ND 57.2
EPA 300.0 Fluoride	mg/kg	16.7
SW 7199 Hexavalent	rag/kg	67.1
Sample Time		13:00
Sample I.D.	mg/kg mg/kg mg/kg	999361 SC-Sludge-WDR-342
<u>Lab I.D.</u>		999361

ND: Non Detected (below reporting limit)

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

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Established 1931

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 3, 2012

Laboratory No.: 999361

Analytical Results Summary

METALS ANALYSIS:	NALYSIS:	Total Metal,	Analyses	Total Metal Analyses as Requested									
Lab 1,D.	Sample ID	Date of Analysis: Time Coll.	of Analysis: Time Coll.		Antimony SW 6010B 01/12/12 mg/kg	Arsenic SW 6010B 01/12/12 mg/kg	Barium SW 6010B 01/12/12 mg/kg	Beryllium SW 6020A 01/13/12 mg/kg	Cadmium SW 6010B 01/12/12 mg/kg	Chromium SW 6010B 01/20/12 mg/kg	Cobalt SW 6010B 01/12/12 mg/kg	Copper SW 6020A 01/20/12 mg/kg	Lead SW 6010B 01/12/12 mg/kg
999361		SC-Sludge-WDR-342 13:00	3:00		86.4	28.3	61.8	QN	12.4	4860	4.96	34.0	3.02
Lab I.D.	Sample ID	Date of A	Date of Analysis: Time Coll.	Manganese SW 6010B 01/12/12 mg/kg	Mercury SW 6020A 01/13/12 mg/kg	Molybdenum SW 6010B 01/12/12 mg/kg	Nickel SW 6010B 01/12/12 mg/kg	Selenium SW 6010B 01/12/12 mg/kg	Silver SW 6010B 01/20/12 mg/kg	Thallium SW 6010B 01/12/12 mg/kg	Vanadium SW 6010B 01/12/12 mg/kg	Zinc SW 6010B 01/12/12 mg/kg	and the second s
999361	SC-Sludge-V	SC-Sludge-WDR-342 13:00	3:00	407	0.359	9.18	23.1	QN	QN	QN	59.7	70.4	

NOTES

ND: Not detected, or below limit of detection

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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 Prep. Batch: 02CrH12F Laboratory No.: 999361

Date: February 16, 2012

Collected: January 3, 2012 Received: January 3, 2012 Prep/ Analyzed: February 6, 2012

Analytical Batch: 02CrH12F

Investigation:

Hexavalent Chromium by IC Using Method SW 7199

REPORT

Analytical Results Hexavalent Chromium

Field I.D. Sample Time Units DF TLI I.D. Run Time RL Results 999361 SC-Sludge-WDR-342 13:00 11:05 mg/kg 10.0 9.42 67.1

QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	999361	67.1	64.6	3.82%	≤ 20%	Yes

QC Std 1.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	999361	67.1	10.0	37.5	375.41	411	443	91.7%	75-125%	Yes
IMS	999361	67.1	100	227	22696	20300	22763	89.1%	75-125%	Yes
PDMS	999361	67.1	25.0	15.1	377	464	444	105%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	DИ	<0.400		<0.400	Yes
MRCCS	2.00	2.00	100%	90% - 110%	Yes
MRCVS#1	2,11	2.00	105%	90% - 110%	Yes
MRCVS#2	1.97	2.00	98.5%	90% - 110%	Yes
LLCS	0.0104	0.0100	104%	70% - 130%	Yes
LCS	2.00	2.00	100%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected).

OF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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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.: 999361

Date: February 16, 2012

Collected: January 3, 2012 Received: January 3, 2012

Prep/ Analyzed: January 3, 2012 Analytical Batch: 01SOLID12A

Investigation:

Total Solids by SM 2540 B

REPORT

Analytical Results % Moisture

TLI I.D.	Field I.D.	Sample Time	<u>Units</u>	Results
999361	SC-Sludge-WDR-342	13:00	%	57.2

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	999361	57.2	56.6	0.99%	<u><</u> 20%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

Laboratory

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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.: 999361

Date: February 16, 2012

QC Within

Collected: January 3, 2012 Received: January 3, 2012

Prep/ Analyzed: January 6, 2012

Analytical Batch: 01AN12D

Acceptance

Investigation:

Fluoride by Ion Chromatography using EPA 300.0

Analytical Results Fluoride

Sample Time TLI I.D. Field I.D. Run Time DΕ **Units** RL Results 999361 SC-Sludge-WDR-342 13:00 13:51 1.00 4.67 16.7 mg/kg

QA/QC Summary

Duplicate

Relative

	QC STI	J I.D,	aboratory Number	Concentra	ation	Duplic: Concentr	ation	Percent Difference	Acceptance limits	QC Within Control	
	Duplic	ate	999414	ND		ND		0.00%	≤ 20%	Yes	
QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	M: Amo	s c	easured conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	999414	0.00	1.00	2.00	2.0	0	1.76	2.00	88.2%	85-115%	Yes
MSD	999414	0.00	1.00	2.00	2.0	0	1.76	2.00	88.1%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500		<0.500	Yes
MRCCS	3.87	4.00	96.7%	90% - 110%	Yes
MRCVS#1	2.91	3.00	96.9%	90% - 110%	Yes
MRCVS#2	2.98	3.00	99.3%	90% - 110%	Yes
LCS	3.85	4.00	96.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted.

TRUESDAIL LABORATORIES, INC.

 $\not +_\omega \,$ Mona Nassimi, Manager Analytical Services

Laboratory

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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.: 999361

Date: February 16, 2012

QC Within

Collected: January 3, 2012 Received: January 3, 2012

Prep/ Analyzed: January 6, 2012 Analytical Batch: 01AN12D

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 <u>RL</u> Results 999361 SC-Sludge-WDR-342 13:00 13:51 9.35 mg/kg 1.00 ND

QA/QC Summary

Duplicate

Relative

	Duplic		Number 999414	ND	RION		e ntration ND	Difference 0.00%	limits ≤ 20%	Control Yes	
QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	M Amo	IS ount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	999414	0.00	1.00	2.00	2,0	00	1.97	2.00	98.4%	85-115%	Yes
MSD	999414	0.00	1.00	2.00	2.	00	1.97	2.00	98.5%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500		<0.500	Yes
MRCCS	3.89	4.00	97.2%	90% - 110%	Yes
MRCVS#1	2.88	3.00	96.1%	90% - 110%	Yes
MRCVS#2	2.93	3.00	97.6%	90% - 110%	Yes
LCS	3.89	4.00	97.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

Acceptance

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

Laboratory No.: 999361

Reported: February 16, 2012 Collected: January 3, 2012 Received: January 3, 2012 Analyzed: See Below

REPORT

Attention: Shawn Duffy

Samples: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 408401 01 DM

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

Investigation: Total Metal Analyses as Requested

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

Oakland, CA 94612

Analytical Results

SAMPLE ID: SC-S	Sludge-WDR-342	Time Coll	ected:	13:00		LAB I	D; 999361	
		Reported					Date	Time
Parameter	Method	Value	DF	Units	RL	Batch	Analyzed	Analyzed
Antimony	SW 6010B	86.4	2.00	mg/kg	10.9	011212B	01/12/12	18:20
Arsenic	SW 6010B	28.3	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Barium	SW 6010B	61.8	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Beryllium	SW 6020A	ND	10.0	mg/kg	1.09	011212B	01/13/12	03:03
Cadmium	SW 6010B	12.4	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Chromium	SW 6010B	4860	5.00	mg/kg	5.46	012012A	01/20/12	11:32
Cobalt	SW 6010B	4.96	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Copper	SW 6020A	34.0	10.0	mg/kg	1.09	011912C	01/20/12	08:17
Lead	SW 6010B	3.02	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Manganese	SW 6010B	407	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Mercury	SW 6020A	0.359	10.0	mg/kg	0.218	011212B	01/13/12	03:03
Molybdenum	SW 6010B	9.18	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Nickel	SW 6010B	23.1	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Selenium	SW 6010B	ND	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Silver	SW 6010B	ND	5.00	mg/kg	5.46	012012A	01/20/12	11:32
Thallium	SW 6010B	ND	2,00	mg/kg	2.18	011212B	01/12/12	18:20
Vanadium	SW 6010B	59.7	2.00	mg/kg	2.18	011212B	01/12/12	18:20
Zinc	SW 6010B	70.4	2.00	mg/kg	2.18	011212B	01/12/12	18:20

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

Attention: Shawn Duffy

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

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

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Established 1931

Reported: February 16, 2012 Collected: January 3, 2012 Laboratory No.: 999361

Received: January 3, 2012

Quality Control/Quality Assurance Report

			DIGEST	DIGESTED BLANK		MRCCS				MRCVS			
						Observed	TRUE	%	Control	Observed	TRUE	%	Control
Parameter	Method	Batch	Units	Blank	묍	Value	Value	Rec	Limits	Value	Value	Rec	Limits %
Antimony	SW 6010B	011212B	mg/kg	QN	2.50	5.00	5.00	100%	90-110%	4.59	5.00	91.9%	90-110%
Arsenic	SW 6010B	0112128	mg/kg	ND	0.500	4.84	5.00	96.7%	90-110%	4.67	5.00	93.3%	90-110%
Barium	SW 6010B	011212B	mg/kg	Q	1.00	4.71	5.00	94.1%	90-110%	4.51	5.00	90.2%	90-110%
Beryllium	SW 6020A	011212B	mg/kg	N	1,00	0,00998	0.0100	88.66	90-110%	0.00925	0.0100	92.5%	90-110%
Cadmium	SW 6010B	011212B	mg/kg	ND	0.500	5.12	5.00	102%	90-110%	4.77	5.00	95.4%	90-110%
Chromium	SW 6010B	012012A	шд/кд	N	1.00	5.16	5.00	103%	90-110%	4.93	5.00	98.7%	90-110%
Cobalt	SW 6010B	011212B	mg/kg	N	1.00	5.06	5.00	101%	90-110%	4.66	5.00	93.1%	90-110%
Copper	SW 6020A	011912C	mg/kg	ND	1.00	0.0105	0.0100	105%	90-110%	0.00971	0.0100	97.1%	90-110%
Lead	SW 6010B	011212B	mg/kg	Q	1.00	4.60	5.00	92.0%	90-110%	4.97	5.00	99.4%	90-110%
Manganese	SW 6010B	011212B	mg/kg	QN	1.00	4.76	5.00	95.3%	90-110%	4.57	5.00	91.4%	90-110%
Mercury	SW 6020A	011212B	mg/kg	QN	0.100	0.00201	0.00200	101%	90-110%	0.00198	0.00200	99.2%	90-110%
Molybdenum	SW 6010B	011212B	mg/kg	ND	1.00	4.89	5.00	97.8%	90-110%	4.65	5.00	95.9%	90-110%
Nickel	SW 6010B	011212B	mg/kg	2	1.00	4.99	5.00	99.8%	90-110%	4.75	5.00	94.9%	90-110%
Selenium	SW 6010B	011212B	mg/kg	ND	1.00	4.98	5.00	%9.66	90-110%	4.75	5.00	94.9%	90-110%
Silver	SW 6010B	012012A	тпд/кд	Q	1.00	5.16	5.00	103%	90-110%	4.99	5.00	99.8%	90-110%
Thallium	SW 6010B	011212B	mg/kg	P	2.00	5.24	5.00	105%	90-110%	4.78	5.00	95.6%	90-110%
Vanadium	SW 6010B	011212B	mg/kg	NO.	1.00	4.72	5.00	94.4%	90-110%	4.51	5.00	90.2%	90-110%
Zinc	SW 6010B	011212B	mg/kg	ND C	2.00	5.18	5.00	104%	90-110%	4.84	5.00	%6.96	90-110%
	The second section of the second seco												



		INTERFE	RENCE CHEC	INTERFERENCE CHECK STANDARD (ICS	(ICS A+B #1)	1)	INTERFEREN	INTERFERENCE CHECK STANDARD (ICS A+B #2)	STANDARD ((ICS A+B #2)		
Parameter	Method	Units	ICS	<u>S</u>	%	Control	SO	ICS	%	Control		
			Obs.	Theo.	Rec.	Limits	Obs.	Theo.	Rec.	Limits		
Arsenic	SW 6010B	mg/kg	1.97	2.00	98.5%	80-120%	1.86	2.00	93.1%	80-120%		
Cadmium	SW 6010B	mg/kg	2.08	2.00	104%	80-120%	1.93	2.00	96.4%	80-120%		Cross - Assort
Сһготішт	SW 6010B	mg/kg	2,09	2.00	104%	80-120%	1.97	2.00	%9'86	80-120%		We advertised a reason of the latest and the same
Cobalt	SW 6010B	mg/kg	2.06	2.00	103%	80-120%	1,91	2.00	95.6%	80-120%	The second secon	
Copper	SW 6020A	mg/kg	0.0102	0.0100	102%	80-120%	0.00975	0.0100	97.5%	80-120%	A BANK TO THE	
Manganese	SW 6010B	mg/kg	1.97	2.00	98.5%	80-120%	1.88	2.00	94.1%	80-120%	and the second s	
Mercury	SW 6020A	mg/kg	0.00202	0.00200	101%	80-120%	0,00202	0.00200	101%	80-120%		
Molybdenum	SW 6010B	mg/kg	0.0409	0.0400	102%	80-120%	0.0372	0.0400	93.0%	80-120%		
Nickel	SW 6010B	mg/kg	2.08	2.00	104%	80-120%	1.94	2.00	97.2%	80-120%	OPPOSITE THE PROPERTY OF THE P	
Silver	SW 6010B	mg/kg	1.92	2.00	%0.96	80-120%	1.92	2.00	96.1%	80-120%	**************************************	
Zinc	SW 6010B	тg/kg	2.12	2.00	106%	80-120%	1,98	2.00	99.2%	80-120%		
			LABORATO	LABURALURI CONTROL SAMPLES	SAMPLES			27 17 17 17 17 17 17 17 17 17 17 17 17 17	SAMDIE	٥٠٠	79	Precision
Parameter	Method	Cults	S 5	7 L	% CS	Limífs	SAMIT LE ID	RES	RESULT	RESULT	RPD .	Limits %
Antimony	SW BOTOR	- Al	4.62	5.00	92.4%	85-115%	999361	86.4	4	82.4	4,71%	<20
Areanic	SW 6010B	mo/ka	20. 4	5.00	%2 66	85-115%	999361	28.3	9	26.9	4.91%	520
Racium	SW 6010B	mo/ka	4.60	5.00	92.1%	85-115%	999361	61.8	80	59,0	4.68%	\$20
Berdlium	SW 6020A	ma/ka	4.82	5.00	96.5%	85-115%	999361	ON			0.00%	<20
Cadmium	SW 6010B	ma/ka	4,91	5.00	98.2%	85-115%	999361	12.4	4	12.2	2.21%	520
Chromium	SW 6010B	mg/kg	5.03	5,00	101%	85-115%	999361	4860	0.	4680	3.77%	220
Cobalt	SW 6010B	mg/kg	4.83	5.00	96.5%	85-115%	999361	4.96	9	4.73	4.73%	\$20
Copper	SW 6020A	mg/kg	5.42	5.00	108%	85-115%	999361	34.0	0	32.4	4.93%	≥20
Lead	SW 6010B	mg/kg	5.01	5.00	100%	85-115%	999361	3.0.	2	3.65	18.9%	<20
Manganese	SW 6010B	mg/kg	5.16	5.00	103%	85-115%	999361	407	_	394	3.21%	\$20
Mercury	SW 6020A	mg/kg	1.01	1.00	101%	85-115%	999361	0.359	39	0.337	6.24%	\$20
Molybdenum	SW 6010B	mg/kg	4.72	5.00	94.4%	85-115%	999361	9.18	8	9.02	1.75%	≥20
Nickel	SW 6010B	mg/kg	4.96	5.00	99.2%	85-115%	999361	23.	-	22.2	4,02%	\$20
Selenium	SW 6010B	mg/kg	5.20	5.00	104%	85-115%	999361	S		ON	%00'0	520
Q iver	SW 6010B	mg/kg	5.04	5.00	101%	85-115%	999361	ON		ON	0.00%	\$20
hallium	SW 6010B	mg/kg	5.14	5.00	103%	85-115%	999361	S		ON	0.00%	\$20
Vanadium	SW 6010B	mg/kg	4.64	5.00	92.8%	85-115%	999361	59.7	7	56.3	5,76%	\$20
Zinc	SW 6010B	ma/ka	5 19	5.00	104%	85-115%	999361	70.	4	87.8	3.75%	\$20

SW 6010B mg/kg 5.19 5.00 104% 85-115% 999361 70.4 67.8 3.75% \$20

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

85-115%

104%

5.00

5.19

TRUESD	

MATRIX SPIKE	iKE										Accuracy
	}			Sample		Spike	Total Amt	Theo.	MS	%	Control
Sample ID	Parameter	Method	Units	Result	DF	Level	of Spike	Value	Obs.	Rec.	Limits %
999361	Antimony	SW 6010B	mg/kg	86.4	2.00	218	437	523	527	101%	75-125%
999361	Arsenic	SW 6010B	mg/kg	28.3	2.00	218	437	465	525	114%	75-125%
999361	Barium	SW 6010B	mg/kg	61.8	2.00	218	437	499	486	97.1%	75-125%
999361	Beryllium	SW 6020A	mg/kg	00.0	10.0	1.14	11.4	11.4	10.9	95.8%	75-125%
999361	Cadmium	SW 6010B	терия ша/ка	12.4	2.00	218	437	449	454	101%	75-125%
999361	Сътотіш	SW 6010B	mg/kg	4860	5,00	218	1092	5952	5929	%6′26	75-125%
999361	Cobatt	SW 6010B	mg/kg	4.96	2.00	218	437	442	423	95.7%	75-125%
999361	Copper	SW 6020A	mg/kg	34.0	10.0	1.09	10.9	44.9	45.3	103%	75-125%
999361		SW 6010B	mg/kg	3.02	2.00	218	437	440	348	79.0%	75-125%
999361	Manganese	SW 6010B	mg/kg	407	2.00	218	437	844	819	94.3%	75-125%
999361	Metolity	SW 6020A	mg/kg	0.359	10.0	0.228	2.28	2.64	2.67	101%	75-125%
999361	Motyhdanim	SW 6010B	mg/kg	9.18	2.00	218	437	446	476	107%	75-125%
999361	Nickel	SW 6010B	mg/kg	23.1	2.00	218	437	460	452	98.2%	75-125%
999361	Selenium	SW 6010B	mg/kg	0.00	2.00	218	437	437	445	102%	75-125%
999361	Silver	SW 6010B	mg/kg	0.00	5.00	218	1092	1092	1121	103%	75-125%
999361	Thallium	SW 6010B	mg/kg	0.00	2.00	218	437	437	370	84.8%	75-125%
999361	Vanadium	SW 6010B	mg/kg	59.7	2.00	218	437	496	481	96.5%	75-125%
000361	Zinc	SW 6010B	ma/ka	70.4	2.00	218	437	507	547	109%	75-125%

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

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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Dry Weight Calculations

Date Calculated: 2/16/2012

	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	7.132	w-w-es	57.2	16,6671	16.7	2.00	4.67
Nitrate as N	ND		57.2	ND	ND	4.00	9.35
Hexavalent Chromium	28.7208		57.2	67.1187	67.1	4.03	9.42
Hexavalent Chromium - Dup	27.6659		57.2	64.6535	64.6	4.03	9.42
Hexavalent Chromium - MS	176.0111		57,2	411.327	411	4.02	9.39
Hexavalent Chromium - IMS	8702.812		57.2	20337.948	20300	39.5	92.4
Hexavalent Chromium - PDMS	198.6077		57.2	464.134	464	10.0	23.4
Antimony	36.98	2.00	57.2	86.4200	86.4	4.67	10.9
Arsenic	12.11	2.00	57.2	28,3003	28.3	0.934	2.18
Barium	26,45	2.00	57.2	61.81206	61.8	0.934	2.18
Beryllium	ND	10.0	57.2	ND	ND	0.467	1.09
Cadmium	5.318	2.00	57.2	12,4278	12.4	0.934	2.18
Chromium	2078	5.00	57.2	4856.16	4860	2.34	5.46
Cobalt	2,121	2.00	57.2	4.9566	4.96	0.934	2.18
Copper	14.56	10.0	57.2	34.0258	34.0	0.467	1.09
Lead	1.294	2.00	57.2	3.0240	3.02	0.934	2.18
Manganese	174.2	2.00	57.2	407.0949	407	0.934	2.18
Mercury	0.1536	10.0	57.2	0.35895	0.359	0.0934	0.218
Molybdenum	3.929	2.00	57.2	9.1818	9.18	0.934	2.18
Nickel	9.887	2.00	57.2	23,1053	23.1	0.934	2.18
Selenium	ND	2.00	57.2	ND	ND	0.934	2.18
Silver	ND	5.00	57,2	ND	ND	2.34	5.46
Thallium	0.2263	2.00	57.2	0.5288	ND	0,934	2.18
Vanadium	25.54	2.00	57.2	59,6854	59,7	0.934	2.18
Zinc	30.14	2.00	57.2	70.4354	70.4	0.934	2.18

Sample Result in Dry Weight = [Sample_w / (100-%Moisture)]*100

where:

Sampleww = Sample result in wet weight

EZ SC.

TRU	JESDA	JL LA	BORA	TORIES,	INC.
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TOTAL SOLIDS BY SM 2540 B

Date of Analysis: 01/03/12

Analytical Batch: 01SOLID12A Oven Temp, °C: 105

Lab No.	Dish Number	Weight of dish,	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
999361	1	1.2891	5.0957	6.3848	3.4696	2.1805	42.791	57.209
999361D	2	1.2998	6.5363	7.8361	4.1334	2.8336	43.352	56.648

	·							

	Relati	ve Percent Difference	
Sample ID	Sample	Sample Dup	RPD
999361 998612 5-	42,791	43.352	1.3

% Total Solids =

(A-B)*100 C-B

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

Analyst Name

Analyst Signature

Reviewer Name

Reviewer Signature

135000

CHAIN OF CUSTODY RECORD

[IM3plant-WDR-342]

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

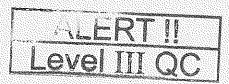
P 10 Days PAGE TURNAROUND TIME DATE 01/03/12

COMMENTS NUMBER OF CONTAINERS Melels (6010B) An Metals (6010B) Title 22, (includes Mercun) Bloassay 96hr Acute × EOV, A (0.005) anoinh × DESCRIPTION FAX 530-339-3303 Sludge TIME 01/03/12 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 PG&E Topock IM3 530-229-3303 CH2M HILL / E2 408401.01.DM SC-Sludge-WDR-342 SAMPLERS (SIGNATURE PROJECT NAME P.O. NUMBER SAMPLE 1.D. COMPANY ADDRESS PHONE

TANDIS LACTED TO NIGHT	NATURE RECORD		SAMPLE CONDITIONS	<u> </u>
Signature Printed Printed Com (Relinquished)	ELM Companyl OMI	Date/ 1-3-12 Time 1530	RECEIVED COOL [WARM Y. C. C. C. P.	
Signature Kahau Dhinted Com Com (Received) Kahau Agen Agen	H	Devd 03-17-1 Time /5:30	CUSTODY SEALED YES □ NO [P/	
Signature Signature Printed Comi (Relinquished) (Relinquished) (Relinquished)	エ・ソニ	Date(2) 1 - 63 - 72 Time 2 7 20	SPECIAL REQUIREMENTS:	Τ
Signature Signature Alex Coming (Received)	NY TC!	Date/ - 3 - 122.30		
Σignature Printed Comi → (Relinquished) Name Agen	Company/ D Agency T	Date/ Time		***************************************
Signature Printed Com! (Received) Name Agen	/ku	Date/ Time		

TOTAL NUMBER OF CONTAINERS





Sample Integrity & Analysis Discrepancy Form

Cliei	nt: <u>EZ</u>	Lab# <u>99936</u>
Date	Delivered: <u>0</u> / <u>0</u> <u>3</u> / 11 Time: <u>2 / 30</u> By: □Mail ⊠F	ield Service
1.	Was a Chain of Custody received and signed?	Yes ONO ON/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No YIN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No X/N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ◘ N/A
5.	Were all requested analyses understood and acceptable?	Yes □No □N/A
<i>6.</i>	Were samples received in a chilled condition? Temperature (if yes)? 4.1°C	AYes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	Yayes ONO ONA
8.	Were sample custody seals intact?	□Yes ♥\No □N/A
9.	Does the number of samples received agree with COC?	Yes DNo DN/A
10.	Did sample labels correspond with the client ID's?	ydYes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	□Yes XNo □N/A
12.	Were samples pH checked? pH =	□Yes □No XN/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	MYes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH Std	Aves □No □N/A
	<u>Sample Matrix:</u> □Liquid □Drinking Water □Ground W Seludge □Soil □Wipe □Paint □Solid □C	/ater □Waste Water other
6. (Comments:	
7. (Sample Check-In completed by Truesdail Log-In/Receiving:	



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February 3, 2012

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-342 PROJECT, GROUNDWATER

MONITORING,

TLI NO.: 999362

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-342 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 3, 2012, 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.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

to- Mona Nassimi

Manager, Analytical Services

Michael Ngo

Quality Assurance/Quality Control Officer

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Laboratory No.: 999362

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

pe (3) Groundwaters

EE Topock Project

401.01.DM

Date: February 3, 2012

Collected: January 3, 2012

Received: January 3, 2012

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Kim Luck
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Kim Luck
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Maria Mangarova
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	Maksim Gorbunov / George Wahba

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Established 1931

Laboratory No.: 999362 Date Received: January 3, 2012

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

		Analysis	Extraction		Sample				
Lab Sample ID	Field ID	Method	Method	Sample Date	Time	Parameter	Result	Units	RL
999362-001	SC-700B-WDR-342	E120.1	NONE	1/3/2012	13:30	EC	7190	umhos/cm	2.00
999362-001	SC-700B-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Aluminum	9	ng/L	50.0
999362-001	SC-700B-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	BORON	1010	ng/L	200
999362-001	SC-700B-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Iron	Q	ug/L	20.0
999362-001	SC-700B-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Molybdenum	17.8	ug/L	10.0
999362-001	SC-700B-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Nickel	QN	ug/L	10.0
999362-001	SC-700B-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Zinc	2	ng/L	10.0
999362-001	SC-700B-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Antimony	2	ng/L	10.0
999362-001	SC-700B-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Arsenic	Q Q	ng/L	1.0
999362-001	SC-700B-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Barium	18.0	ng/L	10.0
999362-001	SC-700B-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Chromium	Q	ng/L	1.0
999362-001	SC-700B-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Copper	N	ng/L	5.0
999362-001	SC-700B-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Lead	S	ng/L	10.0
999362-001	SC-700B-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Manganese	14.3	ng/L	1.0
999362-001	SC-700B-WDR-342	E218.6	LABFLT	1/3/2012	13:30	Chromium, hexavalent	S	1/gn	2.1
999362-001	SC-700B-WDR-342	E300	NONE	1/3/2012	13:30	Fluoride	2.21	mg/L	0.500
999362-001	SC-700B-WDR-342	E300	NONE	1/3/2012	13:30	Nitrate as N	3.15	mg/L	0.500
999362-001	SC-700B-WDR-342	E300	NONE	1/3/2012	13:30	Sulfate	502	mg/L	50.0
999362-001	SC-700B-WDR-342	SM2130B	NONE	1/3/2012	13:30	Turbidity	2	NTU	0.100
999362-001	SC-700B-WDR-342	SM2540C	NONE	1/3/2012	13:30	Total Dissolved Solids	4280	mg/L	250
999362-001	SC-700B-WDR-342	SM4500NH3D	NONE	1/3/2012	13:30	Ammonía-N	Q	mg/L	0.500
999362-001	SC-700B-WDR-342	SM4500NO2B	NONE	1/3/2012	13:30	Nitrite as N	N	mg/L	0.0050



i	R 	2.00	50.0	200	20.0	10.0	10.0	10.0	10.0	1.0	10.0	2.0	5.0	10.0	1,0	70.5	2. 4	0.200	0.500	25.0	0.100	250	0.500	0.0050	
;	Units	umhos/cm	ng/L	ug/L	ng/L	ug/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	na/L) <u> </u>	ug/ L	mg/L	mg/L	mg/L		mg/L	mg/L	mg/L	
	Result	7840	Q	1080	Q	19.8	2	12.2	2	3,4	29.0	901	2											2	
	Parameter	EC	Aluminum	BORON	Iron	Molybdenum	Nickel	Zinc	Antimony	Arsenic	Barium	Chromium	Copper	Lead	Managaga	Chamittee boxonoloat	Chromium, nexavalent	Fluoride	Nitrate as N	Sulfate	Turbidity	Total Dissolved Solids	Ammonia-N	Nitrite as N	
Sample	Time	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13.30	2 6	13:30	13:30	13:30	13:30	13:30	13:30	13:30	13:30	
	Sample Date	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1,02,01	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	1/3/2012	
Extraction	Method	NONE	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONE-digested	NONF-digested	Potocia Pinon	Despin-Union	LABFLI	NONE	NONE	NONE	NONE	NONE	NONE	NON	 - - -
Analysis	Method	F120.1	F200.7	F200.7	E200 7	E200.7	F200.7	F200.7	E200.8	E200.8	E200.8	F200.8	F200.8	E200.8	1200.0	E200.8	E218.6	E300	E300	E300	SM2130B	SM2540C	SM4500NH3D	SM4500NO2B	
	Field ID	SC-100B-WDR-342	SC-100B-WDB-342	SC-100B-WDR-342	SC-100B-W/DB-342	SC-100B-WDR 342	SC-100B-WDR-342	SC-100B-W/DR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDB-342	SC-100B-WDB-342	2001-0001-000 0001-0001-000	SC-1000-1001-042	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-WDR-342	SC-100B-W/DB-342	2-C-1000-0001-00
	Lab Sample ID	000367_000	999962-005	999302-002	999302-002	999302=002	999302-002	999302-002	999302-002	999992 002	999902-002	999302-002	000362	999502-002	999362-002	999362-002	999362-002	999362-002	999362-002	999362-002	999352-002	993362-002	999302-002	20022000	200-205888



		Analysis	Extraction		Sample				
Lab Sample ID	Field ID	Method	Method	Sample Date	Time	Parameter	Result	Units	RL
999362-003	SC-701-WDR-342	E120.1	NONE	1/3/2012	13:30	EC	44200	umhos/cm	2.00
999362-003	SC-701-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Molybdenum	122	ng/L	10.0
999362-003	SC-701-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Nickel	15.7	ng/L	10.0
999362-003	SC-701-WDR-342	E200.7	NONE-digested	1/3/2012	13:30	Zinc	18.7	ng/L	10.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Antimony	Q	ng/L	10.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Arsenic	Q	ng/L	1.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Barium	133	ng/L	10.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Beryllium	Q	ng/L	2.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Cadmium	Q	ng/L	3.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Chromium	5.6	ng/L	2.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Cobalt	Q	ng/L	10.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Copper	Q	ng/L	10.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Lead	Q	ng/L	10.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Manganese	113	ng/L	2.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Mercury	Q	ng/L	2.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Selenium	25.6	ng/L	10.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Silver	Q	ng/L	5.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Thallium	Q	ng/L	2.0
999362-003	SC-701-WDR-342	E200.8	NONE-digested	1/3/2012	13:30	Vanadium	QN O	ng/L	5.0
999362-003	SC-701-WDR-342	E218.6	LABFLT	1/3/2012	13:30	Chromium, hexavalent	Q	ng/L	1.0
999362-003	SC-701-WDR-342	E300	NONE	1/3/2012	13:30	Fluoride	16.7	mg/L	2.00
999362-003	SC-701-WDR-342	SM2540C	NONE	1/3/2012	13:30	Total Dissolved Solids	33000	mg/L	1250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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Page 1 of 35

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Printed 2/3/2012

Laboratory No. 999362

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 1/3/2012 9:30:00 PM

Field ID				Lab ID	Col	lected	Matr	ix
SC-700B-WDR-342				999362-001	01/03	/2012 13:30	Wate	er
SC-100B-WDR-342				999362-002	01/03	/2012 13:30	Wate	er
SC-701-WDR-342				999362-003	01/03	/2012 13:30	Wate	er
Anions By I.C EPA 300).0		Batch	01AN12C	1			4. Alie
Parameter		Unit	Ana	ilyzed	DF	MDL	RL	Result
999362-001 Fluoride		mg/L	01/04	1/2012 11:42	1.00	0.0310	0.500	2.21
Nitrate as Nitrog	en	mg/L	01/04	1/2012 11:42	1.00	0.0270	0.500	3.15
Sulfate		mg/L	01/04	1/2012 14:24	100	11.4	50.0	502.
999362-002 Fluoride		mg/L	01/04	1/2012 11:54	1.00	0.0310	0.500	2.61
Nitrate as Nitrog	en	mg/L	01/04	1/2012 11:54	1.00	0.0270	0.500	3.47
Sulfate		mg/L	01/04	1/2012 17:22	50.0	5.70	25.0	572.
999362-003 Fluoride		mg/L	01/04	1/2012 17:33	20.0	0.620	2.00	16.7
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 = 9	999359-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Fluoride	mg/L	1.00	ND	0.407		0	0 - 20	J
Nitrate as Nitrogen	mg/L	1.00	2.22	2.19		1.50	0 - 20	
Duplicate							Lab ID = 9	999362-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Sulfate	mg/L	100	496.	502		1.24	0 - 20	J



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Lab Control Sample						
Parameter Fluoride Sulfate Nitrate as Nitrogen	Unit mg/L mg/L mg/L	DF 1.00 1.00 1.00	Result 4.09 20.1 4.01	Expected 4.00 20.0 4.00	Recovery 102. 100. 100.	Acceptance Range 90 - 110 90 - 110 90 - 110
Matrix Spike Parameter Fluoride Nitrate as Nitrogen Matrix Spike	Unit mg/L mg/L	DF 1,00 1.00	Result 2.57 4.38	Expected/Added 2.41(2.00) 4.19(2.00)	Recovery 108 109.	Lab ID = 999359-001 Acceptance Range 85 - 115 85 - 115 Lab ID = 999362-001
Parameter Sulfate MRCCS - Secondary	Unit mg/L	DF 100	Result 1130	Expected/Added 1100(600.)	Recovery 105.	Acceptance Range 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 4.09 20.0 4.02	Expected 4.00 20.0 4.00	Recovery 102. 100. 100.	Acceptance Range 90 - 110 90 - 110 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.19	Expected 3.00	Recovery 106.	Acceptance Range 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.16	Expected 3.00	Recovery 105.	Acceptance Range 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.03	Expected 3.00	Recovery 101.	Acceptance Range 90 - 110
Parameter Sulfate MRCVS - Primary	Unit mg/L	DF 1.00	Result 15.4	Expected 15.0	Recovery 102.	Acceptance Range 90 - 110
Parameter Sulfate MRCVS - Primary	Unit mg/L	DF 1.00	Result 15.4	Expected 15.0	Recovery 103.	Acceptance Range 90 - 110
Parameter Sulfate Nitrate as Nitrogen	Unit mg/L mg/L	DF 1.00 1.00	Result 14.8 2.96	Expected 15.0 3.00	Recovery 98.9 98.8	Acceptance Range 90 - 110 90 - 110



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MRCVS - Primary								
Parameter Nitrate as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.08	Expected 3.00	Recovery 103.	Acceptance Range 90 - 110		
Parameter Nitrate as Nitrogen	Unit mg/L	DF 1.00	Result 3.08	Expected 3.00	Recovery 102.	Acceptance Range 90 - 110		
Nitrite SM 4500-NO2 B Parameter		Unit	Batch Anal	01NO212A yzed	DF MDL	RL Result		
999362-001 Nitrite as Nitrogen		mg/L	01/04/	2012 19:02 1	1.00 0.000360	0.0050 ND		
999362-002 Nitrite as Nitrogen		mg/L	01/04/	2012 19:03 1	0.000360	0.0050 ND		
Method Blank								
Parameter Nitrite as Nitrogen	Unit mg/L	DF 1.00	Result ND					
Duplicate						Lab ID = 999343-017		
Parameter Nitrite as Nitrogen Lab Control Sample	Unit mg/L	DF 1.00	Result 0,00580	Expected 0.00580	RPD 0.00	Acceptance Range 0 - 20		
Parameter Nitrite as Nitrogen Matrix Spike	Unit mg/L	DF 1.00	Result 0.0428	Expected 0.0400	Recovery 107	Acceptance Range 90 - 110 Lab ID = 999343-017		
Parameter Nitrite as Nitrogen MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.0221	Expected/Adde 0.0258(0.0200	•	Acceptance Range 80 - 120		
Parameter Nitrite as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0205	Expected 0.0200	Recovery 102.	Acceptance Range 90 - 110		
Parameter Nitrite as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0200	Expected 0.0200	Recovery 100.	Acceptance Range 90 - 110		
Parameter Nitrite as Nitrogen	Unit mg/L	DF 1.00	Result 0.0200	Expected 0.0200	Recovery 100.	Acceptance Range 90 - 110		



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Specific Conductivity - E	PA 120.1	25000	Batch	01EC12A	. 111.	4. 44 % 4.54	1/5/2012	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
999362-001 Specific Conducti	ivity	umhos/	cm 01/05	5/2012	1.00	0.0950	2.00	7190
999362-002 Specific Conducti	ivity	umhos	cm 01/05	5/2012	1.00	0.0950	2.00	7840
999362-003 Specific Conduct	ivity	umhos	cm 01/05	5/2012	1.00	0.0950	2.00	44200
Method Blank								
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID =	999360-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 4950	Expected 4960	F	RPD 0.202	Accepta 0 - 10	ance Range
Parameter Specific Conductivity Lab Control Sample De	Unit umhos uplicate	DF 1.00	Result 709	Expected 706	F	Recovery 100.	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 709	Expected 706	F	Recovery 100.	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 682	Expected 706	F	Recovery 96.6	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 950.	Expected 997	F	Recovery 95.3		ance Range)



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Chrome VI by EPA 218.6

Batch 01CrH12B

Parameter		Unit	Ana	lyzed [F MDL	RL	Result
999362-002 Chromium, Hexa	valent	ug/L	01/06	/2012 14:20 5:	2.5 1.16	10.5	922.
Method Blank							
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND			Lab ID =	999360-001
Parameter Chromium, Hexavalent Low Level Calibration	Unit ug/L Verification	DF 1.05	Result 11.8	Expected 12.0	RPD 1.20	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.00	Result 0.224	Expected 0.200	Recovery 112.	Accepta 70 - 13	ance Range 0
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.80	Expected 5.00	Recovery 96.0	90 - 11	апсе Range 0 : 999360-00
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 28.2	Expected/Adde 27.9(15.9)	d Recovery 102.	90 - 11	ance Rango 0 : 999362-00
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 0.00	Expected/Adde 1.06(1.06)	d Recovery 0.00	90 - 11	ance Rang 0 - 999362-00
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 0.00	Expected/Adde 5.25(5.25)	d Recovery 0.00	90 - 11	ance Rang 0 - 999362-00
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 10.5	Result 12.1	Expected/Adde 12.5(10.5)	d Recovery 96.1	90 - 11	апсе Rang 0 = 999362-00
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 52.5	Result 2020	Expected/Adde 1970(1050)	d Recovery 105.	90 - 11	ance Rang 0 = 999362-00
Parameter Chromium, Hexavalent	Unit ug/L	DF 5.25	Result 6.35	Expected/Adde 6.35(5.25)	d Recovery 100.	Accept 90 - 11	ance Rang 0



Client: E2 Consulting Eng	Client: E2 Consulting Engineers, Inc			Project Name: PG&E Topock Project Project Number: 424973.01.DM				
Matrix Spike						Lab ID = 999362-003		
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.25	Expected/Added 1.88(1.06)	Recovery 41.0	Acceptance Range 90 - 110		
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.86	Expected 5.00	Recovery 97.1	Acceptance Range 90 - 110		
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.96	Expected 10.0	Recovery 99.6	Acceptance Range 95 - 105		
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.98	Expected 10.0	Recovery 99.8	Acceptance Range 95 - 105		
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.83	Expected 10.0	Recovery 98.3	Acceptance Range 95 - 105		



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Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
999362-001 Chromium, Hexa	avalent	ug/L	01/27	/2012 21:29	10,5	0.273	2.1	ND
999362-003 Chromium, Hexa		ug/L		/2012 20:55	5.25	0.136	1.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate	Ü		ı				Lab ID =	999852-001
Parameter	Unit	DF	Result	Expected		RPD	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	2.30	2.36		2.70	0 - 20	
Low Level Calibration	_							
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	0.198	0.200		98.8	70 - 13	0
Lab Control Sample	J							
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	4.87	5.00		97.3	90 - 11	0
Matrix Spike							Lab ID =	= 999360-001
Parameter	Unit	DF	Result	Expected/Ad	dded	Recovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.09	27.6	28.0(16.4)	*	97.8	90 - 11	0
Matrix Spike							Lab ID :	= 999362-001
Parameter	Unit	DF	Result	Expected/Ad	dded	Recovery		tance Range
Chromium, Hexavalent	ug/L	1.06	ND	1.06(1.06)			90 - 11	
Matrix Spike							Lab ID	= 999362-001
Parameter	Unit	DF	Result	Expected/A	dded	Recovery	•	tance Range
Chromium, Hexavalent	ug/L	5.25	5.56	5.25(5.25)		106.	90 - 11	
Matrix Spike							Lab ID	= 999362-00°
Parameter	Unit	DF	Result	Expected/A	dded	Recovery		tance Rang
Chromium, Hexavalent	ug/L	10.5	11.2	11.6(10.5)		95.5	90 - 11	10
Matrix Spike							Lab ID	= 999362-00
Parameter	Unit	DF	Result	Expected/A	dded	Recovery	•	tance Rang
Chromium, Hexavalent	ug/L	5.25	5.13	5.25(5.25)		97.8	90 - 1	10
Matrix Spike	-						Lab ID	= 999362-00
Parameter	Unit	DF	Result	Expected/A	dded	Recovery	Accep	tance Rang
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)		98.4	90 - 1	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.



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Metals by EPA 200.7, Total		Batch	Batch 011212B					
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
999362-001 Aluminum		ug/L	01/12	/2012 17:09	1.00	2.83	50.0	ND
Boron		ug/L	01/12	/2012 17:09	1.00	1.50	200.	1010
Iron		ug/L	01/12	/2012 17:09	1.00	1.34	20.0	ND
Molybdenum		ug/L	01/12	/2012 17:09	1.00	4.02	10.0	17.8
Nickel		ug/L	01/12	/2012 17:09	1.00	2.56	10.0	ND
999362-002 Aluminum		ug/L	01/12	/2012 17:15	1.00	2.83	50.0	ND
Boron		ug/L	01/12	/2012 17:15	1.00	1.50	200.	1080
Iron		ug/L	01/12	/2012 17:15	1.00	1.34	20.0	ND
Molybdenum		ug/L	01/12	/2012 17:15	1.00	4.02	10.0	19.8
Nickel		ug/L	01/12	/2012 17:15	1.00	2.56	10.0	ND
999362-003 Molybdenum		ug/L		/2012 17:21	1.00	4.02	10.0	122.
Nickel		ug/L		/2012 17:21	1.00	2.56	10.0	15.7
Method Blank		<u>_</u>						······································
Parameter	Unit	DF	Result					
Aluminum	ug/L	1.00	ND					
Iron	ug/L	1.00	ND					
Nickel	ug/L	1.00	ND					
Boron	ug/L	1.00	ND					
Molybdenum	ug/L	1.00	ND					
Duplicate							Lab ID =	999308-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Aluminum	ug/L	1.00	ND	0.00		0	0 - 20	_
Iron	ug/L	1.00	ND	0.00		0	0 - 20	
Nickel	ug/L	1.00	ND	0.00		0	0 - 20	
Boron	ug/L	1.00	1010	1040		2.53	0 - 20	
Molybdenum	ug/L	1.00	17.9	17.8		0.560	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ınce Range
Aluminum	ug/L	1.00	108.	100.		108	85 - 115	5
Iron	ug/L	1.00	101.	100.		101	85 - 115	5
Nickel	ug/L	1.00	98.4	100.		98.4	85 - 118	5
Boron	ug/L	1.00	93.7	100.		93.7	85 - 118	5
Molybdenum	ug/L	1.00	92.5	100.		92.5	85 - 118	5



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Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
999362-001 Zinc		ug/L	01/16	/2012 12:00	1.00	3.89	10.0	ND
999362-002 Zinc		ug/L	01/16	/2012 12:23	1.00	3.89	10.0	12.2
999362-003 Zinc		ug/L	01/16	/2012 12:29	1.00	3.89	10.0	18.7
Method Blank								
Parameter	Unit	DF	Result					
Zinc	ug/L	1.00	ND					
Duplicate							Lab ID =	999308-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ance Range
Zinc	ug/L	1.00	12.9	13.1		1.54	0 - 20	
Lab Control Samp	le							
Parameter	Unit	DF	Result	Expected	F	Recovery	•	ance Range
Zinc	ug/L	1.00	106.	100.		106.	85 - 118	5
Matrix Spike							Lab ID =	999308-001
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery		ance Range
Zinc	ug/L	1.00	105.	113.(100.)		91.9	75 - 125	5
MRCCS - Second	ary							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Zinc	ug/L	1.00	4780	5000		95.7	90 - 110	כ
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Zinc	ug/L	1.00	4770	5000		95.4	90 - 110	כ
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	•	ance Range
Zinc	ug/L	1.00	4510	5000		90.2	90 - 11	0
Interference Chec	k Standard A							
Parameter	Unit	DF	Result	Expected	I	Recovery	Accepta	ance Range
Zinc	ug/L	1.00	ND	0.00				
Interference Chec	k Standard A							
Parameter	Unit	DF	Result	Expected	ſ	Recovery	Accepta	ance Range
Zinc	ug/L	1.00	ND	0.00				
Interference Chec	k Standard AB							
Parameter	Unit	DF	Result	Expected	ŀ	Recovery	•	ance Range
Zinc	ug/L	1.00	1840	2000		92.0	80 - 12	0



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Metals by	EPA 200.8, Total		Batch 010712C				
Parameter		Unit	Analyzed	DF	MDL	RL	Result
999362-001	Antimony	ug/L	01/08/2012 12:58	5.00	0.120	10.0	ND
	Barium	ug/L	01/08/2012 12:58	5.00	0.200	10.0	18.0
	Chromium	ug/L	01/08/2012 12:58	5.00	0.110	1.0	ND
	Copper	ug/L	01/08/2012 12:58	5.00	0.125	5.0	ND
	Lead	ug/L	01/08/2012 12:58	5.00	0.110	10.0	ND
	Manganese	ug/L	01/08/2012 12:58	5.00	0.285	1.0	14.3
999362-002	2 Antimony	ug/L	01/08/2012 13:07	5.00	0.120	10.0	ND
	Barium	ug/L	01/08/2012 13:07	5.00	0.200	10.0	29.0
	Chromium	ug/L	01/08/2012 22:40	10.0	0.220	2.0	901.
	Copper	ug/L	01/08/2012 13:07	5.00	0.125	5.0	ND
	Lead	ug/L	01/08/2012 13:07	5.00	0.110	10.0	ND
	Manganese	ug/L	01/08/2012 13:07	5.00	0.285	1.0	7.6
999362-003	3 Antimony	ug/L	01/08/2012 23:07	10.0	0.240	10.0	ND
	Barium	ug/L	01/08/2012 23:07	10.0	0.400	10.0	133.
	Beryllium	ug/L	01/08/2012 23:07	10.0	0.360	2.0	ND
	Cadmium	ug/L	01/08/2012 23:07	10.0	0.940	3.0	ND
	Chromium	ug/L	01/08/2012 23:07	10.0	0.220	2.0	5.6
	Cobalt	ug/L	01/08/2012 23:07	10.0	0.970	10.0	ND
	Copper	ug/L	01/08/2012 23:07	10.0	0.250	10.0	ND
	Lead	ug/L	01/08/2012 23:07	10.0	0.220	10.0	ND
	Manganese	ug/L	01/08/2012 23:07	10,0	0.570	2.0	113.
	Mercury	ug/L	01/08/2012 23:07	10.0	0.150	2.0	ND
	Selenium	ug/L	01/08/2012 23:07	10.0	0.680	10.0	25.6
	Thallium	ug/L	01/08/2012 23:07	10.0	0.970	2.0	ND



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Method Blank						
Parameter	Unit	DF	Result			
Barium	ug/L	1.00	ND			
Beryllium	ug/L	1.00	ND			
Cadmium	ug/L	1.00	ND			
Cobalt	ug/L	1.00	ND			
Chromium	ug/L	1.00	ND			
Mercury	ug/L	1.00	ND			
Selenium	ug/L	1.00	ND			
Antimony	ug/L	1.00	ND			
Copper	ug/L	1.00	ND			
Lead	ug/L	1.00	ND			
Thallium	ug/L	1.00	ND			
Manganese	ug/L	1.00	ND			
Low Level Calibration	Verification					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	0.999	1.00	99.9	70 - 130
Beryllium	ug/L	1.00	0.190	0.200	95.1	70 - 130
Cadmium	ug/L	1.00	0.188	0.200	94.0	70 - 130
Cobalt	ug/L	1.00	0.951	1.00	95.1	70 - 130
Chromium	ug/L	1.00	0.178	0.200	89.1	70 - 130
Mercury	ug/L	1.00	0.213	0.200	107.	70 - 130
Selenium	ug/L	1.00	0.924	1.00	92.4	70 - 130
Antimony	ug/L	1.00	1.00	1.00	100.	70 - 130
Copper	ug/L	1.00	1.15	1.00	115	70 - 130
Lead	ug/L	1.00	0.968	1.00	96.8	70 - 130
Thallium	ug/L	1.00	0.188	0.200	93.8	70 - 130
Manganese	ug/L	1.00	0.197	0.200	98.6	70 - 130



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Lab	$C \cap C$	ntrol.	Sam	בוחו
		TELLET	Jan	

Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	5.00	108.	100.	108.	85 - 115
Beryllium	ug/L	5.00	109.	100.	109.	85 - 115
Cadmium	ug/L	5.00	110.	100.	110.	85 - 115
Cobalt	ug/L	5.00	105	100.	105	85 - 115
Chromium	ug/L	5.00	109.	100.	109.	85 - 115
Mercury	ug/L	5.00	22.2	20.0	111.	85 - 115
Selenium	ug/L	5.00	101.	100.	101.	85 - 115
Antimony	ug/L	5.00	106.	100.	106.	85 - 115
Copper	ug/L	5.00	110.	100.	110.	85 - 115
Lead	ug/L	5.00	109.	100.	109.	85 - 115
Thallium	ug/L	5.00	105.	100.	105.	85 - 115
Manganese	ug/L	5.00	106.	100.	106.	85 - 115
Matrix Cuites						1 - 1 10 000000 004
Matrix Spike						Lab ID = 999308-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
·	Unit ug/L	DF 5.00	Result 123.	Expected/Added 118.(100.)	Recovery 106.	
Parameter				'	•	Acceptance Range
Parameter Barium	ug/L	5.00	123.	118.(100.)	106.	Acceptance Range 75 - 125
Parameter Barium Beryllium	ug/L ug/L	5.00 5.00	123. 106.	118.(100.) 100.(100.)	106. 106.	Acceptance Range 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium	ug/L ug/L ug/L	5.00 5.00 5.00	123. 106. 90.7	118.(100.) 100.(100.) 100.(100.)	106. 106. 90.7	Acceptance Range 75 - 125 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium Cobalt	ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00	123. 106. 90.7 103.	118.(100.) 100.(100.) 100.(100.) 100.(100.)	106. 106. 90.7 103.	Acceptance Range 75 - 125 75 - 125 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium Cobalt Chromium	ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00	123. 106. 90.7 103. 112.	118.(100.) 100.(100.) 100.(100.) 100.(100.) 101.(100.)	106. 106. 90.7 103. 110.	Acceptance Range 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium Cobalt Chromium Mercury	ug/L ug/L ug/L ug/L ug/L ug/L	5.00 5.00 5.00 5.00 5.00 5.00	123. 106. 90.7 103. 112. 20.4	118.(100.) 100.(100.) 100.(100.) 100.(100.) 101.(100.) 20.0(20.0)	106. 106. 90.7 103. 110.	Acceptance Range 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium Cobalt Chromium Mercury Selenium	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	123. 106. 90.7 103. 112. 20.4 99.2	118.(100.) 100.(100.) 100.(100.) 100.(100.) 101.(100.) 20.0(20.0) 104.(100.)	106. 106. 90.7 103. 110. 102. 95.6	Acceptance Range 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium Cobalt Chromium Mercury Selenium 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	123. 106. 90.7 103. 112. 20.4 99.2 102.	118.(100.) 100.(100.) 100.(100.) 100.(100.) 101.(100.) 20.0(20.0) 104.(100.) 100.(100.)	106. 106. 90.7 103. 110. 102. 95.6 102.	Acceptance Range 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium Cobalt Chromium Mercury Selenium 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	123. 106. 90.7 103. 112. 20.4 99.2 102. 99.8	118.(100.) 100.(100.) 100.(100.) 100.(100.) 101.(100.) 20.0(20.0) 104.(100.) 100.(100.)	106. 106. 90.7 103. 110. 102. 95.6 102. 99.8	Acceptance Range 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125 75 - 125
Parameter Barium Beryllium Cadmium Cobalt Chromium Mercury Selenium 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	123. 106. 90.7 103. 112. 20.4 99.2 102. 99.8 94.2	118.(100.) 100.(100.) 100.(100.) 100.(100.) 101.(100.) 20.0(20.0) 104.(100.) 100.(100.) 100.(100.)	106. 106. 90.7 103. 110. 102. 95.6 102. 99.8 94.2	Acceptance Range 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 En	gineers, Inc		roject Name: roject Number	PG&E Topock F :: 424973.01.DM	Project	Page 29 of 35 Printed 2/3/2012
Interference Check S	tandard AB					
Parameter Thallium	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Manganese Interference Check S	ug/L tandard AB	1.00	9.32	10.0	93.2	80 - 120
Parameter Manganese Serial Dilution	Unit ug/L	DF 1.00	Result 9.59	Expected 10.0	Recovery 95.9	Acceptance Range 80 - 120 Lab ID = 999362-002
Parameter Chromium Serial Dilution	Unit ug/L	DF 50.0	Result 887.	Expected 901	RPD 1.53	Acceptance Range 0 - 10 Lab ID = 999362-003
Parameter Barium Selenium	Unit ug/L ug/L	DF 50.0 50.0	Result 136. 25.9	Expected 133 25.6	RPD 2.52 1.24	Acceptance Range 0 - 10 0 - 10
Manganese	ug/L	50.0	111.	113	1.88	0 - 10



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

Metals by EPA 200.8, To	otal		Batch	011612A			
Parameter		Unit	Ana	llyzed E	F MDL	RL	Result
999362-001 Arsenic		ug/L	01/16	5/2012 16:06 5.	00 0.285	1.0	ND
999362-002 Arsenic		ug/L	01/16	5/2012 16:13	00 0.285	1.0	3.4
999362-003 Arsenic		ug/L	01/16	5/2012 16:35	00 0.285	1.0	ND
Silver		ug/L	01/16	3/2012 16:35 5.	00 0.175	5.0	ND
Vanadium		ug/L	01/16		00 0.370	5.0	ND
Method Blank							
Parameter	Unit	DF	Result				
Arsenic	ug/L	1.00	ND				
Silver	ug/L	1.00	ND				
Vanadium	ug/L	1.00	ND				
Duplicate						Lab ID =	999308-001
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Arsenic	ug/L	5.00	ND	0.00	0	0 - 20	
Silver	ug/L	5.00	ND	0.00	0	0 - 20	
Vanadium	ug/L	5.00	ND	0.00	0	0 - 20	
Low Level Calibration	Verification	1					
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Arsenic	ug/L	1.00	0.173	0.200	86.4	70 - 130	
Silver	ug/L	1.00	1.14	1.00	114.	70 - 130	l
Vanadium	ug/L	1.00	0.990	1.00	99.0	70 - 130	I
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Arsenic	ug/L	5.00	88.0	100.	88.0	85 - 115	_
Silver	ug/L	5.00	95.0	100.	95.0	85 - 115	ı
Vanadium	ug/L	5,00	92.8	100.	92.8	85 - 115	
Matrix Spike						Lab ID =	999308-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	nce Range
Arsenic	ug/L	5.00	99.5	100.(100.)	99.5	75 - 125	_
Silver	ug/L	5.00	86.9	100.(100.)	86.9	75 - 125	
Vanadium	ug/L	5.00	107.	100.(100.)	107.	75 - 125	



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Total Dissolved Solids b	y SM 254	0 C	Batch 01TDS12A			1/5/2012		
Parameter		Unit	Analyzed		DF	MDL	RL	Result
999362-001 Total Dissolved Solids		mg/L	01/03	3/2012	1.00	0.400	250.	4280
99362-002 Total Dissolved Solids		mg/L	01/03	3/2012	1.00	0.400	250.	4720
999362-003 Total Dissolved	Solids	mg/L	01/03	3/2012	1.00	0.400	00 1250 330	
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	999359-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	8020	8160		1.73	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	503	500.		101.	90 - 110	•



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Parameter		Unit	Ana	lyzed I	DF	MDL	RL	Result
999362-001 Ammonia as N		mg/L	01/05	/2012 1	.00	0.00120	0.500	ND
999362-002 Ammonia as N		mg/L	01/05	i/2012 1	.00	0.00120	0.500	ND
Method Blank								
Parameter	Unit	DF	Result					
Ammonia as N	mg/L	1.00	ND					
Duplicate							Lab ID = 9	99362-002
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	nce Range
Ammonia as N	mg/L	1,00	ND	0.00		0	0 - 20	noo rango
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptai	nce Range
Ammonia as N	mg/L	1.00	10.6	10.0		106.	90 - 110	_
Matrix Spike							Lab ID = 9	999362-002
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery	Acceptai	nce Range
Ammonia as N	mg/L	1.00	6.17	6.00(6.00)		103.	75 - 125	
Matrix Spike Duplicate				, ,			Lab ID = 9	99362-002
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery	Acceptar	nce Range
Ammonia as N	mg/L	1.00	6.58	6.00(6.00)		110.	75 - 125	--
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptar	nce Range
Ammonia as N	mg/L	1.00	6.28	6.00		105.	90 - 110	go
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Acceptar	nce Range
Ammonia as N	mg/L	1.00	5.68	6.00		94.7	90 - 110	



Client: E2 Consulting Engineers, Inc.

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Project Number: 424973.01.DM

Printed 2/3/2012

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Turbidity by SM 2130 B			Batch	01TUC12C			1/5/2012	
Parameter	es a les filles es l'el	Unit	Ana	ılyzed	DF	MDL	RL	Result
999362-001 Turbidity		NTU	01/05/2012		1,00	0.0140	0.100	ND
999362-002 Turbidity		NTU	01/05	5/2012	1,00	0.0140	0.100	0.110
Method Blank								
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID = 9	999362-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
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	7.67	8.00		95.9	90 - 110	_
Lab Control Sample Du	uplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.67	8.00		95.9	90 - 110	

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

£ - Mona Nassimi

Manager, Analytical Services



Calculations

Batch: 01TDS12A

Date Calculated: 1/9/12

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	74.7564	74.7569	74.7568	0.0001	No	0.0004	4.0	25.0	ND	1
999340	480	112.1715	112.1732	112.173	0.0002	No	0.0015	3.1	5.2	ND	1
999347	50	74.5475	74.5758	74.5758	0.0000	No	0.0283	566.0	50.0	566.0	1
999359-1	100	66.7168	66.7747	66.7744	0.0003	No	0.0576	576.0	25.0	576.0	1
4 999359-2	5	50.6070	50.6478	50,6478	0.0000	No	0.0408	8160.0	500.0	8160.0	1
999360-1	20	72.9979	73.0575	73.0571	0.0004	No	0.0592	2960.0	125.0	2960.0	1
999360-2	10	51.4230	51.4737	51.4734	0.0003	No	0.0504	5040.0	250.0	5040.0	1
999362-1	10	49.0287	49.0719	49.0715	0.0004	No	0.0428	4280.0	250.0	4280.0	1
999362-2	10	49.3076	49.355	49.3548	0.0002	No	0.0472	4720.0	250.0	4720.0	1
999362-3	2	51.0842	51.1503	51.1502	0.0001	Nο	0.0660	33000.0	1250.0	33000.0	1
999366-5	100	73.4967	73.5225	73.5225	0.0000	No	0.0258	258.0	25.0	258.0	1
999359-2D	5	51.4364	51,4765	51.4765	0.0000	No	0.0401	8020.0	500.0	8020.0	1
LCS	100	74.6860	74.7363	74.7363	0.0000	No	0.0503	503.0	25.0	503.0	1
999389	100	74.7505	74.7735	74.7735	0.0000	No	0.0230	230.0	25.0	230.0	1
999416	100	76.1955	76.2364	76.2363	0.0001	No	0.0408	408.0	25.0	408.0	1

									<u>-</u>	-	

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)

WetChem TOS_0810.xls

Analyst Signature

Reviewer Printed Name

Reviewer Signature

D: PM

Pls check his torical data, we did a dup

I pussed RPD but TDS/EC ratio failed with witch

might be because of spi matrix.

TDS/EC CHECK

Batch: 01TDS12A Date Calculated: 1/9/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
	· · · · · · · · · · · · · · · · · · ·			
999340	0.81	ND	0.5265	ND
999347	1004	0.56	652.6	0.87
999359-1	909	0.63	590.85	0.97
999359-2	27500	(0.30)	17875	0.46
999360-1	4960	0.60	3224	0.92
999360-2	8530	0.59	5544.5	0.91
999362-1	7190	0.60	4673.5	0.92
999362-2	7840	0.60	5096	0.93
999362-3	44200	0.75	28730	1.15
999366-5	450	0.57	292.5	0.88
999359-2D	27500	(0.29)	17875	0.45
LCS				
999389	407	0.57	264.55	0.87
999416	630	0.65	409.5	1.00
			1	

A

				New York	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~								·····			
TIME 10 Days	COMMENTS		S			Les el III QC	1.5		pH= XTMetals) BA	OW = ZImatule	, 0,0				TOTAL NUMBER OF CONTAINERS
TURNAROUND TIME			_	STATES ASSESSED			a38i	MUM	4	4	4					Ŋ
RNAR(\				L	_									
<u>5</u> 9		\		UN	7	ON-00.	S\$) z	, (2)				:	a.	Ph.		
		<u> </u>				00-NO 198 (50)	BW/	₽ _{ŽO} ,	×	×			26			
			POS	NO3,	K. /	(3 01 (0 00F)	ES) 2	0/			×		2 E		nec	
	_		<u>`</u>		<u> </u>		Suo	An)	×	×					gej	
o .		MO/Đ	9 151-	(8)	W-	0.008 005) e 005) sien) suc	NO.			×		; 	3	NA	
CORE	_			- S. (2.0	02) s _{/e1}	JUOU.	(F)	×	×				<u>_</u>		
999362 CHAIN OF CUSTODY RECORD [IM3Plant-WDR-342]		_			<u>`</u>	(08	(21)	₹Q_/	×	×				2	C	
OD Y	(1.3	P2 's	_		<u>`</u>	(0 0) 7 (1 17 slejej 97 (9:8)	(52)	72/	×	×				5		ra Fa
UST		\\ \\	500	200.7)10		יכט	_ ~	×	×	×			U)	C))
OF C		\	- P	De Yelli	y qi	/ s/e _{lelel}	7 ZZ	9/2	×	×	×				C)	<i>₹</i> 3
Z Z						7 s/e _{le]}	2) (1)	125	×	Ų,	×					
퐝								<u></u>	$\hat{}$	×	×					
62 2			FAX 530-339-3303					DESCRIPTION						-		
60 60 7 /03			AX 530		, I			TIME	1330	1330	1330					
Rec'd Sirra MEs, inc. ustin, CA 927		M3		Ste 1000	710			DATE	01/03/12	01/03/12	01/03/12					
Rec'd 01/03/12 Stock 99362 TRUESDAIL LABORATORIEs, INC. 14201 Franklin Avenue, Tustin, CA 92780-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdail.com	CH2M HILL /E2	NAME PG&E Topock IM3	530-229-3303		Oakiano, CA 346 Z	BER 408401.01.DM	SAMPLERS (SIGNATURE	<u>.</u>	SC-700B-WDR-342	SC-100B-WDR-342	SC-701-WDR-342					
	COMPANY	PROJECT NAME	PHONE	ADDRESS		P.O. NUMBER	SAMPLER	SAMPLE I.D.	SC-:							
									i	رم	5					

	HO//	CHAIN OF CUSTODY SIGNAT	SNATURE RECORD		SAMPLE CONDITIONS
	Signature (Relinquished)	Printed HOW HIEMS	Company/ Om /	Date/ 7-3-72 Time 7530	RECEIVED COOL \Box WARM \Box $V_{c}/C^{\circ}F$
	Signature (Received) (n.v.o. 10	Printed Rated	Company/ T. h. T. Agency	Date 0 3 - 1 2 Time 1 5 : 5 5	CUSTODY SEALED YES 🔲 NO 🗹
	Signature () (Relinquished)	Printed Atol	Company/ / / Z	Date/ C_1 ~ C_3 ~ 7_2 Time $2/3$ 2 ∞	SPECIAL REQUIREMENTS:
10	Signature Received)	Printed HLY	Company/ '+ C / Agency	Date/ 1-3-18 Time 21:80	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn,
6	Signature (/ (Relinquished)	Printed Name	Company/ Agency	Date/ Time	
	Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

	T	T	I			
Date	Lab Number	Initial pH	· · · · · · · · · · · · · · · · · · ·	1	Time Buffered	
12/28/11	906308	<u> </u>	5 ML	9.5	8:30 AM	سکی)
1/3/12	999359-1		5mL	9.5	18:00	M9
*	1 -2	9.5	M/A	N/A	N/A	19
1/4/12	260360-1	7	5 mcL	9.5	10:43 Am	0
<u> </u>	<u> </u>	7	SmL	7	MA cliej	()
114/12	999362-1	7	Sml	۹,5	11.00 Am	0
	-2		•		11:05 AM	
Ju,	<u> </u>	,	7	1	Milo Am	7.
1/4/12	9993800	·\	5m1.	9.5	Silsom	0
1/5/12	9994161	7	5mL:	9.5	11:45 pm	M6
1/9/12	999460	7	5mL	95	6:45pm	MG
1/10/12	999462	9.5	NIA	NIA	NA	
1/11/12	9995/2-1	9.5	N/A	NA	NIA	Qui
1,	-2					i
	-3	-\			·	
	-4					
	-5					
	-6					
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11112	999513~1	9.5	NIA	NIA	MIA	7
	-2		1			5-0
	7					_
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1000	399511	7	(10)	9.5	0 6 5	7
1 4 2 6 1 - 1	Thur & Biffer	9.5	SINL	7/.>	8250 AM	Gan H
	999553	7.2		NA	NA	<u>640</u>
	j		Sm!	0.5	Spm	(Ju/)
HTHI	12013-12	d.2	NIA	NW	NA	(J-/-)
<u> </u>						

€:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

ali

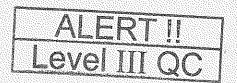
Metals Samples logbook

-Turb	idit	y/pH	Che	ck

			bidity/pH C		j		_
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)	ollill
998901 7-8	< /	-9-2- >g	12/09	MIM	Yes	Je c	ייווס
3 98945 (1-2)		h.H				-11-11.	u.p
798946 11-21		12/0	19/	s production of		14-	M.,
198 947 11-59		,/		1		4-	'
19899611-61		V				10-	Į
09901671-61	<i>c</i> /	22	12/12/11	N.14	Jes	//_	***************************************
199059	7/	2,2	12/14/11	ain	Yes		
199056				~ .			
799054(1-4)	L.		<i>V</i>	**-			
1990381 1-21	21	22	19/14/11	H.M	Yes	Γ	
199039112-51			14:00		*	-	
99084 (1-6)						-	
199086 [1-6]						*	
19908711-2/						•	ļ
199088 '						***	71-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11-07-11
399089 (1-5/	1	4	<u>V</u>	V		*	-
19909/ 11-241	21	<u> </u>	12/15/	u.v	Yes	<u> </u>	-
19909014-191							
999092 (1-16)						***]
999117 11-21							_
199118			/				1
999 19 1 (1-41	 	J.	\ \d_{\begin{subarray}{c} \\ \d_{\begin}} \\ \d_{\begin{subarray}{c} \\ \d_{\begin{subarray}{c} \\ \d_{\begin{subarray}{c} \\ \	<i>\'</i>	JV.		
19915411-91	2/	<u>-2</u>	12/16/4	MM	yes		
399155/1-2/			//				
999156					y ze		
999047-1	7,1	2,2	12/16/4	MM	25.25		
99906 F14-21	<u> </u>		'				<u> </u>
199124							
399125 11-41	<u> </u>					*	
999 148 <u> </u>							
999149	<u> </u>						1
999151	 			\/	/		-
995167		V,	<u> </u>	*	*		1
199178/1-8/	e1	< 2	12/19/4	MM	Jes		1
1971 + 911-8	1_/_	1 ,			<u> </u>	-	_
299 180 (126	1 V	V	+	W	V		4
199 028 1-21	solid		12/19/4	pr. 11	Yes	TTLC	1
195 175 (1-21	1-1,			(;			_
199191	V	, ,	1/0-1	<u>/</u>	Val	<u> </u>	1
90 8 731 (12/5)		42	1/123/4	n. n			
199227	' = !	<u> </u>	12/21/4	M.M	Jes Ju		-
39 8 732 (1-13)	<u> </u>	£2	11/30/11	may.			
798802	21		11/30/4	M.M	yes	-	-
0001771	7/	22	19/21/1	M di M.M	103	***	4
21844 F-1-1	21	22	113011		yes	•	1
3018 118 (1-9)	1-1	<u></u>	1 to V	V 10	│ 		1
990) 308	4	C2	0101/12	N.N	1/01	~ II -	-
999 360 (2)	 	72 1/21	 		1 /5	Lyez_	-
949 362 113	\bot V	2/3/12 p.			$\perp V$	<u> </u>	_]



TRUESDAIL LABORATORIES, INC.



Sample Integrity & Analysis Discrepancy Form

Clier	nt:	Lab# <u>9993</u> 62
Date	Delivered: <u>0</u> / / <u>6</u> 3/11 Time: <u>2/30</u> By: □Mail Fi	eld Service
1.	Was a Chain of Custody received and signed?	Xes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No 対N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No MAN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No DNA
5 .	Were all requested analyses understood and acceptable?	ØYes □No □N⁄A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>f. / ° C</u>	AYes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	XYes ONO ON/A
8.	Were sample custody seals intact?	□Yes ÞÁNo □N/A
9.	Does the number of samples received agree with COC?	Yes ONO ON/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	XYes □No □N/A
12.	Were samples pH checked? pH = See_C.O.C	Yes □No □N/A
	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 Std	AYes □No □N/A
	Sample Matrix: □Liquid □Drinking Water □Ground Wa □Sludge □Soil □Wipe □Paint □Solid ☑Ot	
6. (Comments:	
7. 3	Sample Check-In completed by Truesdail Log-In/Receiving:	



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

April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-343 PROJECT, GROUNDWATER MONITORING, TLI No.: 999511

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-343 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 10, 2012, 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 result for Total Dissolved Solids by SM 2540C on January 13, 2012 exceeded the acceptance limit for the measured TDS to calculated TDS ratio and did not match historical data. When discovered, the sample was re-analyzed, on January 27, 2012 and past the method specified holding time, but was within acceptable limits. The result from the re-analysis was reported. The exceedance of the acceptance limits of the original result was due to possible analyst error.

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

Michael It,

Michael Ngo

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

Laboratory No.: 999511

Date: February 2, 2012

Collected: January 10, 2012

Received: January 10, 2012

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Kim Luck
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Kim Luck
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov / George Wahba

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

Oakland, CA 94612

Attention: Shawn Duffy

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

Laboratory No.: 999511 Date Received: January 10, 2012

Project Name: PG&E Topock Project

Project No.: 424973.01.DM **P.O. No.:** 424973.01.DM

Analytical Results Summary

RL	2.00 1.0 1.0 1.0 0.100 250
Units	umhos/cm ug/L ug/L ug/L NTU mg/L
Result	7000 ND 17.6 ND ND ND
Parameter	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids
Sample Time	14:37 14:37 14:37 14:37 14:37
Sample Date	1/10/2012 1/10/2012 1/10/2012 1/10/2012 1/10/2012
Extraction Method	NONE-digested NONE-digested LABFLT NONE
Analysis Method	E120.1 E200.8 E200.8 E218.6 SM2130B
) Field ID	SC-700B-WDR-343 E120.1 SC-700B-WDR-343 E200.8 SC-700B-WDR-343 E200.8 SC-700B-WDR-343 E218.6 SC-700B-WDR-343 SM213 SC-700B-WDR-343 SM213
Lab Sample ID Field ID	999511-001 999511-001 999511-001 999511-001 999511-001

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

TRUESDAIL LABORATORIES, INC.

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Page 1 of 8

REPORT

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

Printed 2/2/2012

Laboratory No. 999511

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project Number: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 1/10/2012 10:30:00 PM

Field ID				Lab ID	Col	lected	Matr	ix
SC-700B-WDR-343			Julio de la companya	999511-001 01		01/10/2012 14:37		er
Specific Conductivity - E	PA 120.1		Batch	01EC12D			1/16/2012	2 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -
Parameter		Unit	Ana	ilyzed	DF	MDL	RL	Result
999511-001 Specific Conduct	ivity	umhos/c	m 01/16	5/2012	1.00	0.0950	2.00	7000
Method Blank			ś					
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID =	999549-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 336	Expected 339	F	RPD 0.889	Accepta 0 - 10	ance Range
Parameter Specific Conductivity Lab Control Sample D	Unit umhos uplicate	DF 1.00	Result 702	Expected 706	F	Recovery 99.4	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 702	Expected 706	F	Recovery 99.4	Accepta 90 - 110	ance Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 701	Expected 706	F	Recovery 99.3	Accepta 90 - 11	ance Range 0
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 899	Expected 997	f	Recovery 90.2	Accepta 90 - 11	ance Range 0
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 899	Expected 997	F	Recovery 90.2	Accepta 90 - 11	ance Range 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.



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

Chrome VI by EPA 218.6 Batch 01CrH12E Parameter Unit Analyzed DF MDL RL. Result 999511-001 Chromium, Hexavalent ug/L 01/12/2012 14:25 5.25 0.136 1.0 ND Method Blank Parameter Unit DF Result Chromium, Hexavalent ug/L 1.00 ND Duplicate Lab ID = 999513-002 Parameter Unit DF Result RPD Expected Acceptance Range Chromium, Hexavalent ua/L 1.00 0.0216 0.0192 11.8 0 - 20Low Level Calibration Verification Parameter DF Unit Result Expected Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 0.208 0.200 104. 70 - 130Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 4.90 5.00 97.9 90 - 110Matrix Spike Lab ID = 999511-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 5.25 5.14 5.25(5.25) 97.9 90 - 110Matrix Spike Lab ID = 999511-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.06 0.995 1.06(1.06) 93.8 90 - 110 Matrix Spike Lab ID = 999513-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 0.989 1.02(1.00) 96.6 90 - 110 Matrix Spike Lab ID = 999513-002 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 0.980 1.02(1.00)96.1 90 - 110 Matrix Spike Lab ID = 999513-003 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 0.978 90 - 110 1.02(1.00)95.7 Matrix Spike Lab ID = 999513-004 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 1.02 1.03(1.00) 99.0 90 - 110

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ug/L

Report Continued

Client: E2 Consulting Engineers, Inc.

Manganese

Parameter

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Metals by EPA 200.8, Total Batch 011712B Unit Analyzed DF MDL RL Result Parameter 1.0 ug/L 01/18/2012 01:47 5.00 0.110 ND 999511-001 Chromium 17.6 ug/L 01/18/2012 01:47 5.00 0.285 1.0 Manganese Method Blank Unit DF Result Parameter ug/L 1.00 ND Chromium

ND

1.00

Lab ID = 999513-001 Duplicate DF Expected **RPD** Acceptance Range Unit Result Parameter 0 - 200.00 0 5.00 ND Chromium ug/L 6.40 0 - 205.00 1.95 1.83 Manganese ug/L Low Level Calibration Verification DF Result Expected Recovery Acceptance Range Unit

0.200 104. 70 - 130ug/L 1.00 0.208 Chromium 0.200 109. 70 - 130 1.00 0.218 ug/L Manganese Lab Control Sample Expected Recovery Acceptance Range Unit DF Result Parameter 100. 95.6 85 - 115 Chromium ug/L 5,00 95.6 100. 91.9 85 - 115 91.9 ug/L 5.00 Manganese Lab ID = 999513-001 Matrix Spike Expected/Added Recovery Acceptance Range Unit DF Result Parameter 96.0 75 - 125ug/L 5.00 96.0 100.(100.) Chromium 75 - 125 92.6 94.5 102.(100.) ug/L 5.00 Manganese Lab ID = 999513-001 Matrix Spike Duplicate DF Expected/Added Recovery Acceptance Range Unit Result Parameter 75 - 125 97.8 97.8 100.(100.) Chromium ug/L 5.00

75 - 125 5.00 93.2 102.(100.) 91.4 Manganese ug/L MRCCS - Secondary Recovery Acceptance Range Unit DF Result Expected Parameter 99.0 90 - 110 9.90 10.0 ug/L 1.00 Chromium 10.0 96.5 90 - 1109.65 ug/L 1.00 Manganese MRCVS - Primary

Acceptance Range Recovery DF Result Expected Parameter Unit 90 - 110 ug/L 1.00 9.47 10.0 94.7 Chromium

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Page 7 of 8 Printed 2/2/2012

Interference Check S	itandard AB							
Parameter Manganese	Unit ug/L	DF 1.00	Result 9.11	Expected 10.0		covery 11.1	Accepta 80 - 120	ince Range)
Total Dissolved Solids	by SM 254	0 C	Batch	01TDS12H	· · · · · · · · · · · · · · · · · · ·		1/27/2012	2
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
999511-001 Total Dissolved	Solids	mg/L	01/27	7/2012	1.00	0.400	250.	4150
Method Blank			_					
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID =	999810-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4110	Expected 4290	RP 4	D 28		ince Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 495	Expected 500.		covery 9.0	Accepta 90 - 110	ince Range
Turbidity by SM 2130 B		Unit		01TUC12I lyzed	DF	MDL	1/12/2012 RL	Result
999511-001 Turbidity		NTU		/2012		0.0140	0.100	ND
Method Blank		- NIO	01712	32012	1.00	0.0140	0.100	עט
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID =	999570-003
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result 0.112	Expected 0.113	RP 0	D .889	Accepta 0 - 20	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.00	Expected 8.00		covery 00.	Accepta 90 - 110	nce Range
Lab Control Sample I	Duplicate							
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.01	Expected 8.00		covery 00.	Accepta 90 - 110	nce Range

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O14



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 8 of 8

Project Number: 424973.01.DM Printed 2/2/2012

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services





Calculations

Batch: 01TDS12C
Date Calculated: 1/19/12

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	105.3556	105.3557	105,3557	0.0000	No	0.0001	1.0	25.0	ND	1
999486-9	100	111.1863	111.2397	111.2395	0.0002	No	0.0532	532.0	25.0	532.0	1
999511	10	50.7017	50.7640	50.7639	0.0001	No	0.0622	6220.0	250.0	6220.0	1
999549-1	100	111.3938	111.4143	111.4143	0.0000	No	0.0205	205.0	25.0	205.0	1
999601	100	72.4674	72.5065	72.5065	0.0000	No	0.0391	391.0	25.0	391.0	1
999579-1	20	51.2643	51.3233	51,3229	0.0004	No	0.0586	2930.0	125.0	2930.0	1
999579-2	100	100.6826	100.7132	100.713	0.0002	Nο	0.0304	304.0	25,0	304.0	1
999579-3	20	50.9498	51.0368	51.0365	0.0003	No	0.0867	4335.0	125.0	4335.0	11
999579-4	20	47.9637	48.0253	48.025	0.0003	No .	0.0613	3065.0	125.0	3065.0	1
999579-5	20	50.9639	51.0261	51.026	0.0001	No	0.0621	3105.0	125.0	3105.0	1
999579-6	50	65.7025	65.7548	65.7546	0.0002	No	0.0521	1042.0	50.0	1042.0	1
999601D	100	69.3453	69.3854	69.3853	0.0001	No	0.0400	400.0	25.0	400.0	11
LCS	100	105.2584	105.3087	105.3087	0.0000	No	0.0503	503.0	25.0	503.0	1
999579-7	50	74.1773	74.273	74.2728	0.0002	No	0.0955	1910.0	50.0	1910.0	1
999579-9	50	72.8039	72.866	72.866	0.0000	No	0.0621	1242.0	50.0	1242.0	1
999579-10	50	75.7649	75.8854	75.8854	0.0000	No	0.1205	2410.0	50.0	2410.0	1
999579-11	· 50	74.8700	74.9976	74.9976	0.0000	No	0.1276	2552.0	50.0	2552.0	1
999579-12	20	51.1872	51.2692	51.269	0.0002	No	0.0818	4090.0	125.0	4090.0	1
999579-13	20	49.2632	49.3325	49.3324	0.0001	No	0.0692	3460.0	125.0	3460.0	11
999579-14	20	51.5083	51.5794	51.579	0.0004	No	0.0707	3535.0	125.0	3535.0	1
999579-15	20	47.9634	48.0804	48.08	0.0004	No	0.1166	5830,0	125.0	5830.0	1
999579-16	100	69.2163	69.2692	69.2689	0.0003	No	0.0526	526.0	25.0	526.0	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 Printed Name

Reviewer Signature

TDS/EC CHECK

Batch: 01TDS12C Date Calculated: 1/19/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
		t t	;	
999486-9	909	0.59	590.85	0.90
999511	7130	0.87	4634.5	1.34
999549-1	351	0.58	228.15	0.90
999601	657	0.60	427.05	0.92
999579-1	4030	0.73	2619.5	1.12
999579-2	528	0.58	343.2	0.89
999579-3	6060	0.72	3939	1.10
999579-4	4140	0.74	2691	1.14
999579-5	4060	0.76	2639	1.18
999579-6	1560	0.67	1014	1.03
999601D	657	0.61	427.05	0.94
LCS				
999579-7	2710	0.70	1761.5	1.08
999579-9	1830	0.68	1189.5	1.04
999579-10	3380	0.71	2197	1.10
999579-11	3600	0.71	2340	1.09
999579-12	5520	0.74	3588	1.14
999579-13	4690	0.74	3048.5	1.13
999579-14	4550	0.78	2957.5	1.20
999579-15	7000	0.83	4550	1,28
999579-16	946	0.56	614.9	0.86
			1	



4



Calculations

Batch: 01TDS12H Date Calculated: 1/31/12

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	72.4669	72.4672	72.4670	0.0002	No	0.0001	1.0	25.0	ND	1
999511	10	50.9455	50,9872	50.9870	0.0002	No	0.0415	4150.0	250.0	4150.0	1
999809-1	50	68.1665	68.2402	68.2401	0.0001	No	. 0.0736	1472.0	50.0	1472.0	1
999809-2	50	70.8978	70.9699	70.9697	0,0002	No	. 0.0719	1438.0	50.0	1438.0	1
999809-3	50	74.9434	74.9793	74.979	0.0003	No	0.0356	712.0	50.0	712.0	1
999810	10	50.7019	50.7451	50.7448	0.0003	No	0.0429	4290.0	250.0	4290,0	1
999872	50	68.5708	68.6894	68.6893	0.0001	No	0.1185	2370.0	50,0	2370.0	1
999695-1	50	49.2619	49.3745	49.3743	0.0002	No	0.1124	2248.0	50.0	2248.0	1
999695-2	50	51.2521	51.3749	51.3748	0.0001	No	0.1227	2454.0	50.0	2454.0	1
999810D	10	48.1434	48.1849	48.1845	0.0004	No	0.0411	4110.0	250.0	4110.0	11
LCS	100	69.7455	69.7954	69.795	0.0 0 04	No	0.0495	495.0	25.0	495.0	11
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: 01TDS12H Date Calculated: 1/31/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
999511	7130	0.58	4634.5	0.90
999809-1	2290	0.64	1488.5	0.99
999809-2	2230	0.64	1449.5	0,99
999809-3	1300	0.55	845	0.84
999810	7220	0.59	4693	0.91
999872	3050	0.78	1982.5	1.20
999695-1	3740	0.60	2431	0.92
999695-2	3980	0.62	2587	0.95
999810D	7220	0.57	4693	0.88
LCS				
			ļ	
			1	
	FR NT ST 1847-1850-1870-1850-1850-1850-1850-1850-1850-1850-185	······································		

			<u>.</u>	
			<u> </u>	



M

E2

COMPANY

PROJECT NAME

SAMPLERS (SIGNATURE

P.O. NUMBER

ADDRESS

PHONE

SC-700B-WDR-343

SAMPLE 1.D.

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

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1007 COMMENTS 10 Days) 9 = Hd PAGE NUMBER OF CONTAINERS TURNAROUND TIME DATE 01/10/12 COC Number m CHAIN OF CUSTODY RECORD

IM3Plant-WDR-343] (OETSMS) Vididiut × (308SANZ) SOT Specific Conductance (120.1) × × × × DESCRIPTION Water FAX (530) 339-3303 TEAM 17.37 THE 01/10/12 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 PG&E Topock 424973.01.DM



Sample Conditions
See Form Attached

TOTAL NUMBER OF CONTAINERS

M

	CHAIN OF CUSTODY SIGNATURE	SNATURE	RECORD			SAMPLE CONDITIONS	5
Signature (', [ULK]	1 Printed CKNL9MF Company	Company/ Agency	CH2MHic	Date/ Time	1-10-12	RECEIVED COOL M WARM 3.6"	2)
Signature Askal	Bri Printed La Far /	Company/ Agency	To ker I Time	Date/ Time	Date/ ノー/のー/と Time ノタ:タグ	-/の/2 /女:ケケ CUSTODY SEALED YES 🛭 NO 🗹	
Signature (Relinquished)	Davi Name Rokan	Company/ Agency	エ・ソ・ユ	Date/ / Time	Date/ 1-10-12 Fime 22:30	SPECIAL REQUIREMENTS:	
Synature / Color Keceived) ~ Keda	Printed of Name of Nam	Company/ Agency		Date/ // Time	10/12 22:80		
Signature	Printed	Company/		Date/			
(Relinquished)	Name	Agency		Time			•••••
Signature	Printed	Company/		Date/			
(Keceived)	Name	Agency		ime			

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

·						•
Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Inițials
12/28/1	1 999308		5 mL	9.5	8:30 AM	
1/3/1	2 999359-1	7	5mL	9.5	18:00	MG
, 4	1 + -2	9.5	N/A	N/A	N/A	19
1/4/13	- 666365-1		5 m·L	9.5	10:45 Am	6/
بد	1 -2	7	SmL	7	MA 07261	7
1/4/12	999362-1	٦	Sml	9.5	11.00 Am	0
	-2		"		11:05 Am	
4	<u> </u>		7	1	MoloAn	7
1/4/12	9993800	<i></i>	5 m	9.5	Silspm	0
1/5/12	112	7	5mL ·	9.5	11:45 pm	199
1/9/12		7	5mL	9.5	6:45pm	MG
1/12/17	1 999462	9.5	NIA	NA	NA	7.7
1/11/12	999512-1	9.5	NA	NA	NIA	au
	-2				1	1
<u> </u>	3	1				
	-4					
	-5					
	-6					
- V	V -7		<u> </u>		1	1
1015	999513-1	9.5	NIA	MA	NA	Pul
	-2					7
	-3					
	-6					
· •	1 -11			V	4	T
	999511	1	Sml	9.5	8:50 Am (21
11112	DEW + Biffer	9.5	NIA	NIA	NA	九九
1/11/12	999553	7	Sml	9.5	Spm	
	999713-15	9.5	NA	NA	MA	1
1/12/17	9995,54-1	9,5	NA	NA	NA	
	. 4	4	L L	T	I I	
					I	

€:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

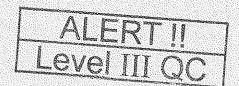


Turbidity/pH Check

				rbiaity/pH C			
	Sample Number	Turbidity	pΗ	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
	999361	Studge		01/01/12	M.M	TTLC	<u> </u>
	999303-2	de			1/	1/	-
	999 319/1-2			1 9 1			
	99930666-87	21	72	16/12	EŚ	NO	ywa 7:70 pm
	999 347 (-16 25)	i	1	1 70112		1	3-77/7/
	999379 (1-3)						
	999436	71	2	01/03/12	N.M	Yes	
	999402		7	10170			_
	999440	,					_
	999450[1-4]	7	V	1			
	9994627/13	71	<i>C 2</i>	0/10/18	M-M	Yen	
,	99951311-14	<u></u>	22	01/13/12	M.M	Yes	_
12 (1-7,3-14)	19995544	1	7		1		_
1/2/ 1/	999 569 1-4						~
Lie.	949 578 11-6)						_
	9995 79 177,9-4) /	1		7		-
	999511	~1	72 61	01/3/2	W.M	yes	yes
113/12 3	999249 (1-2)	<u>~1</u>	22	12/32/11	M·M	yes	-
M.M	999 247				<u> </u>		_
	999248 (1-3)						-
	999250 11-101	1	,	ا له الم			
	999604 1-61	<1	12-2	01/16/12	M.M	yes	
	1999 60511-4641	1		01/16/12	d	yes	
	999576	71	72	01/16/2	pr. 11	yes	-
	999577			1 / /	. 1		
	999593	V	<i>V</i>	1	J	,,,	
	99562311-21	</td <td>C2</td> <td>01/17/12</td> <td>MM</td> <td>V-es</td> <td></td>	C2	01/17/12	MM	V-es	
	99962411-81	J.	J.		11.	J.	
	998620 1-81	Plants	~~	01/17/12	йн	Yes	TFLC
	999635	7/	2 72	01/18/12	up		- 1
	999649	<i>C</i> !	72	·]			_
	999650 11-101		< 2		V	<u> </u>	
	999651 (1891	<u> </u>	2	V	V_	yes	
	99967411-31	c/		01/19/12	M.M	J/e_	/
	999 699	71	22	01/19/12		yes	
	999699		<u> </u>	1 1		<u> </u>	
	999700			1 1 ,			<u> </u>
	999701	<u> </u>		1.1/2/12	- July -	<u> </u>	-
	99549(1-3)	41	<u> </u>	1 19/19	W	NO 1	y) 1/19/204
	999634 (1-2)						\(\frac{1}{1}\)
	999708)					
	199708						
	999709						
	999710						
	999711	12)	 	 			<u> </u>
	aca (0)	1414	- Z Ž	illiana		 \ 	CILIA La Carson
		'~	12	1/19/12		NO.	1 19 1200p
	99968 (11,10)		- U				



TRUESDAIL LABORATORIES, INC.



Sample Integrity & Analysis Discrepancy Form

Cli	ent:E2	_ Lab# <u>9995</u> //
Dai	te Delivered: 1 / 10/12 Time: 10:30 By: □Mail 5	Field Service □Client
1.	₩as a Chain of Custody received and signed?	You □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ÞÍN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No PN/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?	∏aYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>남만</u>	⊠Yes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	✓ Yes □No □N/A
8.	Were sample custody seals intact?	□Yes ⊈No □N/A
9.	Does the number of samples received agree with COC?	Yes \QNo \QN/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 \\\ \(\sqrt{\overline{\sqrt{No}}}\) □N/A
12.	Were samples pH checked? pH = <u>See</u> C.O.C	⊠Yes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Mayes □No □N/A
4,	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH ☑ Std	Yes ONO ONA
5 .	Sample Matrix:	
6 .	Comments:	
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	



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

April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-344 PROJECT, GROUNDWATER MONITORING, TLI NO.: 999649

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-344 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 17, 2012, 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.

ForMona Nassimi

Manager, Analytical Services

Allichael Algo

Michael Ngo

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.: 424973.01.DM

Laboratory No.: 999649

Date: February 3, 2012 Collected: January 17, 2012

Received: January 17, 2012

ANALYST LIST

METHOD	PARAMETER	ANALYST		
EPA 120.1	Specific Conductivity	Gautam Savani		
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn		
SM 2130B	Turbidity	Kim Luck		
EPA 200.8	Total Metals	Katia Kìarashpoor		
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov / George Wahba		

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

Oakland, CA 94612

Attention: Shawn Duffy

Established 1931

14201 FRANKLIN AVENUE - TUSTIN. CALIFORNIA 92789-7008 (714) 730-6239 - FAX (714) 730-6462 - www.truesdail.com

Date Received: January 17, 2012 Laboratory No.: 999649

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

P.O. No.: 424973.01.DM

Analytical Results Summary

RL	2.00 1.0 5.0 1.0 0.100 250
Units	umhos/cm ug/L ug/L ug/L NTU mg/L
Result	7110 ND 9.6 ND ND A230
Parameter	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids
Sample Time	11:00 11:00 11:00 11:00
Sample Date	1/17/2012 1/17/2012 1/17/2012 1/17/2012 1/17/2012
Extraction Method	NONE NONE-digested NONE-digested LABFLT NONE
Analysis Method	E120.1 E200.8 E200.8 E218.6 SM2130B SM2540C
) Field ID	SC-700B-WDR-344 E120.1 SC-700B-WDR-344 E200.8 SC-700B-WDR-344 E200.8 SC-700B-WDR-344 E218.6 SC-700B-WDR-344 SM213(
l ab Sample ID Field ID	999649-001 999649-001 999649-001 999649-001 999649-001

ND: Non Detected (below reporting limit)

тg/L: Milligrams per liter.

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

Results below 0.01ppm will have two (2) significant figures. Result above or equal to 0.01ppm will have three (3) significant figures. Quality Control data will always have three (3) significant figures.

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Page 1 of 9

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Printed 2/3/2012

Laboratory No. 999649

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 1/17/2012 9:30:00 PM

Field ID				Lab ID	Col	lected	Matr	ix
SC-700B-WDR-344				999649-001		01/17/2012 11:00		er
Specific Conductivity - E	PA 120.1		Batch	01EC12G			1/25/2012	2
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
999649-001 Specific Conducti	vity	umhos/	cm 01/25	5/2012	1.00	0.0950	2.00	7110
Method Blank								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	999649-001
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 7110	Expected 7110	F	0.00	Accepta 0 - 10	ince Range
Duplicate							Lab ID =	999810-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7220	Expected 7220	R	PD 0.00	Accepta 0 - 10	nce Range
Parameter	I turit	DE	D		_			_
Specific Conductivity Lab Control Sample Do	Unit umhos unlicate	DF 1.00	Result 703	Expected 706	К	ecovery 99.6	90 - 110	nce Range
Parameter	Unit	DF	Desuit	F. m. a. a.k.a. al	_			_
Specific Conductivity MRCCS - Secondary	umhos	1.00	Result 705	Expected 706	К	ecovery 99.8	90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 750.	Expected 706	R	ecovery 106.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 944	Expected 997		ecovery 94.7	Accepta 90 - 110	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Parameter		Unit	Ana	alyzed [F MDL	RL	Result
999649-001 Chromium, Hexa	avalent	ug/L	01/19	9/2012 14:50 5.	25 0.136	1.0	ND
Method Blank							
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND			Lab ID = 9	000622 004
Parameter Chromium, Hexavalent Low Level Calibration	Unit ug/L Verification	DF 1.00	Result 3.07	Expected 3.08	RPD 0.202	Acceptar 0 - 20	
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.00	Result 0.203	Expected 0.200	Recovery 101.	Acceptan 70 - 130	ice Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.86	Expected 5.00	Recovery 97.2	Acceptan 90 - 110 Lab ID = 9	_
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 8.00	Expected/Added 8.08(5.00)	Recovery 98.5	Acceptan 90 - 110 Lab ID = 9	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.93	Expected/Added 1.93(1.00)	Recovery 99.4	Acceptan 90 - 110 Lab ID = 99	ce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.00	Result 5,89	Expected/Added 5.93(5.00)	Recovery 99.1	Acceptano 90 - 110 Lab ID = 99	ce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 0.985	Expected/Added 1.02(1.00)	Recovery 96.0	Acceptano 90 - 110 Lab ID = 99	ce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.04	Expected/Added 1.07(1.00)	Recovery 97.2	Acceptano 90 - 110 Lab ID = 99	ce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 0.986	Expected/Added 1.02(1.00)	Recovery 96.8	Acceptant 90 - 110	



Client: E2 Consulting E	ngineers, Inc		Project Name: Project Number:	PG&E Topock Pro: 424973.01.DM	oject	Page 4 of 9 Printed 2/3/2012		
Matrix Spike						Lab ID = 999624-003		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.02	Expected/Added 1.05(1.00)	Recovery 96.7	Acceptance Range 90 - 110 Lab ID = 999624-004		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.01	Expected/Added 1.06(1.00)	Recovery 94.9	Acceptance Range 90 - 110 Lab ID = 999624-005		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.04	Expected/Added 1.10(1.00)	Recovery 94.1	Acceptance Range 90 - 110 Lab ID = 999624-006		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 7.77	Expected/Added 7.88(5.00)	Recovery 97.7	Acceptance Range 90 - 110 Lab ID = 999624-007		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 8.36	Expected/Added 8.49(5.00)	Recovery 97.4	Acceptance Range 90 - 110 Lab ID = 999624-008		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 18.0	Expected/Added 18.3(10.0)	Recovery 97.0	Acceptance Range 90 - 110 Lab ID = 999624-009		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.01	Expected/Added 1.10(1.00)	Recovery 92.0	Acceptance Range 90 - 110 Lab ID = 999649-001		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.25	Expected/Added 5.49(5.25)	Recovery 95.4	Acceptance Range 90 - 110 Lab ID = 999650-001		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.58	Expected/Added 6.77(5.00)	Recovery 96.2	Acceptance Range 90 - 110 Lab ID = 999650-002		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.60	Expected/Added 6.80(5.00)	Recovery 96.1	Acceptance Range 90 - 110 Lab ID = 999650-003		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 8.34	Expected/Added 8.50(5.00)	Recovery 96.9	Acceptance Range 90 - 110 Lab ID = 999650-004		
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 1.00	Expected/Added 1.04(1.00)	Recovery 95.6	Acceptance Range 90 - 110		



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Parameter		Unit	Ana	ilyzed [F MDL	RL	Result
999649-001 Chromium		ug/L	02/02	2/2012 17:07 5.	00 0.110	1.0	ND
Manganese		ug/L	02/02	2/2012 17:07 5.	00 0.285	5.0	9.6
Method Blank			_				
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab ID =	999649-001
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20	noc rtange
Manganese	ug/L	5.00	9.34	9.63	3.11	0 - 20	
Low Level Calibration V	/erification	1					
Parameter	Unit	DF	Result	Expected	Recovery	Accenta	nce Range
Chromium	ug/L	1.00	0.198	0.200	99.1	70 - 130	_
Manganese	ug/L	1.00	0.999	1.00	99.9	70 - 130	
Lab Control Sample						, , , , , , ,	
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium	ug/L	5.00	102.	100.	102.	85 - 115	_
Manganese	ug/L	5.00	96.2	100.	96.2	85 - 115	
Matrix Spike						Lab ID = 9	999649-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptai	nce Range
Chromium	ug/L	5.00	100.	100.(100.)	100.	75 - 125	_
Manganese	ug/L	5.00	99.1	110.(100.)	89.4	75 - 125	
Matrix Spike Duplicate						Lab ID = 9	999649-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptai	nce Range
Chromium	ug/L	5.00	99.6	100.(100.)	99.6	75 - 125	go
Manganese	ug/L	5.00	100.	110.(100.)	90.9	75 - 125	
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Acceptar	nce Range
Chromium	ug/L	1.00	10.6	10.0	106	90 - 110	.co . tango
Manganese	ug/L	1.00	10.4	10.0	104.	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accentar	nce Range
Chromium	ug/L	1.00	9.92	10.0	99.2	90 - 110	.co range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Parameter		Unit	Δna	lyzed	DF	MDL	RL	Result
999649-001 Total Dissolved	Solide	mg/L		3/2012	1.00	0.400	250.	4230
· · · · · · · · · · · · · · · · · · ·	Solius	mg/L	01/23	0/2012	1.00	0.400	250.	4230
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	999624-008
Parameter	Unit	DF	Result	Expected	1	RPD	Accepta	ince Range
Total Dissolved Solids	mg/L	1.00	1430	1430		0.280	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ince Range
Total Dissolved Solids	mg/L	1.00	493	500.		98.6	90 - 110)
Turbidity by SM 2130 B Parameter		Unit	Ana	01TUC12L lyzed	DF	MDL	1/18/2012 RL	2 Result
그 사람들은 사람들은 한 근처리는 것으로 하는 것이다.		Unit			DF	MDL		
Parameter		Unit NTU	Ana		DF 1.00	MDL 0.0140		
Parameter			Ana	lyzed			RL	Result
Parameter 999649-001 Turbidity	Unit		Ana	lyzed			RL	Result
Parameter 999649-001 Turbidity Method Blank		NTU	Ana 01/18	lyzed			RL	Result
Parameter 999649-001 Turbidity Method Blank Parameter	Unit	NTU DF	Ana 01/18 Result	lyzed			RL 0.100	Result ND
Parameter 999649-001 Turbidity Method Blank Parameter Turbidity	Unit	NTU DF	Ana 01/18 Result	lyzed	1.00		RL 0.100 Lab ID =	Result ND 999670-002
Parameter 999649-001 Turbidity Method Blank Parameter Turbidity Duplicate	Unit NTU	DF 1.00	Ana 01/18 Result ND	lyzed 3/2012	1.00	0.0140	RL 0.100 Lab ID =	Result ND 999670-002
Parameter 999649-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter	Unit NTU Unit	DF 1.00	Ana 01/18 Result ND Result	lyzed 9/2012 Expected	1.00	0.0140 RPD	RL 0.100 Lab ID = Accepta	Result ND 999670-002
Parameter 999649-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity	Unit NTU Unit	DF 1.00	Ana 01/18 Result ND Result	lyzed 9/2012 Expected	1.00	0.0140 RPD	RL 0.100 Lab ID = Accepta 0 - 20	Result ND 999670-002
Parameter 999649-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample	Unit NTU Unit NTU	DF 1.00 DF 1.00	Result ND Result ND	Expected 0.00	1.00	0.0140 RPD 0	RL 0.100 Lab ID = Accepta 0 - 20	Result ND 999670-002 ance Range
Parameter 999649-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter	Unit NTU Unit NTU Unit NTU	DF 1.00 DF 1.00	Result ND Result ND Result	Expected 0.00	1.00	0.0140 RPD 0 Recovery	RL 0.100 Lab ID = Accepta 0 - 20 Accepta	Result ND 999670-002 ance Range
Parameter 999649-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter Turbidity	Unit NTU Unit NTU Unit NTU	DF 1.00 DF 1.00	Result ND Result ND Result	Expected 0.00	1.00	0.0140 RPD 0 Recovery	RL 0.100 Lab ID = Accepta 0 - 20 Accepta 90 - 110	Result ND 999670-002 ance Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Printed 2/3/2012

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 01TDS12E

Date Calculated: 1/25/12

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	68.5173	68.5176	68.5173	0.0003	No	0.0000	0.0	25.0	ND	1
999623-1	50	49.0260	49,125	49,1248	0.0002	No	0,0988	1976.0	50.0	1976.0	1
999623-2	20	49.3076	49.3787	49,3784	0.0003	Nο	0.0708	3540.0	125.0	3540.0	1
999624-1	50	50.3812	50.4211	50.421	0.0001	No	0.0398	796.0	50.0	796.0	1
999624-2	100	74.6832	74,7324	74.7321	0.0003	Nó	0.0489	489.0	25.0	489.0	1
999624-3	100	73.4979	73.5336	73.5335	0.0001	No	0.0356	356.0	25.0	356.0	1
999624-4	100	66.7165	66.755	66.7548	0.0002	No	0.0383	383.0	25.0	383.0	1
999624-5	50	51.4223	51.4576	51.4574	0.0002	No	0.0351	702.0	50.0	702.0	1
999624-6	100	68.1046	68.1576	68.1572	0.0004	No	0.0526	526.0	25.0	526.0	1
999624-7	50	50.4108	50.4469	50.4467	0.0002	No	0.0359	718.0	50.0	718.0	1
999624-8	50	49.8290	49.9004	49.9003	0.0001	No	0.0713	1426.0	50.0	1426.0	1
999624-8D	50	47.5133	47.5849	47.5846	0.0003	No	0.0713	1426.0	50.0	1426.0	1
LCS	100	72.8174	72.8668	72.8667	0.0001	No	0.0493	493.0	25,0	493.0	1
999649	10	65.5052	65.5475	65.5475	0.0000	No	0.0423	4230.0	250.0	4230,0	1
999659-1	100	75.4477	75.5034	75,5031	0.0003	No [0.0554	554.0	25.0	554.0	1
999659-2	100	68,8837	68.9423	68.9422	0.0001	No	0.0585	585.0	25.0	585.0	1
999659-3	100	65.6270	65.6796	65.6795	0.0001	No	0.0525	525.0	25.0	525.0	1
999659-4	100	67.7412	67.7928	67.7925	0.0003	No	0.0513	513.0	25.0	513.0	1
* 999674-1	50	72.9963	73.0622	73,0618	0.0004	No	0.0655	1310.0	50.0	1310.0	1
999674-2	50	50.6034	50.7363	50.7359	0.0004	No	0.1325	2650.0	50.0	2650.0	1
999674-3	20	51.4331	51.5105	51.5103	0.0002	No	0.0772	3860.0	125.0	3860.0	1
999740-2	200	104.2418	104.2589	104.2588	0.0001	No	0.0170	85.0	12.5	85.0	1
999740-4	100	92.0954	92.1077	92.1076	0.0001	No	0.0122	122.0	25.0	122.0	1
LCSD											1

Calculation as follows:

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

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

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 01TDS12E Date Calculated: 1/25/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
999623-1	2950	0.67	1917.5	1.03
999623-2	4780	0.74	3107	1.14
999624-1	1230	0.65	799.5	1.00
999624-2	746	0.66	484.9	1.01
999624-3	529	0.67	343.85	1.04
999624-4	515	0.74	334.75	1.14
999624-5	1031	0.68	670.15	1.05
999624-6	815	0.65	; 529.75	0.99
999624-7	1064	0.67	691.6	1.04
999624-8	2040	0.70	1326	1.08
999624-8D	2040	0.70	1326	1.08
LCS				
999649	7160	0.59	4654	0.91
999659-1	885	0,63	575.25	0.96
999659-2	988	0.59	642.2	0.91
999659-3	846	0.62	549.9	0.95
999659-4	822	0.62	534.3	0.96
999674-1	1855	0.71	1205.75	1.09
999674-2	3720	0.71	2418	1.10
999674-3	5070	0.76	3295.5	1.17
999740-2	152	0.56	98.8	0.86
999740-4	202	0.60	131.3	0.93



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-344]

840 66 6

COC Number

PAGE 1

COMMENTS

10 Days TURNAROUND TIME DATE 01/17/12

OE JZWSJ 30)	ign ^{UT}	×	Exalizarus
ilic Conductance (120.1) (SM2540C)	SQL	×	
ille Conductance	290/5	×	
beight de 1 (8.81%)	Bol	×	1_/_
0812,	90 	×	l manage if
	DESCRIPTION	Water	
TEAM	TIME	CB://	

01/17/12

SC-700B-WDR-344

SAMPLE 1.D.

DATE

Tor Sample Conditions See Form Attached

7.002

NUMBER OF CONTAINERS

424973.01.DM

P.O. NUMBER

SAMPLERS (SIGNATURE _

FAX (530) 339-3303

(530) 229-3303

PHONE

PG&E Topock

PROJECT NAME

E2

COMPANY

155 Grand Ave Ste 1000

ADDRESS

Oakland, CA 94612

TOTAL NUMBER OF CONTAINERS

W)

m

SAMPLE CONDITIONS	RECEIVED COOL M WARM \ 4.90 °C	CUSTODY SEALED YES 🛮 NO 🗹	Time 3/30 SPECIAL REQUIREMENTS:			
RE RECORD	Date/ 1-17-12.30		1.4.4 Time 31:30	76 Date 11414 21:30	Date/ Time	Date/ Time
SIGNATURE R	Company/ Agency	Company/ Agency	Agency	Company/ Agency	Company/ Agency	Company/ Agency
CHAIN OF CUSTODY SIGNATU	Printed Printed Name 1500/1988	Davile Name Koley	Carifornia to fort	Printed O U W W W W	Printed Name	Printed Name
	Signature (Relinquished)	Signature (Received) Adau	(Relinquished	Signature ()	Signature X(Relinquished)	Signature (Received)

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number		D. St. A. L. C. C.			
	994624-6	Initial pH	7 1		Time Buffere	d Initials
The state of the s	1 -7	7/2	N/A	IN/A	NA	16-
	-3					
	-3			<u> </u>		
1/10/12			J.	+ + + +		
41811	 	7	5 mL	9.5	9 13 M	16
16865	999 (50-1	۹.5	N/A	N/A	NA	لسلي)
	-2			<u> </u>		
	1-4					
	- 5				·	
			<u> </u>		· ·	
	-7					
	-8		· ·			
	-10			,		
4	4 -11	<u>, je </u>	4	.,	4	1
1/18/12	999651-1	9.5	NA	NA	NA	1200
	-2	<u> </u>				
	-3					
	-7					
<u> </u>	-5					•
	7-					
	-8					
	-9		V			
1/19/12 0	199674-1	9.5	NA	NIA	TIA	7
	-2			70 (1)	~ (' '	5
	-3					
	14				 , 	
1/19/12 0		7	5mL	9.5	5:30 pm	Gur
1	-2	7	3 1	-77-1-	6.7	
	<u> </u>			<u> </u>	Sotopm	4

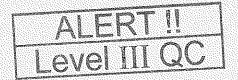


Turbidity/pH Check

				rbidity/pH C	HEGK	,	
	Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
	999361	Sludge	_	01/01/12	MIM	TTLC	<u> </u>
	999303-2	July		10/1-1/-2	1	1	
	999319/1-2		· · · · · · · · · · · · · · · · · · ·	1-9-1		1	
	9993666-45	41	72	16/12	ES	NO	1416 Z TAX A
	999 347 (-16,22)	1	,	19912	<u> 52</u>	700	yu 27:50p
	999379 (1-3)						ļ
	999436	71	1	01/03/12	N.M	Yes	+ +
	999402		1-7	10110715		79	
	999440			 			
	999450[1-4]	 		1//			·
	CO 0 1.69 T/3	71	< 2	1 1 1 1 1 1 1 1 1 1 1 1		1/en	
	999513 11-14			0//0/18	MM	Yes	44-
livan	999 513 11-14 1999 569 11-4 1999 569 11-4	27	1 × 2	01/13/12	и.и	1-25	
12 (-7,4-1)	0.00 ~66 6			 			
MAM.	949 578 11-6)		 	+ + +			
		<u> </u>	 	+ $-$	—————	 	-
	9995 79 1-7,9-1) <u> </u>		02/0/0	4	W	
1 1.0	999511	 	7261	01/3/2	u,u	yes_	yes_
113 1 /2 =	999249 (1-2)	e1	22	12/22/11	M·M	y-e s	
μ. ν-							
	999248 (1-3)		<u> </u>	 			-
	999250 11-101		V 4.	4		W	
	999604 (-6)	21	2-2	01/16/12	M.M	yes v	
	999 60511-4641		<u> </u>		<u> </u>		
	999576	71	72	01/16/2	N.M	yes	
	999577	ļ <i>I</i> ,			·		-
	999593	<u> </u>		_ L	<i>U</i>	<u> </u>	
	99562311-21	</td <td><u> </u></td> <td>01/17/12</td> <td>MM</td> <td>Des</td> <td></td>	<u> </u>	01/17/12	MM	Des	
	999624 (1-8)	<u> </u>	<u> `\</u>	Jk-,		1	
	998620[1-8]	Plan65	-	01/17/12	ин	yes	TFLC
	999635	7/	<u> </u>	01/18/12	un		
	999649	< /	72				- Yes
	1999650 11-101		< 2	V	<i>V</i>	<i>V</i>	
	999651 (489)	1 1/	<u> </u>	V	<i>U</i>	yes	-
	1996 + 4/1-3/	c'/	<2	01/19/12	M.M	Ve-	
	999 692	71	£2	01/19/12		yes	
	999699					L	
	999700						
	999701						_
	49549(1-3)	ZI	12	11919	W	No	(y) 1/19/1204
	999(139(7-2)	<u> </u>	<u> </u>			1	
	999708 999708 999709	I)					
	999708						
	949709						
	444 7 10						
	999711						
	999712 (3,69	12/	∇			V	a. V.
	999712 (3,69	121	32	,1/19/12	PY-	M	(A) 1 19 12 (50)
	C19968 (11,10)			1, "		1.	ALIN W
	The Colon		4	V	V		1



TRUESDAIL LABORATORIES, INC.



Sample Integrity & Analysis Discrepancy Form

Cli	ent: EZ	Lab # <u>99969</u>
Dat	te Delivered: <u>/</u> / <u>/ /</u> / / 1¶. Time: <u>2/:30</u> By: □Mail 👏	Field Service
1.	Was a Chain of Custody received and signed?	¼(Yes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ÆN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No ÆN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No □ANA
5.	Were all requested analyses understood and acceptable?	∕⊈Yes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)% <u>9 ° C</u>	Ø(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 ÆN/A
9.	Does the number of samples received agree with COC?	∕ÓlYes □No □N/A
10.	Did sample labels correspond with the client ID's?	ÆYes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	□Yes ØNo □N/A
12.	Were samples pH checked? pH = $\frac{See}{COC}$	⊠Yes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	⊠Yes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): ப RUSH ் ப் Std	ØYes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground Water □Solid □Wipe □Paint □Solid ፴M	
6.	Comments:	
7		Mes





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

April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-345 PROJECT, GROUNDWATER MONITORING, TLI No.: 999810

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-345 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 24, 2012, 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

Michael Ngo

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

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

Project No.: 424973.01.DM

Laboratory No.: 999810

Date: February 2, 2012 Collected: January 24, 2012

Received: January 24, 2012

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	Maksim Gorbunov / George Wahba

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 424973.01.DM P.O. No.: 424973.01.DM

Established 1931

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

Date Received: January 24, 2012

Laboratory No.: 999810

Analytical Results Summary

Lab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Linite	ā
999810-001	SC-700B-WDR-345 E120.1	E120,1	NONE	1/24/2012	11:15	EC	7220	umhos/cm	2.00
999810-001	SC-700B-WDR-345	E200.8	NONE-digested	1/24/2012	11:15	Chromium	QN	na/L) C
999810-001	SC-700B-WDR-345	E200.8	NONE-digested	1/24/2012	11:15	Manganese	19.3	 	10
999810-001	SC-700B-WDR-345	E218.6	LABFĽT	1/24/2012	11:15	Chromium, hexavalent	S	in [/	5 -
999810-001	SC-700B-WDR-345	SM2130B	NONE	1/24/2012	11:15	Turbidity	S	i I	0 100
999810-001	SC-700B-WDR-345	SM2540C	NONE	1/24/2012	11:15	Total Dissolved Solids	4290	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

Result above or equal to 0.01ppm will have three (3) significant figures. Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

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Page 1 of 9

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Printed 2/2/2012

Laboratory No. 999810

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Field ID

SC-700B-WDR-345

Samples Received on 1/24/2012 9:30:00 PM

Lab ID Collected Matrix

00-700D-14DIX-040				999810-001	01/24	4/2012 11:1	5 Wat	ter
Specific Conductivity - I Parameter	EPA 120.1	Unit		ch 01EC12G nalyzed	DF	MDL	1 /25 /201 RL	2 Result
999810-001 Specific Conduc	tivity	umhos	/cm 01/2	25/2012	1.00	0.0950	2.00	
Method Blank					1.00	0.0930	2.00	7220
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND					
Parameter							Lab ID =	999649-001
Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result 7110	Expected 7110	F	RPD 0.00	0 - 10	nce Range 999810-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7220	Expected 7220	F	RPD 0.00		nce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 703	Expected 706	F	Recovery 99.6	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 705	Expected 706	R	lecovery 99.8	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 750.	Expected 706	R	ecovery 106.	Acceptar 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 944	Expected 998		ecovery 94.6	Acceptar 90 - 110	ice Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Page 3 of 9 Printed 2/2/2012

Chrome VI by EPA 218.6 Batch 01CrH12P Parameter Unit Analyzed DF MDL RL Result 999810-001 Chromium, Hexavalent ug/L 01/27/2012 07:52 5.25 0.136 1.0 ND Method Blank Parameter Unit DF Result Chromium, Hexavalent ug/L 1.00 ND Duplicate Lab ID = 999809-001 Parameter Unit DF Result Expected RPD Acceptance Range Chromium, Hexavalent ug/L 1.00 1.86 1.85 0.302 0 - 20Low Level Calibration Verification Parameter Unit DF Result Expected Recovery Acceptance Range Chromium, Hexavalent 1.00 ug/L 0.192 0.200 96.1 70 - 130 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 4.88 5.00 97.6 90 - 110Matrix Spike Lab ID = 999809-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 6.74 6.85(5.00) 97.9 90 - 110 Matrix Spike Lab ID = 999809-002 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 7.64 7.84(5.00) 96.0 90 - 110 Matrix Spike Lab ID = 999809-003Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.00 17.0 17.4(10.0) 95.4 90 - 110 Matrix Spike Lab ID = 999810-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 5.25 5.14 5.41(5.25) 94.8 90 - 110 Matrix Spike Lab ID = 999810-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium, Hexavalent ug/L 1.06 1.13 1.14(1.06) 98.9 90 - 110 Matrix Spike Lab ID = 999811-001Parameter Unit DF Result Expected/Added Acceptance Range Recovery Chromium, Hexavalent ug/L 25.0 447. 458(250.) 95.8 90 - 110

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

011



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Page 5 of 9 Printed 2/2/2012

Parameter		Unit	Ana	lyzed [)F	MDL	RL	Result
999810-001 Chromium		ug/L	01/28	3/2012 19:57 5	.00	0.110	1.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Duplicate							Lab ID =	999810-001
Parameter	Unit	DF	Result	Expected	RP	D	Accepta	ance Range
Chromium	ug/L	5.00	ND	0.00	0		0 - 20	
Low Level Calibration V	erification/							
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ance Range
Chromium	ug/L	1.00	0.257	0.200	1	29.	70 - 130)
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Ře	covery	Accepta	ance Range
Chromium	ug/L	5.00	102.	100.	1	02.	85 - 115	_
Matrix Spike							Lab ID =	999810-001
Parameter	Unit	DF	Result	Expected/Adde	d Re	covery	Accepta	nce Range
Chromium	ug/L	5.00	102.	100.(100.)	1	02.	75 - 125	_
Matrix Spike Duplicate							Lab ID =	999810-001
Parameter	Unit	DF	Result	Expected/Added	d Re	covery	Accepta	ince Range
Chromium	ug/L	5.00	108.	100.(100.)	1	08.	75 - 125	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ince Range
Chromium	ug/L	1.00	10.2	10.0	1	02.	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	nce Range
Chromium	ug/L	1.00	9.63	10.0	9	6.3	90 - 110	_
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Red	covery	Accepta	nce Range
Chromium	ug/L	1.00	9.64	10.0	9	6.4	90 - 110	_
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Red	covery	Accepta	nce Range
Chromium	ug/L	1.00	9.77	10.0		7.7	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.

013



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Page 7 of 9 Printed 2/2/2012

Metals by EPA 200.8, Total

Batch 013012A

inotato by Et 71 Ecoto, 1	otas		Duton	010012:1		4 4	
Parameter		Unit	Ana	lyzed D	F MDL	RL	Result
999810-001 Manganese		ug/L	01/30)/2012 16:21 5.	00 0.285	1.0	19.3
Method Blank							
Parameter Manganese Duplicate	Unit ug/L	DF 1.00	Result ND			1 ab 10 -	000840 004
·		D.E.	_ "				999810-001
Parameter Manganese Low Level Calibration	Unit ug/L	DF 5.00	Result 20.3	Expected 19.3	RPD 5.15	Accepta 0 - 20	ince Range
Parameter			D 11	-	5		_
Manganese Lab Control Sample	Unit ug/L	DF 1.00	Result 0.161	Expected 0.200	Recovery 80.6	70 - 130	ince Range)
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Manganese Matrix Spike	ug/L	5.00	93.4	100.	93.4	85 - 115	
Parameter Manganese MRCCS - Secondar	Unit ug/L y	DF 5.00	Result 116.	Expected/Added	Recovery 96.5	Accepta 75 - 125	ince Range
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.74	Expected 10.0	Recovery 97.4	Accepta 90 - 110	ance Range)
Parameter Manganese	Unit ug/L	DF 1.00	Result 9.42	Expected 10.0	Recovery 94.2	Accepta 90 - 110	ance Range)
Interference Check							
Parameter Manganese Interference Check	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0.00	Recovery	Accepta	ince Range
		DE	D		_		_
Parameter Manganese Interference Check	Unit ug/L Standard AB	DF 1.00	Resuit ND	Expected 0.00	Recovery	Accepta	ince Range
Parameter	Unit	DE	Dogult	Exmanded	Danasan	A 4	
Manganese	ug/L	DF 1.00	Result 9.45	Expected 10.0	Recovery 94.5	80 - 120	ince 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.

015



Parameter

Turbidity

Report Continued

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 8 of 9 Project Number: 424973.01.DM Printed 2/2/2012 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance Range Manganese ug/L 1.00 9.66 10.0 96.6 80 - 120 Total Dissolved Solids by SM 2540 C Batch 01TDS12H 1/27/2012 Parameter Unit Analyzed DF MDL RL Result 999810-001 Total Dissolved Solids mg/L 01/27/2012 250. 1.00 0.400 4290 Method Blank Parameter Unit DF Result **Total Dissolved Solids** mg/L 1.00 ND Duplicate Lab ID = 999810-001 Parameter Result Unit DF Expected **RPD** Acceptance Range **Total Dissolved Solids** mg/L 1.00 4110 4290 4.28 0 - 5Lab Control Sample Parameter DF Unit Result Expected Recovery Acceptance Range **Total Dissolved Solids** mg/L 1.00 495 500. 99.0 90 - 110 Turbidity by SM 2130 B Batch 01TUC12Q 1/25/2012 Parameter Unit Analyzed DF MDL RLResult 999810-001 Turbidity NTU 01/25/2012 1,00 0.0140 0.100 ND Method Blank Parameter Unit DF Result Turbidity NTU 1.00 ND **Duplicate** Lab ID = 999810-001 Parameter Unit DF Result Expected **RPD** Acceptance Range **Turbidity** NTU 1.00 ND 0.00 0 0 - 20 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range **Turbidity** NTU 1.00 8.13 8.00 102. 90 - 110 Lab Control Sample Duplicate

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.

Result

8.03

Expected

8.00

Recovery

100.

DF

1.00

Unit

NTU

016

Acceptance Range

90 - 110



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

Page 9 of 9

Project Number: 424973.01.DM

Printed 2/2/2012

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 01TDS12H Date Calculated: 1/31/12

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	72.4669	72.4672	72.4670	0.0002	No	0.0001	1.0	25.0	ND	1
999511	10	50.9455	50.9872	50.9870	0.0002	No	0.0415	4150.0	250.0	4150.0	1
999809-1	50	68.1665	68.2402	68.2401	0.0001	No	. 0.0736	1472.0	50.0	1472.0	1
999809-2	50	70.8978	70.9699	70.9697	0.0002	No	0.0719	1438.0	50.0	1438.0	1
999809-3	50	74.9434	74.9793	74.979	0.0003	No	0.0356	712.0	50.0	712.0	1
999810	10	50.7019	50.7451	50.7448	0.0003	No	0.0429	4290.0	250.0	4290.0	1
999872	50	68.5708	68.6894	68.6893	0.0001	No	0.1185	2370.0	50.0	2370.0	1
999695-1	50	49.2619	49.3745	49.3743	0.0002	No	0.1124	2248.0	50.0	2248.0	1
999695-2	50	51.2521	51.3749	51.3748	0, 0 001	No	0.1227	2454.0	50.0	2454.0	1
999810D	10	48.1434	48.1849	48.1845	0.0004	No	0.0411	4110.0	250.0	4110.0	1
LCS	100	69.7455	69.7954	69.795	0.0004	No	0.0495	495.0	25.0	495.0	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)

Reviewer Printed Name

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 01TDS12H Date Calculated: 1/31/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
999511	7130	0.58	4634.5	0.00
999809-1	2290	0.64		0.90
999809-2	2230		1488.5	0.99
999809-3	1300	0.64	1449.5	0.99
999810		0.55	845	0.84
	7220	0.59	4693	0.91
999872	3050	0.78	1982.5	1.20
999695-1	3740	0,60	2431	0.92
999695-2	3980	0.62	2587	0.95
999810D LCS	7220	0.57	4693	0.88



M

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

PHONE

ADDRESS

P.O. NUMBER

SAMPLERS (SIGNATURE

SC-700B-WDR-345

SAMPLE I.D.

PROJECT NAME

舀

COMPANY

CHAIN OF CUSTODY RECORD

COC Number

TURNAROUND TIME

-rankiin Avenue, 14stin, CA 92/80-7008 0-6239 FAX: (714) 730-6462	1 dstin, CA 92 4) 730-6462	280-7-08			THERS	į	1882010m4 (8700 2451		6	8			ıT	RNAR	URNAROUND TIME	TIME		10 0	Days	
uesdail.com	•				2		-won-				P		à	DATE 0	01/24/12	2	PA PA	PAGE 1	년 년	
E2						_			-	_	<u> </u>					<u> </u>	L			
PG&E Topock							\ \ \				_							ខ	COMMENTS	_ق
(530) 229-3303		FAX (530	FAX (530) 339-3303	~~~			<u></u>										_			
155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 4612					UW	(100									AINERS	C			
		-			Par	ć	7/6		_			_	_	-		ŒΝ				
424973.01.DM		TEAM	-	- 7	PHI C	1/20	(,	(08)	_					_		00				
URE MICH				Pe7 (9'812	Metals (20	WE Condu	DO PS ZWS	ZWS) AUL							0 838	do dige				
	DATE	TIME	DESCRIPTION	טפיל	[E]O]	Spec	3 / /	Maria							MUM					
345	01/24/12	5111	Water	×	×	×	×						ļ		m		Ha	H-6(2007)	25	12.6
												1								1

Tor Sabo Conditions See Form Affached

TOTAL NUMBER OF CONTAINERS

 ω



	CHAIN OF CUSTODY SIGNATURE	SNATURE RECORD		SAMPLE CONDITIONS	
Signature (Relinquished)	Printed John WELLS	C Agency (MM)	Date! 1-24-19.	RECEIVED COOL TO WARM D 4.9°C	000
Signature (Received)	M.V. (Warme Anton	Company/ Agency T . L . T	Date/ 1- 2ペー 1プ Time / C'. 20	CUSTODY SEALED YES [] NO []	
Signature (1)	Printed Y V	Company/	Catal i - 1		
(Relinquished)	1 /20 Notes As Las	Agency / L		SPECIAL REQUIREMENTS:	
Signature /	Printed C. "	Company/	Date of the		
(Received) Andla	Name Suabundug	Agency /L/	Time //2/1/12 21:30		
Signature	Printed	Company/	Date/		
(Relinquished)	Name	Agency	Time		
Signature	Printed	Company/	Date/		***************************************
(Received)	Name	Agency	Time		

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

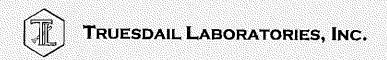
Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
19/12	999707-1	٦	5 ML	9.5	5150 pm	G-V
7	∫ -2		į.	7	6:00 pm	1
1/25/2	9998=9-1	9.5	NA	NA	NIA	(Fur
	-2	\				1
	-3					
4	1 -4	<u> </u>	4	•	V	1
1/25/2	999810		5ML	9.5	9:30 Am	GU/
1/25/12	999811-1	9-5	MIA	N/A	NA	Gu
	1 -2	7	<u>, i</u>		1	
1/27/12	999 852-1	9,5	NIA	NIA	NA	
<u> </u>	1 -2	7	<u> </u>	<u> </u>		K
1/2/12	999 853-1	9.5	N/A	MA	MA	(ful
	1 -2					
	-3					
₩	V -4	<u> </u>	V		7	V
1/27/12	999360-1		SML	9.5	1 pm	
	999312-1				Isla pm	
	1 -3	4	4	-	1:15 pm	√
12712	999851-1	9.5	A, V	_W(A	WIA	G-
	-2					
	-3					
	-5					
	6		· · · · · · · · · · · · · · · · · · ·			
	<u></u>					
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¥	√ ~lo	Ψ	<u> </u>	<u></u> _	<u> </u>	
1/27/12/	799854-1	9.5	N/A	A/A	_ N/A	Jen
	-2 -3	1	<u> </u>			
· •	17(15)	<u> </u>	<u> </u>	ν	4	*

M MAIN

C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

Turbidity/pH Check

			i biaity/pri 0			Adjusted to
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	pH<2 (Y/N)
999675(1-14)	Solid	-	01/20/19	M.M	10g	STLC
9997 3911-41			0/123/12	M.M	yes	TTLC
999 1 33/1-2/	>6	<2	01/23/12	R.M	Ves	
999+34						
99473511-41				V	<u> </u>	-
99915711-21	71	< 2	0/124/12	HM	yes.	
999 809 [1-4]	41	12	01/25/12	ne	423	
99981011		ア 2				1/25
959811 11-21		62			W	4-7-
199801 (-3-4)	21	<u> </u>	1/27/12	LK	No	VES @ ILEM
999 835 (1-3)	<u> </u>					
999836(-10-12						
999859	1 🔱	<u> </u>	1	<u> </u>	1	<u> </u>
C - 600 /-D	[-2]	75	1/27/12	#K-	YES	<u></u>
999851 1-101	185 JU	42	<u> </u>	<u> </u>		
	sample 1	< 2	0/127/12	M.M.	yes.	
999852 112)		<u> </u>			<u> </u>	-
999853 11,3,41	<u> </u>					
999854 11-5, 2-10	<u> </u>			ļ		-
999855 18,9,10,	<u> </u>					-
299856 (1-6)	<u> </u>	<u> </u>	<u> </u>		ļ	
999 85 1/1-3)		 	1-1	¥	 	
999 8581357.81		<u> </u>	<u> </u>	- V	<u> </u>	
999850(1-51	Soil		01/30/12	un	yes	STLC (Prec 1/20/
999893 (1-6)		<u> </u>		<u> </u>		
99989411-3,5-7	<u> </u>	 	- 	 	++-	
999895111.46		 	1-17	 	$+l_{\prime}-$	
999896 (1-10)	V V	- V	1/2/ =	<u> </u>	100	-
99 9906 (1,24	1 21	72_	1/3/12	H.M		
999912 11-6	12/	1 < 2	1/31/12	P(. / V .	Yes	<u> </u>
999913 1/6,8	<u> </u>			-		-
999914 11-8)	<u> </u>	1./	 	1	 	
999913-11-8)	$+V_{-}$	<u> </u>	1/31/12	u.M	1 1/26	TTLC
999920	Solid	-			yes yes	1170
999943/1-9		- 42	02/0///2	MH	1 72	
999 94411,3-	} 			+		
999945 (1-9)				\		
000G LT 1 C	<u> </u>			 		
999948	+ ,	V	- 	1		Yes @ 190
777748	+ -	<u> </u>	- 	V	<u> </u>	7 7 7 7
				-		
		<u> </u>				



Sample Integrity & Analysis Discrepancy Form

ield Service □Client □(Yes □No □N/A □Yes □No □(N/A) □Yes □No □(N/A)
□Yes □No ÞAN/A
□Yes □No ¤(N/A
□Yes □No ☑N/A
ŽÕYes □No □N/A
ضYes □No □N/A
প্রYes ⊡No □N/A
□Yes □No ∞QN/A
⊯Yes □No □N/A
⊉Yes □No □N/A
□Yes □No ÆN/A
opdYes □No □N/A
≪ZYes □No □N/A
ÆlYes □No □N/A
Vater Waste Water Other Waste



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

April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-346 PROJECT, GROUNDWATER MONITORING, TLI No.: 999948

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-346 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 31, 2012, 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

Michael Ngo

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

Laboratory No.: 999948

Date: February 15, 2012 Collected: January 31, 2012 Received: January 31, 2012

ANALYST LIST

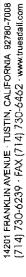
METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Katia Kiarashpoor
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov / George Wahba

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

Oakland, CA 94612

Attention: Shawn Duffy

Established 1931



Date Received: January 31, 2012

Laboratory No.: 999948

Project Name: PG&E Topock Project Project No.: 424973.01.DM

P.O. No.: 424973.01.DM

Analytical Results Summary

RL	00	0.	0.	0.	0.100	50
Œ	2	Ψ-	Ω	Æ	Ö	2
Units	umhos/cm	ug/L	ng/L	ug/L	NTO	mg/L
Result	7190	Q	16.7	Q	Q	4240
Parameter	EC	Chromium	Manganese	Chromium, hexavalent	Turbidity	Total Dissolved Solids
Sample Time	14:00	14:00	14:00	14:00	14:00	14:00
Sample Date	1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012	1/31/2012
Extraction Method	NONE	NONE-digested	NONE-digested	LABFLT	NONE	NONE
Analysis Method	E120.1	E200.8	E200.8	E218.6	SM2130B	SM2540C
) Field ID	SC-700B-WDR-346 E120.1	SC-700B-WDR-346	SC-700B-WDR-346	SC-700B-WDR-346	SC-700B-WDR-346	SC-700B-WDR-346
Lab Sample ID Field ID	999948-001	999948-001	999948-001	999948-001	999948-001	999948-001

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

Results below 0.01ppm will have two (2) significant figures. Result above or equal to 0.01ppm will have three (3) significant figures. Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

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Page 1 of 8

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Printed 2/15/2012

Laboratory No. 999948

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 1/31/2012 9:30:00 PM

Field ID Lab ID Collected Matrix 01/31/2012 14:00 SC-700B-WDR-346 999948-001 Water Batch 02EC12A 2/1/2012 Specific Conductivity - EPA 120.1 Parameter Unit Analyzed DF MDL. RL Result 1.00 0.0950 2,00 7190 999948-001 Specific Conductivity umhos/cm 02/01/2012 Method Blank Unit DF Result Parameter Specific Conductivity umhos 1.00 ND Duplicate Lab ID = 999948-001 RPD Parameter Unit DF Result Expected Acceptance Range 7190 0.00 0 - 10Specific Conductivity 7190 umhos 1.00 Lab Control Sample Expected Recovery Acceptance Range Parameter Unit DF Result 706 99.7 90 - 110 Specific Conductivity umhos 1.00 704 Lab Control Sample Duplicate DF Expected Recovery Acceptance Range Parameter Unit Result 90 - 110 702 99.4 1.00 706 Specific Conductivity umhos MRCCS - Secondary Unit DF Result Expected Recovery Acceptance Range Parameter 721 706 102. 90 - 110 Specific Conductivity umhos 1.00 MRCVS - Primary DF Recovery Acceptance Range Unit Result Expected Parameter | umhos 1.00 969 997 97.2 90 - 110Specific Conductivity



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

Page 2 of 8

Project Number: 424973.01.DM

Printed 2/15/2012

Chrome VI by EPA 218.6

Batch 02CrH12A

Cincina it by Elift Eloio								
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
999948-001 Chromium, Hexa	valent	ug/L	02/01	/2012 11:30	5.25	0.136	1.0	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	999857-002
Parameter Chromium, Hexavalent Low Level Calibration	Unit ug/L Verification	DF 1.00	Result 3.76	Expected 3.71		RPD 1.33	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.00	Result 0.239	Expected 0.200		Recovery 119.	Accepta 70 - 130	ance Range)
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.93	Expected 5.00		Recovery 98.5	90 - 110	ance Range) 999857-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 8.50	Expected/Add 8.71(5.00)	ed	Recovery 95.9	90 - 110	ance Range) 999893-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.54	Expected/Add 6.62(5.00)	ed	Recovery 98.4	90 - 110	ance Range) 999893-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 0,955	Expected/Add 1.00(1.00)	ed	Recovery 95.5	90 - 110	ance Range) 999893-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.62	Expected/Add 1.68(1.00)	ed	Recovery 93.7	90 - 110	ance Range) 999893-005
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.64	Expected/Add 1.69(1.00)	ed	Recovery 94.9	90 - 110	ance Range) 999893-007
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 0.982	Expected/Add 1.00(1.00)	ed	Recovery 98.2	Accepta 90 - 110	ance Range)



Client: E2 Consulting Eng	ineers, Inc.		oject Name: oject Number:	PG&E Topock Pro 424973.01.DM	ject	Page 3 of 8 Printed 2/15/2012
Matrix Spike						Lab ID = 999896-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 9.18	Expected/Added 9.54(5.00)	Recovery 92.7	Acceptance Range 90 - 110 Lab ID = 999896-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 7.70	Expected/Added 7.97(5.00)	Recovery 94.6	Acceptance Range 90 - 110 Lab ID = 999896-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 9.08	Expected/Added 9.42(5.00)	Recovery 93.3	Acceptance Range 90 - 110 Lab ID = 999896-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 7.77	Expected/Added 7.82(5.00)	Recovery 99.0	Acceptance Range 90 - 110 Lab ID = 999896-006
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 7.79	Expected/Added 7.86(5.00)	Recovery 98.6	Acceptance Range 90 - 110 Lab ID = 999896-007
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 8.39	Expected/Added 8.45(5.00)	Recovery 98.8	Acceptance Range 90 - 110 Lab ID = 999896-008
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 8.42	Expected/Added 8.42(5.00)	Recovery 99.9	Acceptance Range 90 - 110 Lab ID = 999896-010
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 8.63	Expected/Added 8.47(5.00)	Recovery 103.	Acceptance Range 90 - 110 Lab ID = 999948-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.42	Expected/Added 5.60(5.25)	Recovery 96.5	Acceptance Range 90 - 110 Lab ID = 999948-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.16	Expected/Added 1.15(1.06)	Recovery 101.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1,00	Result 4.90	Expected 5.00	Recovery 98.1	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102.	Acceptance Range 95 - 105



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 8

Project Number: 424973.01.DM

Printed 2/15/2012

Metals by EPA 200.8, To	

Ratch	0206120	1

inclais by Li A 200.0, Total				V-00 1-0						
Parameter	arameter		ameter		Unit Analyzed		OF	MDL	RL	Result
999948-001 Chromium		ug/L	02/07	/2012 16:17 5	5.00 0.110		1.0	ND		
Manganese		ug/L	02/07	//2012 16:17 5	.00	0 0.285 5.0		16.7		
Method Blank				***************************************						
Parameter	Unit	DF	Result							
Chromium	ug/L	1.00	ND							
Manganese	ug/L	1.00	ND							
Low Level Calibration V	erification									
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ance Range		
Chromium	ug/L	1.00	0.226	0.200	1	13.	70 - 130	כ		
Manganese	ug/L	1.00	0.904	1.00	9	0.4	70 - 130	כ		
Lab Control Sample										
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ance Rang		
Chromium	ug/L	5.00	96.2	100.	g	6.2	85 - 11	5		
Manganese	ug/L	5.00	91.4	100.	9	1.4	85 - 11	5		
Matrix Spike							Lab ID =	999948-00		
Parameter	Unit	DF	Result	Expected/Adde	d Re	covery	Accepta	ance Rang		
Chromium	ug/L	5.00	99,7	100.(100.)	ç	9.7	75 - 12	5		
Manganese	ug/L	5.00	115.	117.(100.)	S	98.1	75 - 12	5		
Matrix Spike Duplicate							Lab ID =	999948-00		
Parameter	Unit	DF	Result	Expected/Adde	d Re	covery	Accepta	ance Rang		
Chromium	ug/L	5.00	99.7	100.(100.)	9	9.7	75 - 12	5		
Manganese	ug/L	5.00	114.	117.(100.)	9	97.1	75 - 12	5		
MRCCS - Secondary										
Parameter	Unit	DF	Result	Expected	Re	covery	Accepta	ance Rang		
Chromium	ug/L	1.00	10.6	10.0	1	106.	90 - 11	0		
Manganese	ug/L	1.00	10.2	10.0	1	102.	90 - 11	0		
MRCVS - Primary										
Parameter	Unit	DF	Result	Expected	Re	covery	Accept	ance Rang		
Chromium	ug/L	1.00	9.77	10.0		97.7	90 - 11	0		
MRCVS - Primary										
Parameter	Unit	DF	Result	Expected	Re	сочегу	Accept	ance Rang		
Chromium	ug/L	1.00	9.98	10.0		99.8	90 - 11	0		



Client: E2 Consulting Eng	gineers, Inc.		roject Name: roject Number	PG&E Topoc : 424973.01.D	_	ect	Pa Printed 2/	age 7 of 8 15/2012
Interference Check St	andard A							
Parameter Manganese Interference Check St	Unit ug/L andard A	DF 1.00	Result ND	Expected 0.00		Recovery	Acceptar	nce Range
Parameter Manganese Interference Check St	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0.00		Recovery	Accepta	nce Range
Parameter Chromium Interference Check St	Unit ug/L andard AB	DF 1.00	Result 10.3	Expected 10.0		Recovery 103	Acceptai 80 - 120	nce Range
Parameter Chromium Interference Check St	Unit ug/L andard AB	DF 1.00	Result 9.95	Expected 10.0		Recovery 99.5	Accepta 80 - 120	nce Range
Parameter Manganese Interference Check St	Unit ug/L andard AB	DF 1.00	Result 11.1	Expected 10.0		Recovery 111	Accepta 80 - 120	nce Range
Parameter Manganese	Unit ug/L	DF 1.00	Result 10.8	Expected 10.0		Recovery 108.	Accepta 80 - 120	nce Range
Total Dissolved Solids b	y SM 2540	C ·	Batch	02TDS12B			2/2/2012	
Parameter	•	Unit	Anal	yzed	DF	MDL	RL	Result
999948-001 Total Dissolved	Solids	mg/L	02/01	/2012	1.00	0.400	250.	4240
Method Blank								
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID =	999858-008
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 1080	Expected 1060		RPD 1.50	0 - 5	nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 489	Expected 500.		Recovery 97.8	Accepta 90 - 110	ince Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

Batch 02TUC12A 2/1/2012 Turbidity by SM 2130 B Analyzed DF MDL RL Result Unit Parameter ND NTU 02/01/2012 1.00 0.0140 0.100 999948-001 Turbidity Method Blank DF Result Parameter Unit NTU ND 1.00 Turbidity Lab ID = 999948-001 Duplicate **RPD** Unit DF Result Expected Acceptance Range Parameter 0 - 20 0.00 0 NTU 1.00 ND Turbidity Lab Control Sample Acceptance Range Expected Recovery Unit DF Result Parameter 90 - 110 NTU 1.00 8.42 8.00 105. Turbidity Lab Control Sample Duplicate Acceptance Range Result Expected Recovery Parameter Unit DF 90 - 110 8.00 104. 8.30 **Turbidity** NTU 1.00

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 02TDS12B

Date Calculated: 2/6/12

- 1	aboratory Number	Sample volume, ml	lnitial 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	65,7040	65.7045	65.7044	0.0001	No	0.0004	4.0	25.0	ND	1
5	99858-1	100	67.2171	67,2670	67.2670	0,0000	No	0.0499	499.0	25.0	499.0	11
9	99858-2	100	73.6035	73.6531	73.6527	0.0004	No	0.0492	492.0	25.0	492.0	11
5	99858-3	100	74,1777	74.2254	74.2252	0.0002	No	0.0475	475.0	25.0	475.0	1
5	999858-4	100	67.7787	67.8349	67.8345	0.0004	No	0.0558	558.0	25.0	558.0	1
- 9	99858-5	100	112.9702	113.0293	113.0289	0.0004	No	0.0587	587.0	25.0	587.0	1
ç	99858-6	50	50.1276	50,182	50.1818	0.0002	No	0.0542	1084.0	50.0	1084.0	1
Ę	99858-7	50	47.6166	47.6718	47.6717	0.0001	No	0.0551	1102.0	50.0	1102.0	1
5	99858-8	50	49.6949	49.7485	49,7481	0.0004	No	0.0532	1064.0	50.0	1064.0	1
	999607	100	69.4853	69,5036	69.5036	0.0000	No	0.0183	183.0	25.0	183.0	11
- [99839-1	95	74.8698	74.8698	74.8698	0.0000	No	0.0000	0.0	26.3	ND	11
99	99858-8D	50	49.2922	49.3460	49.3460	0.0000	No	0.0538	1076.0	50.0	1076.0	1
	LCS	100	112.8997	112.9489	112.9486	0.0003	No	0.0489	489.0	25.0	489.0	1
9	99839-2	180	108.5818	108,5852	108.5852	0.0000	No	0.0034	18.9	13.9	18.9	1
g	99894-1	50	67.2059	67.2396	67,2394	0.0002	No	0.0335	670.0	50.0	670.0	1
9	99894-2	50	76.5508	76.586	76.586	0.0000	No	0.0352	704.0	50.0	704.0	1
9	99894-3	100	69.2152	69.2533	69.2533	0.0000	No	0.0381	381.0	25.0	381.0	1
9	99894-5	50	67,7913	67.8449	67.8449	0,0000	No	0.0536	1072.0	50.0	1072.0	1
g	99894-6	50	66.8106	66.8671	66.8669	0.0002	No	0.0563	1126.0	50.0	1126.0	1
Ş	99895-3	50	69.3491	69.3948	69.3948	0.0000	No	0.0457	914.0	50.0	914.0	1
8	99895-4	50	78.3855	78.4908	78.4907	0.0001	No	0.1052	2104.0	50.0	2104.0	1
5	99895-6	50	71.0912	71.1404	71.14	0.0004	No	0.0488	976.0	50.0	976.0	1
	999948	10	49.8853	49.9279	49.9277	0,0002	No	0.0424	4240.0	250.0	4240.0	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)

Analyst/Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

* Not enough spi

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS12B Date Calculated: 2/6/12

Laboratory Number	EC	TDS/EC Ratio; 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
999858-1	827	0.60	537.55	0.93
999858-2	811	0.61	527.15	0.93
999858-3	749	0.63	486.85	0.98
999858-4	909	0.61	590.85	0.94
999858-5	927	0.63	602.55	0.97
999858-6	1579	0.69	1026.35	1.06
999858-7	1600	0.69	1040	1.06
999858-8	1595	0.67	1036.75	1.03
999607	334	0.55	217.1	0.84
999839-1	36.8	ND	23,92	ND
999858-8D	1595	0.67	1036.75	1.04
LCS		1		The second secon
999839-2	106,1	0.18	68.965	0.27
999894-1	1140	0.59	741	0.90
999894-2	1140	0.62	741	0.95
999894-3	624	0,61	405.6	0.94
999894-5	1616	0.66	1050.4	1.02
999894-6	1648	0.68	1071.2	1.05
999895-3	1472	0.62	956.8	0.96
999895-4	3000	0.70	1950	1.08
999895-6	1500	0.65	975	1.00
999948	7190	0.59	4673.5	0.91



Rec'd 1/31/12

s 999948

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-346]

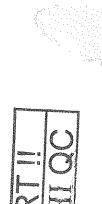
PAGE 1 TURNAROUND TIME DATE 01/31/12

10 Days

유

COC Number

COMPANY	E2						_		/		/	_			_	_	_					
PROJECT NAME	PG&E Topock					_								 					8	COMMENTS	r o	
PHONE	(530) 229-3303		FAX (530) 339-3303	339-3303			Market Ma							 				_				
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 1612	1 1			Pé	I'W 'I	(1501)									PAINERS					
P.O. NUMBER	424973.01.DM		TEAM	-	D FILLER	O (7.00)	O (Z'00	(S)		OEI		\				303	VO.2					
SAMPLERS (SIGNATURE	ATURE MACA				(98)	c) s _{jejaj}	COUQU	DotGZW.	10) (ZWS) K			_	 		ERO						
SAMPLE I.D.		DATE	TIME	DESCRIPTION	CVQ (S)	NIBOT	DE CIE	S) _{SC}), bichiuT							anu ^N	_					
SC-700B-WDR-346	₹.346	01/31/12	aom	Water	×	×	×		×										: 7.7	3	260	
															~	W	TOTAL	NUMB	TOTAL NUMBER OF CONTAINERS	NTAINE	RS	·



Se Por Services Servi

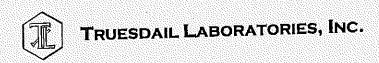
	CHAIN OF CUSTODY SIGNATU	GNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed // HEWS	Company! (1777) Agency (1777)	Date/ /-3(-/2)-	RECEIVED COOL IN WARM IN 1/2 4 6
Signature (Received)	Au, Same	Company / / T		CUSTODY SEALED YES
(Relinquished) Kala	GUNGE Kaked	Agency / / T	Time 2/2/	SPECIAL REQUIREMENTS;
Signature (Received) Might	Printed Printed Name Name Name Name Name Name Name Name	Company! 72 D. Agency	Date/ 1/31/1/1 4/30	
Signature Cm i	Printed	Company/	Date/	
(Kelinquished)	Name	Agency	lme	
Signature	Printed	Company/	Date/	
(Received)	Name	Agency	Tìme	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Γ	Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
	1/31/12		95	N/A	NA	VIA	MG
.		-9					-
		`-(<i>3</i>					
		-11	1			·	·
		-12					1 .
		713	,				
	<u> </u>	√ ~l ⁱ l'	1	4	V	\checkmark	A
	1/3//1	498914-1	95	. N/A	N/A	N/A	N/A
	, , ,	-2	9	1		1 .	
L		-3					
<u> </u>		4				·	
L		-5					
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_		-1					
L		, -8					
-		*√ =9					
-		999915-1	<u> </u>			· I	·
-		-2					
-		-3 -4					
\vdash		-5					
-							_/_
-		-6					-f
		-8					1
H	>	V-9	4	→	4	4	4
!	2/1/12	aggy R	7.0	SML	9.5	9:00	MG
		999948	95	N/A	N//8-	N/A	BA ME
		1 -2	Î	<u> </u>		1	
		-3					
	·	-4					
	+	-5	A	V		A .	Ψ.

Turbidity/pH Check

			J. arcyr p.r.			Adjusted to
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	pH<2 (Y/N)
999675(1-H)	Solid		01/20/19	M.M	Vo s	STLC
9997 3911-41		***************************************	0/123/12	M.M	yes	TTLC
999 13311-21	>6	~ 2	01/23/12	N.L	Ves	
999434		7	/			
99973511-41		1/	V	V	U	
99975711-21	71	< 2	0/124/12	HR	1.0S.	-
499 809 (1-4)	41	42	01/25/12	uge	y23	1 -
999810111		ア 2	/			1/es
999811 11-21	1 1	62		-V		
199801(-3-4)	21	≥ 2	1/27/12	LY-	No	Ves @ 11 am
999835(1-3)			l i			
999836(-10-12)					
999859	1 🔱	<u> </u>		<u> </u>	<u> </u>	<u> </u>
999860	[-2]	75	1/27/12	KK.	YES	
999847 (2bst)	les Ju	£2	4	<u> </u>		
999851 /1-10/	surpress 1	< 2	0/127/12	M.M.	Yes	•••
999852 1121	<u> </u>			ļ		
99985311,3,4/						
999854 11-5,5-10	<u> </u>	<u> </u>				
999855-18,9,10	<u> </u>			-		-
999856 (1-6)			<u> </u>	<i></i>	<u> </u>	
999 851/1-3)	1	1 1 1	 	¥:	ļ¥	
9998581357.81		<u> </u>	- U,	<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	<u> </u>	
19985011-5-1	Soil		01/30/12	un	yes	STLC (PARE MOD)
999893 (1-6)	4/	22		·		<u> </u>
99989411-35-7	<u> </u>		 	 	<u> </u>	
99989511-768	1 1		1, 1,	 	 	
999896 (1-10)	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1/2 (12	<i>y</i>	100	-
99 9906 (1,24	<u> </u>	72	1/3/1/12	W.M	,	
999912 11-6	12/	< 2	1/31/12	A (.)	Yes	
999913 1/6,81	y		-	ļ		
969014-11-01	1 1		+	 	 	
999913-11-8)	W Casel	V	1/31/12	M.M.	Yes	TTLC
	Solid			1	yes	
99994311-9		122	02/0///2	u,u	7 7	_
999945 (1-9)	/			 		
999946 11-91	,		- - -			
99994711-51		 				
999948	+ ,//	>2	+	1/		Yes @ 19.00
9999661-111	</td <td><u>-2</u></td> <td>02/02/12</td> <td>H. U</td> <td>yes</td> <td></td>	<u>-2</u>	02/02/12	H. U	yes	
99996 F11-16	1 -	1-7-	1 3/04/12	1	 	-
00001 -11701	<u> </u>					-
999965 11-81	4	1 1				-
19999961-71	=1	122	09/03/12	MM	yes.	
9999911111	1 7	1	-	1		
999995 1-9						
999998 11-81						,
99999 11-3,16	11/	1 1/				Stepet
	1 4	V			——————————————————————————————————————	. .



Sample Integrity & Analysis Discrepancy Form

Client	: <u>El</u>	999948 Lab#
Date I	Delivered: <u>0</u> 131/12 Time:2 <u>1:30</u> By: □Mail 10F	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 ÞÁN⁄A
2. 3.	Are there any special requirements or notes on the COC?	□Yes □No ANA
3. 4.	If a letter was sent with the COC, does it match the COC?	□Yes □No 坪N/A
5.	Were all requested analyses understood and acceptable?	∠aYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 4.4°C	⊠Yes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	ZÍYes □No □N/A
8.	Were sample custody seals intact?	□Yes □No ☑N/A
9.	Does the number of samples received agree with COC?	∰Yes □No □N/A
10.	Did sample labels correspond with the client ID's?	JYes □No □N/A
11.	Did sample labels indicate proper preservation?	□Yes □No ŒNA
12.	Were samples pH checked? pH = Sec C. C. C.	⊠Yes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Ø(Yes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH △ Std	∠Yes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid C	d Water □ Waste Water
16.	Comments:	1 C1 Di
17.	Comments:	2. Suapun

Analytical Bench Log Book

WDR pH Results

Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Resu
5C-700B	1-3-12	1330	1-3-12	1333	METER#1	1-3-12	1:00	-55.9	Thow PHELPS	7.0
ıs:		-							11	
5C-100B	1-3-12	1330	1-3-12	1335	METER#1	1-3-12	1:00	-55.9	KON PARELPS	7,1
!\$. .									11 11	
56-701	1-3-12	1330	1-3-12	1337	METER#1	1-3-12	1:00	-55.9	KON THELPS	7.5
·s:										
5T-700B	1-10-12	14:37	1-10-12	1442	"UETEL#)	1-10-12	01:∞	- 5 6.9	P. Kuft	7.2
.6			,							
5C-700B	1-17-12	11:00	1-17-12	11:05	METER#1	1-12-13	1:00	-56.2	MON THUR	700
9S:							·			
SC-100B	1-24-12	1/15	1-24-12	11-18-82	Melep#1	1-24-12	240	-56.1	MONTHELPS	2.2
98:									11	
5C-100B	1-31-12	1400	1-31-12	1405	METER#1	1-31-12	1:00	-560	how I HELDS	7.1

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

Established 1931



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

March 5, 2012

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-347 PROJECT, GROUNDWATER

MONITORING,

TLI No.: 900056

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-347 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 7, 2012, 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.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

Michael Ngo

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: Two (2) Groundwaters
Project Name: PG&E Topock Project
Project No.: 424973.01.DM

Laboratory No.: 900056

Date: March 5, 2012

Collected: February 7, 2012

Received: February 7, 2012

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Sa v ani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Kim Luck
SM 4500-Si D	Soluble Silica	Jenny Tankunakorn
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	Maria Mangarova
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 / Bita Emami
EPA 218.6	Hexavalent Chromium	George Wahba / Maksim Gorbunov

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Date Received: February 7, 2012

Laboratory No.: 900056

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

Attention: Shawn Duffy

Project Name: PG&E Topock Project Project No.: 424973.01.DM

P.O. No.: 424973.01.DM

Analytical Results Summary

Clolomes de l	ָ בַּ	Analysis	Extraction	Sample Date	Sample	Doromotor	this of	die I	۵
Lab Sample ID		Wellon	IMECINO	Sample Date	11116	raiameter	บครอนเ	OTHES	N.L.
900056-001	SC-700B-WDR-347	E120.1	NONE	2/7/2012	12:45	EC	0269	umhos/cm	2.00
900056-001	SC-700B-WDR-347	E200.7	NONE-digested	2/7/2012	12:45	Aluminum	QN	ng/L	50.0
900056-001	SC-700B-WDR-347	E200.7	NONE-digested	2/7/2012	12:45	BORON	1080	ng/L	200
900056-001	SC-700B-WDR-347	E200.7	NONE-digested	2/7/2012	12:45	Iron	Q	ng/L	20.0
900056-001	SC-700B-WDR-347	E200.7	NONE-digested	2/7/2012	12:45	Nickel	2	ng/L	10.0
900056-001	SC-700B-WDR-347	E200.7	NONE-digested	2/7/2012	12:45	Zinc	<u>Q</u>	ng/L	10.0
900056-001	SC-700B-WDR-347	E200.8	NONE-digested	2/7/2012	12:45	Antimony	<u>Q</u>	ng/L	10.0
900056-001	SC-700B-WDR-347	E200.8	NONE-digested	2/7/2012	12:45	Arsenic	Q.	ng/L	1.0
900056-001	SC-700B-WDR-347	E200.8	NONE-digested	2/7/2012	12:45	Barium	18.6	ng/L	10.0
900056-001	SC-700B-WDR-347	E200.8		2/7/2012	12:45	Chromium	Q	ng/L	2.0
900056-001	SC-700B-WDR-347	E200.8	NONE-digested	2/7/2012	12:45	Copper	Q.	ng/L	5.0
900056-001	SC-700B-WDR-347	E200.8	NONE-digested	2/7/2012	12:45	Lead	Q	ng/L	10.0
900056-001	SC-700B-WDR-347	E200.8	NONE-digested	2/7/2012	12:45	Manganese	18.1	ng/L	1.0
900056-001	SC-700B-WDR-347	E200.8	NONE-digested	2/7/2012	12:45	Molybdenum	16.7	ng/L	10.0
900056-001	SC-700B-WDR-347	E218.6	LABFLT	2/7/2012	12:45	Chromium, hexavafent	Q	ng/L	1.0
900056-001	SC-700B-WDR-347	E300	NONE	2/7/2012	12:45	Fluoride	0.773	mg/L	0.500
900056-001	SC-700B-WDR-347	E300	NONE	2/7/2012	12:45	Nitrate as N	2.73	mg/L	1.00
900056-001	SC-700B-WDR-347	E300	NONE	2/7/2012	12:45	Sulfate	262	mg/L	25.0
900056-001	SC-700B-WDR-347	SM2130B	NONE	2/7/2012	12:45	Turbidity	Q	NTO	0.100
900056-001	SC-700B-WDR-347	SM2540C	NONE	2/7/2012	12:45	Total Dissolved Solids	4100	mg/L	250
900056-001	SC-700B-WDR-347	SM4500NH3D	NONE	2/7/2012	12:45	Ammonia-N	Q	mg/L	0.500
900056-001	SC-700B-WDR-347	SM4500NO2B	NONE	2/7/2012	12:45	Nitrite as N	2	mg/L	0.0050



Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
900056-002	SC-100B-WDR-347	E120.1	NONE	2/7/2012	12:30	EC	7870	nmhos/cm	2.00
900056-002	SC-100B-WDR-347	E200.7	NONE-digested	2/7/2012	12:30	Aluminum	9	ng/L	50.0
900056-002	SC-100B-WDR-347	E200.7	NONE-digested	2/7/2012	12:30	BORON	1080	ng/L	200
900056-002	SC-100B-WDR-347	E200.7	NONE-digested	2/7/2012	12:30	Iron	Q	ng/L	20.0
900056-002	SC-100B-WDR-347	E200.7	LABFLT-digested	2/7/2012	12:30	Iron	Q Q	ng/L	20.0
900056-002	SC-100B-WDR-347	E200.7	NONE-digested	2/7/2012	12:30	Nickel	Q	ng/L	10.0
900056-002	SC-100B-WDR-347	E200.7	NONE-digested	2/7/2012	12:30	Zinc	Q.	ng/L	10.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Antimony	Q N	ng/L	10.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Arsenic	3.4	ng/L	1.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Barium	26.8	ng/L	10.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Chromium	842	ng/L	1.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Copper	QN ON	ng/L	5.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Lead	Q.	ng/L	10.0
900056-002	SC-100B-WDR-347	E200.8	LABFLT-digested	2/7/2012	12:30	Manganese	6.8	ng/L	5.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Manganese	6.6	ng/L	1.0
900056-002	SC-100B-WDR-347	E200.8	NONE-digested	2/7/2012	12:30	Molybdenum	20.0	ng/L	10.0
900056-002	SC-100B-WDR-347	E218.6	LABFLT	2/7/2012	12:30	Chromium, hexavalent	831	ng/L	10.5
900056-002	SC-100B-WDR-347	E300	NONE	2/7/2012	12:30	Fluoride	0.964	mg/L	0.500
900056-002	SC-100B-WDR-347	E300	NONE	2/7/2012	12:30	Nitrate as N	3.20	mg/L	1.00
900056-002	SC-100B-WDR-347	E300	NONE	2/7/2012	12:30	Sulfate	635	mg/L	25.0
900056-002	SC-100B-WDR-347	SM2130B	NONE	2/7/2012	12:30	Turbidity	<u>Q</u>	∩LN	0.100
900056-002	SC-100B-WDR-347	SM2320B	NONE	2/7/2012	12:30	Alkalinity	140	mg/L	5.00
900056-002	SC-100B-WDR-347	SM2320B	NONE	2/7/2012	12:30	Bicarbonate	140	mg/L	5.00
900056-002	SC-100B-WDR-347	SM2320B	NONE	2/7/2012	12:30	Carbonate	Q N	mg/L	5.00
900056-002	SC-100B-WDR-347	SM2540C	NONE	2/7/2012	12:30	Total Dissolved Solids	4700	mg/L	250
900056-002	SC-100B-WDR-347	SM4500NH3D	NONE	2/7/2012	12:30	Ammonia-N	S	mg/L	0.500
900056-002	SC-100B-WDR-347	SM4500NO2B	NONE	2/7/2012	12:30	Nitrite as N	S	mg/L	0.0050
900056-002	SC-100B-WDR-347	SM4500-PB_E	NONE	2/7/2012	12:30	Total Phosphorous-P	S	mg/L	0.0200
900056-002	SC-100B-WDR-347	SM4500SI	NONE	2/7/2012	12:30	Soluble Silica	21.4	mg/L	1.00
900056-002	SC-100B-WDR-347	SM5310C	NONE	2/7/2012	12:30	Total Organic Carbon	0.495	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.

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Printed 3/5/2012

Laboratory No. 900056

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 2/7/2012 9:30:00 PM

Field ID				Lab ID	Со	llected	Matr	ix
SC-700B-WDR-347						7/2012 12:45	Wate	
SC-100B-WDR-347				900056-002	02/07	//2012 12:30	Wate	er
Anions By I.C EPA 300) .0		Batcl	h 02AN12J	141	Line (1984) (1984)	Na sag	t. e.
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
900056-001 Fluoride	,	mg/L	02/0	9/2012 18:05	5.00	0.155	0.500	0.773
Sulfate		mg/L	02/0	9/2012 18:28	50.0	5.70	25.0	597.
900056-002 Fluoride		mg/L	02/0	9/2012 18:16	5.00	0.155	0.500	0.964
Sulfate		mg/L	02/0	9/2012 18:39	50.0	5.70	25.0	635.
Method Blank								
Parameter	Unit	DF	Result					
Fluoride	mg/L	1.00	ND					
Sulfate	mg/L	1.00	ND					
Duplicate							Lab ID = 9	900069-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Sulfate	mg/L	1.00	55.7	56.1		0.787	0 - 20	_
Duplicate							Lab ID = !	900077-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Fluoride	mg/L	1.00	0.579	0.544		6.23	0 - 20	J
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Fluoride	mg/L	1.00	4.05	4.00		101.	90 - 110	_
Sulfate	mg/L	1.00	20.1	20.0		101.	90 - 110	
Matrix Spike							Lab ID = 9	900069-001
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accepta	nce Range
Sulfate	mg/L	1.00	112.	106.(50.0)		112.	85 - 115	_



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

Anions By I.C EPA 300.0		Batch 02AN12I
Parameter	Unit	Analyzed

Anions By I.C EPA 300	0.0		Batch	02AN12I		Walter J.			
Parameter	Martine exe	Unit	Ana	lyzed	DF	MDL	RL	Result	
900056-001 Nitrate as Nitrog	jen	mg/L	02/08/2012 12:16		5.00	0.135	1.00	2.73	
900056-002 Nitrate as Nitrog	jen	mg/L	02/08	/2012 12:28	5.00	0.135	1.00	3.20	
Method Blank									
Parameter Nitrate as Nitrogen	Unit mg/L	DF 1.00	Result ND						
Duplicate							Lab ID =	900041-016	
Parameter Nitrate as Nitrogen Lab Control Sample	Unit mg/L	DF 5.00	Result 8.89	Expected 9.01	ا	RPD 1.37	Accepta 0 - 20	ance Range	
Parameter Nitrate as Nitrogen Matrix Spike	Unit mg/L	DF 1.00	Result 3.91	Expected 4.00		Recovery 97.7	90 - 11	ance Range 0 900041-016	
Parameter Nitrate as Nitrogen MRCCS - Secondary	Unit mg/L	DF 5.00	Result 29.9	Expected/Ad 29.0(20.0)	ded	Recovery 104.	Accepta 85 - 11	ance Range 5	
Parameter Nitrate as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.94	Expected 4.00		Recovery 98.4	Accept: 90 - 11	ance Range 0	
Parameter Nitrate as Nitrogen	Unit mg/L	DF 1.00	Result 3.02	Expected 3.00		Recovery 101.	Accept 90 - 11	ance Range 0	



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

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Nitrite SM 4500-NO2 B			Batch	02NO212D				
Parameter		Unit	Analy	/zed [OF	MDL	RL	Result
900056-001 Nitrite as Nitrogen		mg/L	02/09/	2012 11:25 1	.00	0.000360	0.0050	ND
900056-002 Nitrite as Nitrogen		mg/L	02/09/	2012 11:26 1	.00	0.000360	0,0050	ND
Method Blank								
Parameter	Unit	DF	Result					
Nitrite as Nitrogen	mg/L	1.00	ND					
Duplicate							Lab ID = 9	00056-001
Parameter	Unit	DF	Result	Expected	R	PD	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	ecovery	Acceptai	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0399	0.0400		99.8	90 - 110	
Matrix Spike							Lab ID = 9	900056-001
Parameter	Unit	DF	Result	Expected/Adde	ed R	ecovery	Accepta	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0191	0.0200(0.0200)	95.5	85 - 115	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	tecovery	Accepta	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0197	0.0200		98.5	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	Recovery	•	nce Range
Nitrite as Nitrogen	mg/L	1.00	0.0199	0.0200		99.5	90 - 110	



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Alkalinity by SM 2320B			Batch	02ALK12C				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
900056-002 Alkalinity as Ca	aCO3	mg/L	02/10)/2012	1.00	1.68	5.00	140.
Bicarbonate (C	alculated)	mg/L	02/10)/2012	1.00	1.68	5.00	140.
Carbonate (Ca	lculated)	mg/L	02/10)/2012	1.00	1.68	5.00	ND
Method Blank							- 13 - 14 - 12 - 14 - 14 - 14 - 14 - 14 - 14	
Parameter Alkalinity as CaCO3	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID =	900066-001
Parameter Alkalinity as CaCO3 Lab Control Sample	Unit mg/L	DF 1.00	Result 140.	Expected 140.	i	RPD 0.00	Accepta 0 - 20	nce Range
Parameter Alkalinity as CaCO3 Lab Control Sample	Unit mg/L Duplicate	DF 1.00	Result 96.0	Expected 100.	I	Recovery 96.0	Accepta 90 - 110	nce Range
Parameter Alkalinity as CaCO3 Matrix Spike	Unit mg/L	DF 1.00	Result 99.0	Expected 100.	I	Recovery 99.0	90 - 110	nce Range 900016-003
Parameter Alkalinity as CaCO3	Unit mg/L	DF 1.00	Result 303	Expected/Add 289(100.)	led l	Recovery 114	Accepta 75 - 125	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: 424973.01.DM

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Specific Conductivity - E	PA 120.1		Batch	02EC12C	eau e tita		raiga j	
Parameter	Pales de de AMA (A la liberta di	Unit	Ana	lyzed	DF	MDL	RL	Result
900056-001 Specific Conduct	ivity	umhos/cr	n 02/09	02/09/2012		0.0950	2.00	6970
900056-002 Specific Conduct	ívity	umhos/cr	n 02/09	9/2012	1.00	0.0950	2.00	7870
Method Blank								
Parameter	Unit	DF	Result					
Specific Conductivity	umhos	1.00	ND					
Duplicate							Lab ID =	900055-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ance Range
Specific Conductivity	umhos	1.00	4830	4840		0.207	0 - 10	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Specific Conductivity	umhos	1.00	690.	706		97.7	90 - 11	0
Lab Control Sample D	uplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Specific Conductivity	umhos	1.00	695	706		98.4	90 - 11	0
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accept	ance Range
Specific Conductivity	umhos	1.00	673	706		95.3	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	ſ	Recovery	•	ance Range
Specific Conductivity	umhos	1.00	935	997		93.8	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	i	Recovery	•	ance Range
Specific Conductivity	umhos	1.00	940.	997		94.3	90 - 11	0



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Chrome VI by EPA 218. Parameter	6	Unit	Batch 02CrH12V it Analyzed		DF MDL	DI Doubt
		******				RL Result
900056-001 Chromium, Hex		ug/L			5.25 0.136 52.5 1.36	1.0 ND
900056-002 Chromium, Hex	avalent	ug/L	02122	2/2012 15:59	52.5 1.36	10.5 831.
Method Blank						
Parameter	Unit	DF	Result			
Chromium, Hexavalent Duplicate	ug/L	1.00	ND			Lab ID = 900079-001
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.673	0.676	0.400	0 - 20
Low Level Calibration	-	1				
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	0.216	0.200	108.	70 - 130
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.0	90 - 110
Matrix Spike						Lab ID = 800023-015
Parameter	Unit	DF	Result	Expected/Add	led Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	6.66	6.52(5.00)	103.	90 - 110
Matrix Spike						Lab ID = 800023-016
Parameter	Unit	DF	Result	Expected/Add	led Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	18.0	18.5(10.0)	95.0	90 - 110
Matrix Spike						Lab ID = 800023-017
Parameter	Unit	DF	Result	Expected/Add	led Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	6.46	6.33(5.00)	103.	90 - 110
Matrix Spike						Lab ID = 800092-001
Parameter	Unit	DF	Result	Expected/Add	ded Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.22(1.06)	94.4	90 - 110
Matrix Spike						Lab ID = 800092-001
Parameter	Unit	DF	Result	Expected/Add	ded Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.50	5.45(5.25)	101.	90 - 110
Matrix Spike						Lab ID = 900056-001
Parameter	Unit	DF	Result	Expected/Add	ded Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.19(1.06)	101.	90 - 110

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



Client: E2 Consulting Engi	neers, Inc.		ject Name: ject Number:	PG&E Topock Proj 424973.01.DM	ect	Page 8 of 33 Printed 3/5/2012
Matrix Spike						Lab ID = 900056-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.66	Expected/Added 5.38(5.25)	Recovery 105.	Acceptance Range 90 - 110 Lab ID = 900056-002
Parameter Chromium, Hexavalent Matrix Spìke	Unit ug/L	DF 52.5	Result 1830	Expected/Added 1880(1050)	Recovery 95.5	Acceptance Range 90 - 110 Lab ID = 900079-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.66	Expected/Added 1.68(1.00)	Recovery 98.4	Acceptance Range 90 - 110 Lab ID = 900079-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.33	Expected/Added 1.32(1.00)	Recovery 101.	Acceptance Range 90 - 110 Lab ID = 900079-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.37	Expected/Added 1.35(1.00)	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 900079-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.91	Expected/Added 1.92(1.00)	Recovery 99.6	Acceptance Range 90 - 110 Lab ID = 900079-005
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.87	Expected/Added 1.90(1.00)	Recovery 96.5	Acceptance Range 90 - 110 Lab ID = 900079-006
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.09	Expected/Added 6.04(5.00)	Recovery 101.	Acceptance Range 90 - 110 Lab ID = 999947-004
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.00	Result 1.16	Expected/Added 1.15(1.00)	Recovery 101.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.90	Expected 5.00	Recovery 98.0	Acceptance Range 90 - 110
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	Unit ug/L	DF 1.00	Result 10.0	Expected 10.0	Recovery 100.	Acceptance Range 95 - 105

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Metals by EPA 200.7, To Parameter		Unit	Δna	lyzed	DF	MDL	RL	Result
						·		*****
900056-001 Aluminum		ug/L 		/2012 11:52	1,00	2.83	50.0	ND
Boron		ug/L		/2012 11:52	1.00	1.50	200.	1080
Iron		ug/L		/2012 11:52	1.00	1.34	20.0	ND
Nickel		ug/L		/2012 11:52	1.00	2.56	10.0	ND
Zinc		ug/L	02/27	/2012 11:52	1.00	3.89	10.0	ND
900056-002 Aluminum		ug/L	02/27	/2012 11:58	1.00	2.83	50.0	ND
Boron		ug/L	02/27	/2012 13:52	5.00	7.50	200.	1080
Iron		ug/L	02/27	/2012 11:58	1.00	1.34	20.0	ND
Nickel		ug/L	02/27	/2012 11:58	1.00	2.56	10.0	ND
Zinc		ug/L	02/27	/2012 11:58	1.00	3.89	10.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Aluminum	ug/L	1.00	ND					
Iron	ug/L	1.00	ND					
Nickel	ug/L	1.00	ND					
Zinc	ug/L	1.00	ND					
Boron	ug/L	1.00	ND					
Duplicate							Lab ID	= 900056-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accep	tance Range
Aluminum	ug/L	1.00	ND	0.00		0	0 - 20	
Iron	ug/L	1.00	ND	0.00		0	0 - 20	
Nickel	ug/L	1.00	ND	0.00		0	0 - 20	
Zinc	ug/L	1.00	ND	0.00		0	0 - 20	
Boron	ug/L	5.00	1080	1080		0.462	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accep	tance Range
Aluminum	ug/L	1.00	105.	100.		105.	85 - 1 ⁻	15
Iron	ug/L	1.00	106.	100.		106.	85 - 1	15
Nickel	ug/L	1.00	92.2	100.		92.2	85 - 1	15
Zinc	ug/L	1.00	100.	100.		100.	85 - 1	15
Boron	ug/L	1.00	104.	100.		104.	85 - 1	15

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Matrix Spike						Lab ID = 900056-002
Parameter Aluminum	Unit ug/L	DF 1.00	Result 76.6	Expected/Added 100.(100.)	Recovery 76.6	Acceptance Range 75 - 125
Iron	ug/L	1.00	102.	100.(100.)	102.	75 - 125
Nickel	ug/L	1.00	93.2	100.(100.)	93.2	75 - 125
Zinc	ug/L	1.00	115.	100.(100.)	115.	75 - 125
Boron	ug/L	5.00	1530	1580(500.)	89.2	75 - 125
MRCCS - Secondary	_					
Parameter Aluminum	Unit ug/L	DF 1.00	Result 5130	Expected 5000	Recovery 103.	Acceptance Range 90 - 110
Iron	ug/L	1.00	5220	5000	104.	90 - 110
Nickel	ug/L	1.00	5030	5000	100.	90 - 110
Zinc	ug/L	1.00	5110	5000	102.	90 - 110
Boron	ug/L	1.00	5190	5000	104.	90 - 110
MRCVS - Primary						
Parameter Aluminum	Unit ug/L	DF 1.00	Result 4760	Expected 5000	Recovery 95.1	Acceptance Range 90 - 110
MRCVS - Primary	J.					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	4990	5000	99.7	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	5310	5000	106.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
iron	ug/L	1.00	5260	5000	105.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5160	5000	103.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5390	5000	108.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	5460	5000	109.	90 - 110

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Metals by	EPA 200.8, To	otal		Batch	021512B				
Parameter			Unit	Anal	yzed	DF	MDL	RL	Result
900056-001	Antimony		ug/L	02/16/	/2012 03:35	5.00	0.120	10.0	ND
	Barium		ug/L	02/16/	/2012 03:35	5.00	0.200	10.0	18.6
	Copper		ug/L	02/16	/2012 03:35	5.00	0.125	5.0	ND
	Lead		ug/L	02/16	/2012 03:35	5.00	0.110	10.0	ND
	Manganese		ug/L	02/16	/2012 03:35	5.00	0.285	1.0	18.1
	Molybdenum		ug/L	02/16	/2012 03:35	5.00	0.270	10.0	16.7
900056-002	Antimony		ug/L	02/16	/2012 02:37	5.00	0.120	10.0	ND
	Barium		ug/L	02/16	/2012 02:37	5.00	0.200	10.0	26.8
	Copper		ug/L	02/16	/2012 02:37	5.00	0.125	5.0	ND
	Lead		ug/L	02/16	/2012 02:37	5.00	0.110	10.0	ND
	Manganese		ug/L	02/16	/2012 02:37	5.00	0.285	1.0	6.6
	Molybdenum		ug/L	02/16	/2012 02:37	5.00	0.270	10.0	20.0
Meth	nod Blank								
Parameter	-	Unit	DF	Result					
Barium		ug/L	1.00	ND					
Antimony		ug/L	1.00	ND					
Copper		ug/L	1.00	ND					
Lead		ug/L	1.00	ND					
Manganes	e	ug/L	1.00	ND					
Molybdeni	Jm	ug/L	1.00	ND					
Dupl	licate							Lab ID =	900056-002
Parameter	Г	Unit	DF	Result	Expected	F	RPD	Accepta	ance Range
Barium		ug/L	5.00	27.4	26.8		2.07	0 - 20	
Antimony		ug/L	5.00	ND	0.00		0	0 ~ 20	
Copper		ug/L	5.00	ND	0.00		0	0 - 20	
Lead		ug/L	5.00	ND	0.00		0	0 - 20	
Manganes	se	ug/L	5.00	6.90	6.62		4.16	0 - 20	
Molybdeni	um	ug/L	5.00	20.2	20.0		0.896	0 - 20	

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		Pro	oject Mumber	7. 424973.01.DIVI		Printed 3/3/2012
Low Level Calibration V	erification					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	0.979	1.00	97.9	70 - 130
Antimony	ug/L	1.00	1.01	1.00	101.	70 - 130
Copper	ug/L	1.00	0.948	1.00	94.8	70 - 130
Lead	ug/L	1.00	0.966	1.00	96.6	70 - 130
Manganese	ug/L	1.00	0.161	0,200	80.7	70 - 130
Molybdenum	ug/L	1.00	0.998	1.00	99.8	70 - 130
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	5.00	99.5	100.	99.5	85 - 115
Antimony	ug/L	5.00	100.	100.	100.	85 - 115
Copper	ug/L	5.00	107.	100.	107.	85 - 115
Lead	ug/L	5.00	101	100.	101	85 - 115
Manganese	ug/L	5.00	101.	100.	101.	85 - 115
Molybdenum	ug/L	5.00	99.2	100.	99.2	85 - 115
Matrix Spike						Lab ID = 900056-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	127.	127.(100.)	100.	75 - 125
Antimony	ug/L	5.00	97.6	100.(100.)	97.6	75 - 125
Copper	ug/L	5.00	96.6	100.(100.)	96.6	75 - 125
Lead	ug/L	5.00	91.3	100.(100.)	91.3	75 - 125
Manganese	ug/L	5.00	108	107.(100.)	101.	75 - 125
Molybdenum	ug/L	5.00	121.	120.(100.)	101.	75 - 125
Matrix Spike Duplicate						Lab ID = 900056-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	125.	127.(100.)	98.1	75 - 125
Antimony	ug/L	5.00	97.1	100.(100.)	97.1	75 - 125
Copper	ug/L	5.00	96.0	100.(100.)	96.0	75 - 125
Lead	ug/L	5.00	90.6	100.(100.)	90.6	75 - 125
Manganese	ug/L	5.00	107.	107.(100.)	100.	75 - 125
Molybdenum	ug/L	5.00	121	120.(100.)	101	75 - 125



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Interference Check Sta	ndard AB					
Parameter Barium	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Interference Check Sta	ndard AB				_	–
Parameter Barium Interference Check Sta	Unit ug/L ndard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Antimony Interference Check Sta	Unit ug/L ndard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Antimony	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Copper	ug/L	1.00	9.98	10.0	99.8	80 - 120
Interference Check Sta	ndard AB					
Parameter Copper Lead Interference Check Sta	Unit ug/L ug/L	DF 1.00 1.00	Result 9.87 ND	Expected 10.0 0.00	Recovery 98.7	Acceptance Range 80 - 120
Parameter Lead Interference Check Sta	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Manganese Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result 9.69	Expected 10.0	Recovery 96.9	Acceptance Range 80 - 120
Parameter Manganese Interference Check Sta	Unit ug/L	DF 1.00	Result 9.43	Expected 10.0	Recovery 94.3	Acceptance Range 80 - 120
Parameter Molybdenum Interference Check Sta	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Molybdenum Serial Dilution	Unit ug/L	DF 1.00	Result N D	Expected 0.00	Recovery	Acceptance Range Lab ID = 900056-002
Parameter Barium	Unit ug/L	DF 25.0	Result 25.4	Expected 26.8	RPD 5.25	Acceptance Range 0 - 10

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Parameter		Unit	Ana	yzed	DF	MDL	RL	Result
900056-001 Arsenic		ug/L	02/17	/2012 21:06	5.00	0.285	1.0	ND
900056-002 Arsenic		ug/L	02/17	/2012 19:40	5.00	0.285	1.0	3.4
Method Blank								
Parameter	Unit	DF	Result					
Arsenic	ug/L	1.00	ND					
Duplicate							Lab ID =	900056-002
Parameter	Unit	DF	Result	Expected	ı	RPD	•	ance Range
Arsenic	ug/L	5.00	3.76	3.40		9.92	0 - 20	
Low Level Calibratio	n Verification	l						
Parameter	Unit	DF	Result	Expected	1	Recovery	•	ance Range
Arsenic	ug/L	1.00	0.199	0.200		99.4	70 - 13	0
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	,	Recovery	Accepta	ance Range
Arsenic	ug/L	5.00	100.	100.		100.	85 - 11	5
Matrix Spike							Lab ID =	900056-002
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accept	ance Range
Arsenic	ug/L	5.00	105	103.(100.)		102.	75 - 12	5
Matrix Spike Duplica	ate						Lab ID =	900056-002
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accept	ance Range
Arsenic	ug/L	5.00	103.	103.(100.)		99.5	75 - 12	5
MRCCS - Secondar	у							
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Arsenic	u g /L	1.00	10.2	10.0		102.	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Arsenic	ug/L	1.00	10.2	10.0		102.	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Arsenic	ug/L	1.00	10.2	10.0		102.	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Arsenic	ug/L	1.00	10.4	10.0		104.	90 - 11	0

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Metals by EPA 200.8, Total			Batch	030212A				
Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
900056-001 Chromium		ug/L	03/02	/2012 13:32	10.0	0.220	2.0	ND
900056-002 Chromium		ug/L	03/02	/2012 11:58	5.00	0.110	1.0	842.
Method Blank								
Parameter Chromium	Unit ug/L	DF 1.00	Result ND					
Duplicate	~g· =	,,,,,					Lab ID =	900056-002
Parameter Chromium	Unit ug/L	DF 10.0	Result 795.	Expected 842	i	RPD 5.72	Accepta 0 - 20	ance Range
Low Level Calibration	Verification							
Parameter Chromium	Unit ug/L	DF 1.00	Result 0.174	Expected 0.200	l	Recovery 87.1	Accepta 70 - 13	ance Range 0
Lab Control Sample								
Parameter Chromium Matrix Spike	Unit ug/L	DF 5.00	Result 101.	Expected 100.	I	Recovery 101.	85 - 11	ance Range 5 : 900056-002
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery 94.7	Accept: 75 - 12	ance Range
Chromium Matrix Spike Duplicate	ug/L	10.0	1790	1840(1000)		94.7		900056-002
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accept	ance Range
Chromium MRCCS - Secondary	ug/L	10.0	1800	1840(1000)		95.9	75 - 12	_
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.85	Expected 10.0		Recovery 98.5	Accept 90 - 11	ance Range 0
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.78	Expected 10.0		Recovery 97.8	Accept 90 - 11	ance Range 0
Parameter Chromium Interference Check St	Unit ug/L andard A	DF 1.00	Result 9.46	Expected 10.0		Recovery 94.6	Accept 90 - 11	ance Range 0
Parameter Chromium	Unit ug/L	DF 1.00	Result ND	Expected 0.00		Recovery	Accept	ance Range

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Interference Check Sta	ndard A					
Parameter Chromium Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Chromium Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result 9.74	Expected 10.0	Recovery 97.4	Acceptance Range 80 - 120
Parameter Chromium Serial Dilution	Unit ug/L	DF 1.00	Result 9.42	Expected 10.0	Recovery 94.2	Acceptance Range 80 - 120 Lab ID = 900056-002
Parameter Chromium	Unit ug/L	DF 50.0	Result 821.	Expected 842	RPD 2.50	Acceptance Range 0 - 10
Reactive Silica by SM450 Parameter	0-Si D	Unit	Batch Anal	02Si12B yzed D	F MDL	RL Result
900056-002 Silica		mg/L	02/16	/2012 25	.0 0.532	1.00 21.4
Method Blank						
Parameter Silica	Unit mg/L	DF 1.00	Result ND			
Duplicate						Lab ID = 900062-001
Parameter Silica Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.00	RPD 0	Acceptance Range 0 - 20
Parameter Silica Matrix Spike	Unit mg/L	DF 1.00	Result 0.204	Expected 0.220	Recovery 92.7	Acceptance Range 90 - 110 Lab ID = 900062-001
Parameter Silica MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.417	Expected/Added 0.400(0.400)	Recovery 104.	Acceptance Range 75 - 125
Parameter Silica MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.114	Expected 0.110	Recovery 104.	Acceptance Range 90 - 110
Parameter Silica	Unit mg/L	DF 1.00	Result 0,392	Expected 0.400	Recovery 98.0	Acceptance Range 90 - 110

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Total Dissolved Solids by SM 2540 C			Batch	02TDS12H	44.35	i James Santa		
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
900056-001 Total Dissolved Solids		mg/L	02/08	/2012	1.00	0.400	250.	4100
900056-002 Total Dissolved	Solids	mg/L	02/08	/2012	1.00	1.00 0.400 250.		4700
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	900056-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	4910	4700		4.37	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	490.	500.		98.0	90 - 11	0



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Total Organic Carbon (T/	מונב ניסטם			02TOC12D		Harayan			
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
900056-002 Total Organic Car	rbon	mg/L	02/10	/2012 19:23 1	1.00	0.0103	0.300	0.495	
Method Blank									
Parameter	Unit	DF	Result						
Total Organic Carbon	mg/L	1.00	ND						
Duplicate							Lab ID =	900015-006	
Parameter	Unit	DF	Result	Expected	Ŧ	RPD	Accepta	nce Range	
Total Organic Carbon	mg/L	1.00	1.95	1.96		0.665	0 - 20		
Lab Control Sample									
Parameter	Unit	DF	Result	Expected	I	Recovery	Accepta	nce Range	
Total Organic Carbon	mg/L	1.00	20.8	20.0		104.	90 - 110		
Matrix Spike							Lab ID =	900015-006	
Parameter	Unit	DF	Result	Expected/Add	ed l	Recovery	Accepta	nce Range	
Total Organic Carbon	mg/L	1.00	11.7	12.0(10.0)		97.8	75 - 125	j	
MRCCS - Secondary									
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range	
Total Organic Carbon	mg/L	1.00	10.4	10.0		104.	90 - 110)	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected	!	Recovery	•	ince Range	
Total Organic Carbon	mg/L	1.00	10.1	10.0		101.	90 - 110)	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ince Range	
Total Organic Carbon	mg/L	1.00	9.88	10.0		98.8	90 - 110)	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected		Recovery	•	ance Range	
Total Organic Carbon	mg/L	1.00	10.2	10.0		102.	90 - 110)	



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Total Phosphate, SM 45	00-PB,E		Batch	02TP12C				
Parameter		Unit	Anal	yzed D	F MDL	RL Result		
900056-002 Phosphate, Tota	ıl As P	mg/L	02/14/	/2012 1.	00 0.00530	0.0200 ND		
Method Blank								
Parameter Phosphate, Total As P	Unit mg/L	DF 1.00	Result ND					
Duplicate	•					Lab ID = 900056-002		
Parameter Phosphate, Total As P Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.00	RPD 0	Acceptance Range 0 - 20		
Parameter Phosphate, Total As P Matrix Spike	Unit mg/L	DF 1.00	Result 0.0943	Expected 0.100	Recovery 94.3	Acceptance Range 90 - 110 Lab ID = 900056-002		
Parameter Phosphate, Total As P MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.0693	Expected/Added 0.0650(0.0650)	d Recovery 107.	Acceptance Range 75 - 125		
Parameter Phosphate, Total As P MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0586	Expected 0.0600	Recovery 97.7	Acceptance Range 90 - 110		
Parameter Phosphate, Total As P	Unit mg/L	DF 1.00	Result 0.0625	Expected 0.0650	Recovery 96.2	Acceptance Range 90 - 110		



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

Printed 3/5/2012

Ammonia Nitrogen by SM	4500-NH	13D	Batch	02NH3-E12B	ia.	a, ajār	:41016		
Parameter	frield twist to	Unit	Ana	lyzed [)F	MDL	RL	Result	
900056-001 Ammonia as N		mg/L	02/10)/2012 1.	00	0.00120	0.500	ND	
900056-002 Ammonia as N		mg/L	02/10)/2012 1.	.00	0.00120	0.500	ND	
Method Blank									
Parameter	Unit	DF	Result						
Ammonia as N	mg/L	1.00	ND						
Duplicate							Lab ID =	900056-001	
Parameter	Unit	DF	Result	Expected	RI	PD	Accepta	nce Range	
Ammonia as N	mg/L	1.00	ND	0.00	(0	0 - 20	Ü	
Lab Control Sample									
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	nce Range	
Ammonia as N	mg/L	1.00	9.98	10.0		99.8	90 - 110	•	
Matrix Spike							Lab ID = 9	900056-001	
Parameter	Unit	DF	Result	Expected/Added	d Re	ecovery	Accepta	nce Range	
Ammonia as N	mg/L	1.00	5.95	6.00(6.00)	ļ	99.1	75 - 125	_	
Matrix Spike Duplicate							Lab ID = 9	900056-001	
Parameter	Unit	DF	Result	Expected/Added	d Re	ecovery	Accepta	nce Range	
Ammonia as N	mg/L	1.00	6.07	6.00(6.00)		101.	75 - 125	_	
MRCCS - Secondary									
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	nce Range	
Ammonia as N	mg/L	1.00	5.83	6.00	,	97.1	90 - 110	_	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected	Re	ecovery	Accepta	nce Range	
Ammonia as N	mg/L	1.00	6.47	6.00		108.	90 - 110		



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 29 of 33

Project Number: 424973.01.DM Printed 3/5/2012

Parameter		Unit	Ana	lyzed [OF MDL	RL	Result
900056-002 Manganese		ug/L	02/17/2012 23:45		.00 0.285	5.0	6.8
Method Blank					· · · · · · · · · · · · · · · · · · ·		
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab ID =	900055-001
Parameter	Unit	DF	Result	Expected	RPD	Accepta	псе Range
Chromium	ug/L	5.00	10.2	9.90	2.89	0 - 20	J
Manganese	ug/L	5.00	38.5	37.7	2.05	0 - 20	
Low Level Calibration V	erification	1					
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Chromium	ug/L	1.00	0.212	0.200	106.	70 - 130	•
Manganese	ug/L	1.00	0.978	1.00	97.8	70 - 130)
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Chromium	ug/L	5.00	104.	100.	104.	85 - 115	5
Manganese	ug/L	5.00	100.0	100.	100.0	85 - 115	5
Matrix Spike						Lab ID =	900055-001
Parameter	Unit	DF	Result	Expected/Adde	d Recovery	Accepta	nce Range
Chromium	ug/L	5.00	115.	110.(100.)	105.	75 - 125	5
Manganese	ug/L	5.00	140.	138.(100.)	103.	75 - 125	5
Matrix Spike Duplicate						Lab ID =	900055-001
Parameter	Unit	DF	Result	Expected/Adde	d Recovery	Accepta	ince Range
Chromium	ug/L	5.00	115.	110.(100.)	105.	75 - 125	5
Manganese	ug/L	5.00	138.	1 38.(100.)	99.9	75 - 125	5
MRCCS - Secondary							
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	9.84	10.0	98.4	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	9.72	10.0	97.2	90 - 110)

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



Client: E2 Consulting Engi	neers, inc.		oject Name: oject Number	PG&E Topock :: 424973.01.DM	-	Page 31 of 33 Printed 3/5/2012
MRCVS - Primary						
Parameter Manganese Interference Check Star	Unit ug/L	DF 1.00	Result 9.67	Expected 10.0	Recovery 96.7	Acceptance Range 90 - 110
Parameter Chromium Interference Check Star	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Chromium Interference Check Star	Unit ug/L ndard A	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Manganese Interference Check Sta	Unit ug/L ndard A	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Manganese Interference Check Stal	Unit ug/L ndard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Chromium Interference Check Star	Unit ug/L ndard AB	DF 1.00	Result 10.1	Expected 10.0	Recovery 101.	Acceptance Range 80 - 120
Parameter Chromium Interference Check Sta	Unit ug/L	DF 1.00	Result 9,73	Expected 10.0	Recovery 97.3	Acceptance Range 80 - 120
Parameter Manganese Interference Check Sta	Unit ug/L	DF 1.00	Result 9.88	Expected 10.0	Recovery 98.8	Acceptance Range 80 - 120
Parameter Manganese Serial Dilution	Unit ug/L	DF 1.00	Result 9.63	Expected 10.0	Recovery 96.3	Acceptance Range 80 - 120 Lab ID = 900055-002
Parameter Chromium	Unit ug/L	DF 125	Result 1070	Expected 1040	RPD 3.03	Acceptance Range 0 - 10

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

Printed 3/5/2012

Parameter		Unit	Ana	lyzed [OF MDL	RL	Result
900056-002 Iron		ug/L	02/27	/2012 12;52 1.	.00 1.34	20.0	ND
Method Blank							
Parameter	Unit	DF	Result				
Iron	ug/L	1.00	ND				
Duplicate						Lab ID =	900055-001
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20	
Lab Control Sample	9						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	106.	100.	106.	85 - 115	,
Matrix Spike						Lab ID =	900055-001
Parameter	Unit	DF	Result	Expected/Adde	d Recovery	Accepta	ince Range
Iron	ug/L	1.00	107.	100.(100.)	107.	75 - 125	;
MRCCS - Seconda	гу						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Iron	ug/L	1.00	5220	5000	104.	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Iron	ug/L	1.00	5260	5000	105.	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Iron	ug/L	1.00	5160	5000	103.	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Iron	ug/Ļ	1.00	5390	5000	108.	90 - 110)
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	,	ance Range
Iron	ug/L	1.00	2230	2000	112.	80 - 120)
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	,	ance Range
Iron	ug/L	1.00	2400	2000	120.	80 - 120)

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Client: E2 Consulting E		Project Name: PG&E Topock Project Project Number: 424973.01.DM				Page 33 of 33 Printed 3/5/2012		
Interference Check S	Standard AB							
Parameter Iron Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 2200	Expected 2000	Recovery Acceptance Range 110. 80 - 120			
Parameter Iron	Unit ug/L	DF 1.00	Result 2320	Expected 2000	Recovery 116.	•	Acceptance Range 80 - 120	
Turbidity by SM 2130 B			Batch	02TUC12E				
Parameter		Unit	Analyzed		DF MDL	RL	Result	
900056-001 Turbidity		NTU	02/08/2012		1.00 0.0140	0.100	ND	
900056-002 Turbidity		NTU	02/08/2012		1.00 0.0140	0.100	ND	
Method Blank								
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate						Lab ID = 9	900056-002	
Parameter Turbidity	Unit NTU	DF 1.00	Result ND	Expected 0.00	RPD 0	Acceptance Range 0 - 20		
Lab Control Sample								
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.14	Expected 8.00	Recovery 102.	Acceptance Range 90 - 110		
Lab Control Sample Duplicate								
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.22	Expected 8.00	Recovery 103.	Acceptance Range 90 - 110		

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 02TDS12H

Date Calculated: 2/16/12

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	76.5513	76.5515	76.5514	0.0001	No	0.0001	1.0	25.0	ND	1
900015-4	50	47.9650	48.0267	48.0264	0.0003	No	0.0614	1228.0	50.0	1228.0	1
900015-5	20	50,9623	51.0314	51.0313	0.0001	No	0.0690	3450.0	125.0	3450.0	1
900015-6	50	49.2606	49.2964	49.296	0.0004	No	0,0354	708.0	50.0	708.0	1
900033-1	50	68.3188	68.351	68.3506	0.0004	No	0.0318	636.0	50.0	636.0	1
900033-2	100	76.5547	76.5833	76.583	0.0003	No	0.0283	283.0	25,0	283.0	1
900033-3	100	65.7030	65.7341	65.734	0,0001	No	0.0310	310.0	25.0	310.0	1
900055-1	10	47.9054	47,9579	47.9578	0.0001	No	0.0524	5240.0	250.0	5240.0	1
900055-2	20	49.5260	49.5831	49.5828	0.0003	Nο	0,0568	2840.0	125.0	2840.0	1
900056-1	10	51.4348	51.4761	51.4758	0.0003	No I	0.0410	4100.0	250.0	4100.0	1
900056-2	10	51.0760	51.1234	51,1230	0.0004	No	0.0470	4700.0	250.0	4700.0	1
900056-2D	10	49.4725	49.5216	49.5216	0.0000	No	0.0491	4910.0	250.0	4910.0	1
* LCS	100	111.1885	111.2377	111.2375	0.0002	No	0.0490	490.0	25.0	490.0	1
900039-1	100	71.0907	71.1445	71,1444	0.0001	No	0.0537	537.0	25.0	537.0	1
900039-2	100	68.5659	68.6231	68.6227	0.0004	No	0.0568	568.0	25.0	568.0	1
900039-3	50	50.5032	50.5332	50.5328	0.0004	No	0.0296	592.0	50.0	592.0	1
900042-10	100	66.7206	66,7774	66.7774	0.0000	No	0.0568	568.0	25.0	568.0	1
900042-11	100	69.3459	69.4032	69.4031	0.0001	No	0.0572	572.0	25.0	572.0	1
900066	100	74.9427	74.9773	74.9772	0.0001	No	0.0345	345.0	25.0	345.0	1
900090	490	105.2884	105.2931	105.2928	0.0003	No	0.0044	9,0	5,1	9.0	1
900095	100	67.7914	67.8490	67.8490	0.000	No	0.0576	576.0	25.0	576.0	. 1
]					· .
								ar alar a			

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

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS12H Date Calculated: 2/16/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
·				
900015-4	1795	0.68	1166.75	1.05
900015-5	4740	0.73	3081	1.12
900015-6	1131	0.63	735.15	0.96
900033-1	1040	0.61	676	0.94
900033-2	438	0.65	284.7	0.99
900033-3	428	0.72	278.2	1.11
900055-1	8630	0.61	5609.5	0,93
900055-2	4890	0.58	3178.5	0.89
900056-1	7150	0.57 -	4647.5	0.88
900056-2	7870	0.60	5115.5	0.92
900056-2D	7870	0.62	5115.5	0.96
LCS			1	
900039-1	931	0,58	605.15	0.89
900039-2	931	0.61	605.15	0.94
900039-3	1019	0.58	662.35	0.89
900042-10	914	0.62	594.1	0.96
900042-11	920	0.62	598	0.96
900066	623	0.55	404.95	0.85
900090	16.4	0.55	10.66	0.84
900095	985	0.58	640.25	0.90





TRUESDAIL LABORATORIES, INC.

2/10/12

Date of Analysis:

Alkalinity by SM 2320B calculations

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02ALK12C Water 2/10/12

Date Calculated:

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 titrant to reach pH 0.3 unit lower	Total ml. titrant to transport to the tr	RL, ppm	Total Alkalinity Reported Value	HCO3 Conc. as CaCO, (ppm)	CO3 Alkalinity as CaCO, (ppm)	OH Alkalinity as CaCO, (ppm)	Low Alkalinity as CaCO ₃ (<20ppm)
66.9	20	0.02		0.0	0.04		8.0	5	S	QN	QN	QN	
7.00	20	0.02		0.0	9.45		189.0	ıc.	189.0	189.0	8	ND ND	
8.01	යි	0.02		0.0	3.70		74.0	5	74.0	74.0	Q	QV	
7.32	20	0.02		0.0	7 00		140.0	5	140.0	140.0	Q	QN	
8 30	20	0.02		0.0	7 00		140.0	5	140.0	07/ GN2	N	9	
8.29	25	0.02		0.0	7 00		140.0	5	140.0	140.0	9	QN	
8.50	20	0.02	2.0	40.0	15.15		303.0	5	303.0	223.0	80	2	

With the second													The state of the s
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								-					
10.30		0.02	22	44.0	4.80		96.0	r.	96.0	8.0	88	2	
10.25	20	0.02	2.2	44.0	4.95		0.66	2	0.66	11.0	88	2	

 $A \times N \times 50000$ mL sample T or P ≔

T = Total Alkalinity, mg CaCO3/L

Where:

Calculations as follows:

P = Phenolphthalein Alkalinity, mg CaCO3/L N = normality of standard acid A = mL standard acid used

Accept Limit QC Within Control?

Measured Value, pgm

Reporting Limit, RL

5 ppm

Blank Summary

Ş

 $(2 \times B - C) \times N \times 50000$ mL sample as mg/L CaCO3 Low Alkalinity:

C = Total mL titrant to reach pH 0.3 unit lower B = mL titrant to first recorded pH N = Normality of standard acid

Where:

MS/MSD = Matrix Spike/Duplicate ND = Not Detected (below the reporting limit) LCS = Laboratory Control Standard/Duplicate

Duplicate Determination Difference Summary

	QC Within	Control?	Yes	Yes
ummary	Accetance	ijij	90-110	90-110
/LCSD) Si	70	A RECOVERY	%0.98	80.68
nple (LCS	Theoretical	Value, ppm	100	100
ontrol Sa	Measured	Value, ppm	96	66
Laboratory Control Sample (LCS/LCSD) Summary	QC Std	LD.	SOT	CSD

Yes	%0Z>	%0.0	140	140	990006
Control?	Accelance Limit	חאא	шdd	Value, ppm	G.
QC Within	Areafana I lmit	000	Dup Value,	Measured	QC Std

Sample Matrix Spike (MS/MSD) Summary

		-	•		The second secon	The second secon						
Lab Number	Conc of Unspk spl	Dil Factor	Added Spk Conc	MS/MSD Amt	Measrd Conc of Spk Spl	MS/MSD Amt Measrd Conc Theor Conc of Spk MS/MSD % MS Accept QC Within Spi Rec Limit Control?	MS/MSD % Rec	MS Accept Limit	QC Within Control?	RPD	RPD Accept QC Within Limit Control?	QC Within Control?
900048.3	189	1	100	100	303	289.00	114%	7E 10E	Yes			
2000		7 -	100	100				071-07			`	
Кìп			4				Hope T,	Ļ,			3	
Analyst Printed Name Aik_2012	1 Name		Analyst	st Signature			Reviewer Print	ed Name		Review	Reviewer Signature	

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-347]

유 PAGE 1 10 Days TURNAROUND TIME DATE 2/07/12 COC Number

	TOTAL NUMBER OF CONTAINERS	22	Ø																				
	астивная да да Ангана на надаражения на на надаражения на надаражения на надаражения на надаражения на надараж	_									5	D	i to	Ğ			0	O					_
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	and the second programment of the second							Descons															
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	11,200,7	0	5		×	×	×	×	×	×	×	×	×	×	×	×	×		0811	2/07/12	WDR-347	SC-100B-WDR-347	4
	101122		7		×				×		×	×	×	×	×		×		1245	2/07/12	WDR-347	SC-700B-WDR-347	l
***************************************	awn _N	BWIN),,	BWNN SON Senios Jossia		10/0/ 0/0/	207	I letoT IoinA	Fotal Fotal	/Pic	_ ~	SQT ANT	711-	Cr(S) Alkalin EC (T	(10)		DESCRIPTION	ПМЕ	DATE		SAMPLE 1.D.	
T-777.	10:	ER O	_	0050	IIIS ƏIC		0189	05) st 05370	090)	b) ejuc	_ '°W	- 4	0250	حن عن	(52)/1/1/	(218)					ATURE	SAMPLERS (SIGNATURE	
	Vo _O		. `	,cOV	y - _E		(0	(0.0	(4-0	2005	_	_	()	<u> </u>	20-8	P) (424973.01.DM	P.O. NUMBER	
······································	NATI	•	/-	lo _{Ea}	0021		- Ολ <i>ι</i> •	777	(EH)	SV		_	_		7414				***************************************	4612	Oakland, CA 94612		
	NEH'			PV6	1(2:		S 'E			7 00		_	_		Pali					ste 1000	155 Grand Ave Ste 1000	ADDRESS	_
 	\s\		-	705'p	'W 'a		<i>p</i> 0.			S8 181								FAX 530-339-3303	FAX 530	3303	530-229-3303	PHONE	
		_	25/50	III QP	19 (\	\	_	MO	71	\			\	\		•••••			IM3	PG&E Topock IM3	PROJECT NAME	
	COMMENTS	/-	(QX	p _{aye}			_	_				_	_	_						.2	CH2M HILL /E2	COMPANY	

SAMPLE CONDITIONS	Sign RECEIVED COOL IN WARM 3: 3º °C	CUSTODY SEALED YES [] NO [7 - 7 L SPECIAL REQUIREMENTS:	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn,	r			
Q	Datel 2 -7 - 12.	Date/2-	Time 7	Date/ 0 - 1 - 5 O Times 1/4/12, 37: 30	Date/	- ine	Date/	Time
SIGNATURE RECORD	Company/ CM/	Company/ C C	Agency	Companyl TLT	Company/	Agency	Company/	Agency
CHAIN OF CUSTODY SIGNATI	Printed Compa	Printed Actor	1 Desptoe Lorlan	Allthun, Name Ling 4	Printed	Name	Printed	Name
	Signature (Relinquished)	Signature (Received)	(Relinquished)	(Received) Aude Hill	Signature	(Reimquisned)	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 Duffered	1
22/12	9/9968-1	9,5	R/A	#WA	Time Buffered	Initials
	-2		100	<i>YW</i> /\	N/A	79
	3					-
	3 -4					<u> </u>
	5	- 				
	-b					
	<u>ر</u> ری					
	-3					
	-10					
	-11					
	-12					
	999969-1					
	-2					
	-3					
	4					
	-5 -5					
1	-7					
\	7-8	1,				
1	1 4	/		\downarrow		
1/8/12	900055	٦		9.5	0,	
-/ 41.0-	900055-1	7	sal sal		8:10 Am	5
1	900056-2	-	sal	9.5	8112 WW	
	(300)6.2	<u> </u>	Sal	٩٠٦	8:20 AM	4
					<u>l</u>	

m

MUL

Turbidity/pH Check

			rbidity/pH C	.,		A -11414-
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
994950	71	C2	02/03/12	4. p.d	9e >	310 B
9999 11	Î			1		- 1
9999 18					L L	
9999 5-11/1-21				1/	yes	- 4
799911	, 41	22	02-06-12	21/BE	No	<u> </u>
999951-128	771	72	1	1	Yes	Y 2/6/12
-0	41	72				
Q2106/12			,		No	
	et,	· <2	03 7/ 10	» 6A	1102	
900015 11-4	<u> </u>	- 2	02-06-12	i.M	yes	
900016 11-51		<u> </u>		 , -		
90001711-3,5-91	<u> </u>	V		V	J/	
9000 33 (1-5)	</td <td>22</td> <td>02-07-12</td> <td>M.M</td> <td>1) eg</td> <td>•••</td>	22	02-07-12	M.M	1) eg	•••
90005511-2)	<u>~1</u>	72_	02-08-12	H.M	yes !	yes_
900056 11-21	<1	72			1	
90005711-61		>2	Jr. *	<i>J</i> /		
9000043	71	- Z	2/8/12	ES	40	20/01
900014	71	42	2/8/12	M.as	425	301011
900040	1,	J.	1/2	1/2		
000079(1-6)	21	<i>2</i> 2	2/9/12	MAL	Ver	300 A
900 075/1-21	21	<u> </u>	2/9/2	MM	yes	3010 K
900039(1-3)	21	72	2/9/12	<u> </u>	N6	ysa i'w
041 (16,23		1/4	12 1710	<u> </u>	7-0	grown
1/201		 	1			
052-1	 				<u> </u>	
068 (10-12)						
076 (1-3)	 	1	4	-		3
900147-11.51	41	<2	2/14/2	H.an	1-e-3	3010N
900/48/1-4,6-11						
13-17,19,21)		<u> </u>	<i>V</i>	<u> </u>	<u> </u>	
900180	E-1	72	2/16/12	H.M	1-65	3010A
000181/1218	21	22			·]
-4-4-5	71	<2		<i>[-</i>		
91910100 11-61	21	<2				
200000 11-41	1			1/		3/
900182 [1-6] 80000 [1-4] 80001	Z1	42	2/16/12	ES	No	140
800018 (1-4)	21			- 		i
800015	21	62				
800019	21	42				
20010	72			 		3 - (4)
900 106 (1-4)	1/4	22			<u> yo</u>	3010 A
90127	 				 	<u> </u>
900135	ļ	<u> </u>		<u> </u>		
90162		 				
900163		ļ		<u> </u>	 	
900 202				<u> </u>	<u> </u>	
900 20 Z 910 213 910 20 Y	<u> </u>			L.J	<u> </u>	A
900 204	4		<u>Ψ</u>		No	
1 700026		72	2/17/12	AT	No	2/17.9:30 91
800027115-12	141	72	211312	N.N	yes	2/17.9:30 an
800023 [15-1]	1 1	2	1	, ,		1
800025 (1-8)	† V	 	1 1		1 .1/	T 1/7



Sample Integrity & Analysis Discrepancy Form

Client:	: <i>E</i> 2	_ Lab # <u>900056</u>
		മField Service □Client
1.	Was a Chain of Custody received and signed?	Ø(Yes □No □NA
	Does Customer require an acknowledgement of the COC?	Yes □No ⊅N/A
	Are there any special requirements or notes on the COC?	□Yes □No ÞÁN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ☑NA
 5.	Were all requested analyses understood and acceptable?	
6.	Were samples received in a chilled condition? Temperature (if yes)? 3.5°C	æiYes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc.)?	ZáYes □No □N/A
8.	Were sample custody seals intact?	□Yes □No ⊠N/A
9.	Does the number of samples received agree with COC?	⊠ ^A 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	ApiYes □No □N/A
12.	Were samples pH checked? pH = $\frac{100}{100}$ C.O. e.	ραγes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	ÆYes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH ☑ Std	⊉Yes □No □N/A
15.	□ :id □ □ Drinking Water □ Gr	ound Water □Waste Water ⊠Other <u>Wader</u>
16.	Comments:	2010 4
17.	Sample Check-In completed by Truesdail Log-In/Receiv	ring: <u>d-Sleabuw'i</u>



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

February 29, 2012

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-348 PROJECT, GROUNDWATER

MONITORING, TLI NO.: 900180

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-348 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 14, 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.

Mona Nassimi

Manager, Analytical Services

Michael Ngo

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

Laboratory No.: 900180

Date: February 29, 2012 Collected: February 14, 2012

Received: February 14, 2012

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	Bita Emami
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov / George Wahba

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 424973.01.DM P.O. No.: 424973.01.DM

Established 1931

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

Laboratory No.: 900180

Date Received: February 14, 2012

Analytical Results Summary

RL	2.00 1.0 1.0 0.100 250
Units	umhos/cm ug/L ug/L ug/L NTU
Result	7460 ND 12.0 ND ND 4440
Parameter	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids
Sample Tíme	13:00 13:00 13:00 13:00 13:00
Sample Date	2/14/2012 2/14/2012 2/14/2012 2/14/2012 2/14/2012 2/14/2012
Extraction Method	NONE-digested NONE-digested NONE-digested LABFLT NONE
Analysis Method	E120.1 E200.8 E200.8 E218.6 SM2130B SM2540C
) Field ID	SC-700B-WDR-348 E120.1 SC-700B-WDR-348 E200.8 SC-700B-WDR-348 E200.8 SC-700B-WDR-348 E218.6 SC-700B-WDR-348 SM213 SC-700B-WDR-348 SM213
Lab Sample ID Field ID	900180-001 900180-001 900180-001 900180-001 900180-001

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter

Result above or equal to 0.01ppm will have three (3) significant figures. Quality Control data will always 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.

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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

Project Number: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 2/14/2012 10:00:00 PM

Page 1 of 9 Printed 2/29/2012

Laboratory No. 900180

Field ID				Lab ID	Co	ollected	Matri	×
SC-700B-WDR-348				900180-001	02/14	4/2012 13:00	Wate	er .
Specific Conductivity - E Parameter	PA 120.1	Unit		n 02EC12E alyzed	DF	MDL	RL	Result
900180-001 Specific Conducti	vity	umhos/cm	n 02/1	7/2012	1.00	0.0950	2.00	7460
Method Blank								
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID = 9	900180-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7470	Expected 7460		RPD 0.134	Acceptar 0 - 10	nce Range
Parameter Specific Conductivity Lab Control Sample Di	Unit umhos uplicate	DF 1.00	Result 705	Expected 706		Recovery 99.8	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 710.	Expected 706		Recovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 698	Expected 706		Recovery 98.9	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 940.	Expected 997		Recovery 94.3	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 945	Expected 997		Recovery 94.8	Accepta 90 - 110	nce Range

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Printed 2/29/2012

Page 3 of 9

Parameter		Unit	Anal		F MDL	RL	Result
00180-001 Chromium, Hexa	avalent	ug/L	02/15/	2012 16:50 5.	.25 0.136	1.0	ND
Method Blank							
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result ND				
Duplicate	J					Lab ID =	999969-00
Parameter	Unit	DF	Result	Expected	RPD		ance Rang
Chromium, Hexavalent	ug/L	1.00	3.12	3.10	0.826	0 - 20	
Low Level Calibration	Verification						
Parameter	Unit	DF	Result	Expected	Recovery	•	ance Rang
Chromium, Hexavalent	ug/L	1.00	0.219	0.200	109.	70 - 13	0
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	•	ance Ran
Chromium, Hexavalent Matrix Spike	ug/L	1.00	5.14	5.00	103.	90 - 11 Lab ID =	0 = 900180-0
Parameter	Unit	DF	Result	Expected/Adde	ed Recovery	Accept	ance Ran
Chromium, Hexavalent	ug/L	1.06	1.16	1.17(1.06)	98.5	90 - 11	0
Matrix Spike						Lab ID :	= 900180-0
Parameter	Unit	DF	Result	Expected/Adde	•	-	ance Ran
Chromium, Hexavalent	ug/Ļ	5.25	5.63	5.50(5.25)	102.	90 - 11	
Matrix Spike							= 999969-0
Parameter	Unit	DF	Result	Expected/Adde		-	tance Ran
Chromium, Hexavalent	ug/L	1.00	1.14	1.12(1.00)	102.	90 - 11	
Matrix Spike						Lab ID	= 999969-0
Parameter	Unit	DF	Result	Expected/Adde	•	•	tance Ran
Chromium, Hexavalent	ug/L	1.00	8.37	8.10(5.00)	105.	90 - 11	
Matrix Spike							= 999969-(
Parameter	Unit	DF	Result	Expected/Adde			tance Rar
Chromium, Hexavalent	ug/L	1.00	8.27	8.14(5.00)	102.	90 - 11	
Matrix Spike						Lab ID	= 999969-0
Parameter	Unit	DF	Result	Expected/Adde	•	•	tance Rar
Chromium, Hexavalent	ug/L	1.00	6.65	6.57(5.00)	102.	90 - 11	10



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Printed 2/29/2012

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Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
900180-001 Chromium		ug/L	02/24	/2012 15:08 5	5.00	0.110	1.0	ND
Manganese		ug/L	02/24	/2012 15:08 5	5.00	0.285	1.0	12.0
Method Blank				1000				
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	900180-001
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ance Range
Chromium	ug/L	5.00	ND	0.00		0	0 - 20	
Manganese	ug/L	5.00	12.1	12.0		0.830	0 - 20	
Low Level Calibration	Verification							
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium	ug/L	1.00	0.193	0.200		96.6	70 - 13	0
Manganese	ug/L	1.00	0.185	0.200		92.6	70 - 13	0
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium	ug/L	5.00	106.	100.		106.	85 - 11	5
Manganese	ug/L	5.00	102.	100.		102.	85 - 11	5
Matrix Spike							Lab ID =	900180-001
Parameter	Unit	DF	Result	Expected/Adde	ed	Recovery	Accept	ance Range
Chromium	ug/L	5.00	110.	100.(100.)		110.	75 - 12	5
Manganese	ug/L	5.00	117.	112(100.)		105.	75 - 12	5
Matrix Spike Duplicat	е						Lab ID =	900180-001
Parameter	Unit	DF	Result	Expected/Adde	ed	Recovery	Accept	ance Range
Chromium	ug/L	5.00	108.	100.(100.)		108.	75 - 12	5
Manganese	ug/L	5.00	113.	112(100.)		101	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium	ug/L	1.00	10.4	10.0		104	90 - 11	0
Manganese	ug/L	1.00	9.98	10.0		99.8	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium	ug/L	1.00	10.2	10.0		102.	90 - 11	0

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Client: E2 Consulting Eng	gineers, Inc.		oject Name: oject Number	PG&E Topoc :: 424973.01.D	-	Page 8 of 9 Printed 2/29/2012
Interference Check St	andard A					
Parameter Chromium	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Interference Check St	andard A					
Parameter Manganese	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Interference Check St					_	
Parameter Manganese Interference Check St	Unit ug/L andard AB	DF 1.00	Result N D	Expected 0.00	Recovery	Acceptance Range
Parameter Chromium	Unit ug/L	DF 1.00	Result 10.1	Expected 10.0	Recovery 101.	Acceptance Range 80 - 120
Interference Check St	andard AB					
Parameter Chromium Interference Check St	Unit ug/L andard AB	DF 1.00	Result 9.97	Expected 10.0	Recovery 99.7	Acceptance Range 80 - 120
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	9.87	10.0	98.7	80 - 120
Interference Check St	andard AB					
Parameter Manganese	Unit ug/L	DF 1.00	Result 9.66	Expected 10.0	Recovery 96.6	Acceptance Range 80 - 120
Total Dissolved Solids by Parameter	y SM 2540	C Unit		02TDS12J lyzed	DF MDL	RL Result
900180-001 Total Dissolved	Solids	mg/L	02/17	/2012	1.00 0.400	250. 4440
Method Blank						
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND			Lab ID = 900167-010
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 928	Expected 908	RPD 2.18	Acceptance Range 0 - 5
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 502	Expected 500.	Recovery 100.	Acceptance Range 90 - 110

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Page 9 of 9

Project Number: 424973.01.DM

Printed 2/29/2012

Turbidity by SM 2130 B			Batch	02TUC121				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
900180-001 Turbidity		NTU	02/15	/2012	1.00	0.0140	0.100	ND
Method Blank								
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID =	900180-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
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	8.35	8.00		104.	90 - 110)
Lab Control Sample D	uplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
Turbidity	NTU	1.00	8.10	8.00		101.	90 - 110)

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 02TDS12J

Date Calculated: 2/21/12

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	111.3311	111.3315	111.3312	0.0003	No	0.0001	1.0	25.0	ND	1
900167-1	50	51.1123	51.1691	51.169	0.0001	No	0.0567	1134.0	50.0	1134.0	1
900167-2	100	67.1375	67.1945	67.1941	0.0004	No	0.0566	566.0	25.0	566.0	1
900167-3	50	49.2593	49.3023	49.3021	0.0002	No	0.0428	856.0	50.0	856.0	1
900167-4	100	74.6861	74.7397	74,7397	0.0000	No	0.0536	536.0	25.0	536.0	1
900167-5	100	76,5160	76.5669	76.5666	0.0003	No	0.0506	506.0	25.0	506.0	1
900167-6	100	74.7372	74.7884	74.7884	0.0000	No	0.0512	512.0	25.0	512.0	1
900167-7	50	49.6843	49.7572	49.7572	0.0000	No	0.0729	1458.0	50.0	1458.0	1
900167-8	50	50.4235	50.4845	50.4845	0.0000	No	0.0610	1220.0	50.0	1220.0	1
900167-9	50	50.9613	51.0175	51.0175	0.0000	No	0.0562	1124.0	50.0	1124.0	1
 900167-10	50	47.9645	48.0102	48.0099	0.0003	No .	0.0454	908.0	50.0	908.0	1
900167-10D	50	49.3267	49,3735	49.3731	0.0004	No	0.0464	928.0	50.0	928.0	1
LCS	100	111.5163	111.5665	111.5665	0.0000	No	0.0502	502.0	25.0	502.0	1
900180	10	51.1913	51.236	51,2357	0.0003	No	0.0444	4440.0	250.0	4440.0	1
900184-5	100	73.4961	73.5288	73.5288	0.0000	No	0.0327	327.0	25.0	327.0	1
800002-1	50	47.5337	47.5856	47.5853	0.0003	No	0.0516	1032.0	50.0	1032.0	1
800002-2	100	74.5393	74.5985	74.5985	0.0000	No	0.0592	592.0	25.0	592.0	1
800042	50	48.0142	48.0829	48.0825	0.0004	No	0.0683	1366.0	50,0	1366.0	1
									30		
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 Napre

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS12J Date Calculated: 2/21/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Caic TDS <1.3
		Andreas	. 4	
900167-1	1654	0.69	1075.1	1.05
900167-2	957	0.59	622.05	0.91
900167-3	1309	0.65	850.85	1.01
900167-4	924	0.58	600.6	0.89
900167-5	869	0.58	564.85	0.90
900167-6	843	0.61	547.95	0.93
900167-7	1886	0.77	1225.9	1.19
900167-8	1689	0.72	1097.85	1.11
900167-9	1616	0.70	1050.4	1.07
900167-10	1340	0.68	871	1.04
900167-10D	1340	0.69	871	1.07
LCS				
900180	7460	0.60	4849	0.92
900184-5	544	0.60	353.6	0.92
800002-1	1583	0,65	1028.95	1.00
800002-2	. 893	0.66	580.45	1.02
800042	2260	0,60	1469	0.93
			-	
			:	-
	**************************************			THE RESERVE THE PARTY AND ADDRESS OF THE PARTY
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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-348]

TURNAROUND TIME COC Number

10 Days

ΟF

DATE 02/14/12

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COMPANY	E2						_		/	_	 	/	/			_	_			Transfer of		
PROJECT NAME	PG&E Topock	:				_	_				 									S COMMEN	<u>n</u>	
PHONE	(530) 229-3303		°AX (530)	FAX (530) 339-3303							 											
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 1612				PG	UW Y	(1501)									SA ANIATI	No.				·
P.O. NUMBER	424973.01.DM		TEAM	-	10	A FIREN	(L'on	ου _ν ν.	-	(08)					_		kcov					
SAMPLERS (SIGNATURE	ATURE 3				9/8/9/ 19/9/	c) sletel	SWS 24 OF	2015 SAQ	_	ZWS) AU	 					938	O Va					
SAMPLE I.D.		DATE	TIME	DESCRIPTION	2) 95	INDI	Specifi	Sai	7					/		MUN						
SC-700B-WDR-348	R-348	02/14/12	(130)	Water	×	×	^ ×	×	×							က		HO) =MC	6(200	1.00	
															·	D	T0T	AL NUM	BER O	FOTAL NUMBER OF CONTAINERS	ERS	



Constitution of the consti

Ct.	CHAIN OF CUSTODY SIGNATU	GNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed Compan Name Kow Mange Agency	id of	Date/ 2-14-12 Time 15:30	RECEIVED COOL THE WARM S. & C
Signature (Received) * A A A U	Printed Colon	Company/ (L. Z. Agency	6 L I Time 15:38	CUSTODY SEALED YES \(\Boxed{\omega}\) NO \(\omega^{}\)
Signature : (Relinquished)	Printed A Land	Company/ / / / T	12	SPECIAL REQUIREMENTS:
Signature (Signature)	Printed Luga	Company/ 72.2	Date 4/4/12 22/2	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

			} · · · · · · · · · · · · · · · · · · ·	T	Y	T
Date	Lab Number	Initial pH			Time Buffered	Inițials
2/15/12	900/80		5mL	9.5	9 Am	
	900186-1	7	571	۹.5	11 Am	6
	7 -3				1120 Am	
	900187-1				11:20 AM	
	7 -3	. 1	1	7	11:30 Am	1
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C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

NIV4 2/16/12 Turbidity/pH Check

ſ	Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to
ļ	999950	, , , , , , , , , , , , , , , , , , , ,	pπ :<2	02/03/12	Allalyst A. A.	Need Digest	pH<2 (Y/N) 310 /A
	9999 17	$-\frac{\gamma_f}{1}$		177037	1		- 1
	9999 78					,	•
	9999 5-11/1-21			+ - 1/- +		yes	
	99991 ,	2	22	02-06-12	M/BE	No	<u> </u>
	999951-48	7	72	1	7. 4 / 00	Yes	Y 2/6/12
l	-7	<u> </u>	72	· ·		No	<u> </u>
w	02/06/12					- WD	
,,,,	90001511-7	< 1	· Z 2	02-06-12	H.M	Ves	_
	90001611-51	1		1	<u> </u>	i	
ı	900017-11-35-91		./	11/	1/	1/	
	9000 33 (1-5)	</td <td>12</td> <td>02-07-12</td> <td>H.M</td> <td>1/2</td> <td>4-</td>	12	02-07-12	H.M	1/2	4-
	90005514-2)	Z1	72	02-08-12	H.M	yes	Yes
	900056 11-21	41	72	171	7		
	90005711-61	4/	>2	J ,			
	9000043	71	= 2	2/8/12	ES	40	30/00
	900014	71	22	2/8/12	M.41	yes	30104
	900040	1,1,	ىل	1			
D	900079(1-6)	z1	22	2/9/12	MA	Yes	300 A
	900 075/1-21	71	<u> </u>	2/9/2	M.M.	yes	3010 M
	900039(1-3)	æ i	72	2/9/12	ES	N6	ys 21:00
	041 (16,23	1	4	1			0
	052-1						
	068 (10-12)						1,
	076(1-3/	,	1	L	4		ν
	900147-11-51	21	<2	2/14/2	H. in	y-e-3	3010 N
	900/48/1-4,611			1		1	
	13-17,19,21)		U.	V	<u> </u>		
	900180	E1	72	2/16/12	M.M	yes	301012
	900181/12,78	21	22			<u> </u>	
	-11-11-5	71	<2 <2 <2		-		
	900189 11-61	21	<2			1	
	800000 (1-4)		<u> </u>	V	W	J. J.	<u> </u>
	800 00 (<u>Z1</u>	2 4	2/16/12	ES	No	140
	900182 (1-4) 800018 (1-4) 80001	41	62 62 42		<u> </u>	Ì	
	800015	121	21		<u> </u>		
	800019	<u> </u>	72.2			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Ψ
	900 106 (1-4)	72	22			l ys	3010 A
	900127		<u> </u>		 	 	
	900135		<u> </u>			<u> </u>	
	90162	<u> </u>	 			 	
	900163				 	-	<u> </u>
	900 202	 	 			$+ \downarrow$	
	910 203 910 204	 				₩ No	<u> </u>
	900 20 9	4	+ *	2/17/12	AT	No	2/19 61 22 0 -
	700026	<u> </u>	72		N.M	100 Yes	2/179:30 an
	800027 [15-1] 800025 [1-8]	1 41	22	2117112	1	yes-	130100
	X000 / 4	1.0	<u> </u>	+	$+-\psi$		+1/7



Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E2'</u>	Lab # <u>900/80</u>
Date	e Delivered: <u>02/14</u> /12 Time: <u>22:0</u> 0 By: □Mall 攻F	Field Service □Client
1.	, Was a Chain of Custody received and signed?	Ø(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 ☑N/A
•	If a letter was sent with the COC, does it match the COC?	□Yes □No ợN⁄A
	Were all requested analyses understood and acceptable?	∂¶Yes □No □N/A
•	Were samples received in a chilled condition? Temperature (if yes)? <u>J. S° C</u>	AYes □No □N/A
	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	ÆQYes □No □N/A
	Were sample custody seals intact?	□Yes □No ÆN/A
	Does the number of samples received agree with COC?	ØYes □No □N/A
	Did sample labels correspond with the client ID's?	⊘ (Yes □No □N/A
	Did sample labels indicate proper preservation? Preserved (if yes) by △Truesdail □Client	□Yes □No Â(N/A
	Were samples pH checked? pH = <u>SU</u> C. O.C.	Q [†] Yes □No □N/A
•	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	ØYes □No □N/A
Į.	Have Project due dates been checked and accepted? Turn Around Time (TAT): RUSH Std	Yes ONO ONA
į	Sample Matrix: DLiquid Drinking Water Ground V	
	□Sludge □Soil □Wipe □Paint □Solid 対	Other WUTER
)	Comments:	
	Sample Check-In completed by Truesdail Log-In/Receiving:	L. Strabu





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

April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-349 PROJECT, GROUNDWATER MONITORING, TLI No.: 800092

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-349 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 21, 2012, 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

Michael Ngo

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.: 424973.01.DM

Laboratory No.: 800092

Date: March 7, 2012 Collected: February 21, 2012

Received: February 21, 2012

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	Bita Emami
EPA 218.6	Hexavalent Chromium	Maksim Gorbunov / George Wahba

Established 1931

Date Received: February 21, 2012

Laboratory No.: 800092



Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

P.O. No.: 424973.01.DM

Analytical Results Summary

					,)
占	2.00	1.0	7.0		0.10	250
Units	nmhos/cm	na/L	/01	1/61	î ÎN	mg/L
Result	7200	QN	6,	2	QN	4360
Parameter	EC	Chromium	Manganese	Chromium, hexavalent	Turbidity	Total Dissolved Solids
Sample Time	13:40	13:40	13:40	13:40	13:40	13:40
Sample Date	2/21/2012	2/21/2012	2/21/2012	2/21/2012	2/21/2012	2/21/2012
Extraction Method	NONE	NONE-digested	NONE-digested	LABFLT	NONE	NONE
Analysis Method	349 E120.1	349 E200.8	349 E200.8	349 E218.6	149 SM2130B	49 SM2540C
) Field ID	SC-700B-WDR-349 E120.1	SC-700B-WDR-349	SC-700B-WDR-349	SC-700B-WDR-349	SC-700B-WDR-349	SC-700B-WDR-349
Lab Sample ID Field ID	800092-001	800092-001	800092-001	800092-001	800092-001	800092-001

NO: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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

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Printed 3/7/2012

Laboratory No. 800092

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: 424973.01.DM

P.O. Number: 424973.01.DM

Release Number:

Samples Received on 2/21/2012 9:30:00 PM

Field ID Lab ID Collected Matrix SC-700B-WDR-349 800092-001 02/21/2012 13:40 Water Specific Conductivity - EPA 120.1 Batch 02EC12G Parameter Unit Analyzed DF MDL RL Result 800092-001 Specific Conductivity umhos/cm 02/23/2012 1.00 0.0950 2.00 7200 Method Blank Parameter Unit DF Result Specific Conductivity umhos 1.00 ND Duplicate Lab ID = 800057-007DF RPD Parameter Unit Result Expected Acceptance Range Specific Conductivity 3070 3070 0 - 10umhos 1.00 0.00 Lab ID = 800092-001 Duplicate Unit DF RPD Parameter Result Expected Acceptance Range Specific Conductivity 1.00 7190 7200 0.139 0 - 10umhos Lab Control Sample Acceptance Range DF Parameter Unit Result Expected Recovery 90 - 110 Specific Conductivity umhos 1.00 698 706 98.9 Lab Control Sample Duplicate Parameter Unit DF Result Expected Recovery Acceptance Range 706 98.0 90 - 110 Specific Conductivity umhos 1.00 692 MRCCS - Secondary DF Parameter Unit Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 700. 706 99.2 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 995 997 99.8 90 - 110

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Client: E2 Consulting Engineers, Inc.

PG&E Topock Project Project Name:

Project Number: 424973.01.DM

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Chrome VI by EPA 218.6

Batch 02CrH12V

Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
800092-001 Chromium, Hexa	valent	ug/L	02/22	/2012 15:17	5.25	0.136	1.0	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	900079-001
Parameter Chromium, Hexavalent Low Level Calibration	Unit ug/L Verification	DF 1.00	Result 0.673	Expected 0.676		RPD 0.400	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.00	Result 0.216	Expected 0.200		Recovery 108.	Accept 70 - 13	ance Range 0
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.95	Expected 5.00		Recovery 99.0	90 - 11	ance Range 0 = 800023-015
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.66	Expected/Ad 6.52(5.00)	lded	Recovery 103.	90 - 11	ance Range 0 = 800023-016
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 18.0	Expected/Ad 18.5(10.0)	lded	Recovery 95.0	90 - 11	ance Range 0 = 800023-017
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6,46	Expected/Ad 6.33(5.00)	lded	Recovery 103.	90 - 11	ance Range 0 = 800092-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.16	Expected/Ac 1.22(1.06)	lded	Recovery 94.4	90 - 11	ance Range 0 = 800092-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.50	Expected/Ac 5.45(5.25)	dded	Recovery 101.	90 - 11	tance Range 0 = 900056-001
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.20	Expected/Ac 1.19(1.06)	dded	Recovery 101.	Accept 90 - 11	tance Range 0

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Metals by EPA 200.8, Total

Batch 022712C

inclais by Li A 200.0, Tota	1.0						
Parameter		Unit	Anal	yzed [OF MDL	RL	Result
800092-001 Chromium		ug/L	02/28	/2012 01:23 5	.00 0.110	1.0	ND
Manganese		ug/L	02/28	/2012 01:23 5	.00 0.285	5.0	8.9
Method Blank							
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Low Level Calibration V	erification						
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Range
Chromium	ug/L	1.00	0.165	0.200	82.3	70 - 13	0
Manganese	ug/L	1.00	1.05	1.00	105.	70 - 1 3	0
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Range
Chromium	ug/L	5.00	105.	100.	105.	85 - 1 1	5
Manganese	ug/L	5.00	99.0	100.	99.0	85 - 11	5
Matrix Spike						Lab ID =	800092-00
Parameter	Unit	DF	Result	Expected/Adde	d Recovery	•	ance Range
Chromium	ug/L	5.00	106.	100.(100.)	106.	75 - 12	5
Manganese	ug/L	5.00	105.	109.(100.)	95.9	75 - 12	5
Matrix Spike Duplicate						Lab ID =	= 800092-00 ⁻
Parameter	Unit	DF	Result	Expected/Adde	ed Recovery	Accept	ance Range
Chromium	ug/L	5.00	104.	100.(100.)	104.	75 - 12	5
Manganese	ug/L	5.00	105.	109.(100.)	96.5	75 - 12	5
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	10.6	10.0	106.	90 - 11	0
Manganese	ug/L	1.00	10.3	10.0	103.	90 - 11	0
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	9.57	10.0	95.7	90 - 11	0
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	9.44	10.0	94.4	90 ~ 11	0

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

Batch 02TDS12K Total Dissolved Solids by SM 2540 C Parameter Unit Analyzed DF MDL RL Result 800092-001 Total Dissolved Solids 02/22/2012 1.00 0.400 250. mg/L 4360 Method Blank DF Parameter Unit Result Total Dissolved Solids mg/L 1.00 ND Duplicate Lab ID = 800023-009 Parameter Unit DF Result Expected **RPD** Acceptance Range 5380 Total Dissolved Solids mq/L 1.00 5560 3.29 0 - 5 Lab Control Sample Unit DF Parameter Result Expected Recovery Acceptance Range Total Dissolved Solids 1.00 491 500. 98,2 90 - 110 mg/L Batch 02TUC12N Turbidity by SM 2130 B Parameter Unit Analyzed DF MDL RL Result 800092-001 Turbidity NTU 02/22/2012 1.00 0.0140 0.100 ND Method Blank Parameter Unit DF Result **Turbidity** NTU 1.00 ND Lab ID = 800092-001 Duplicate DF Expected **RPD** Parameter Unit Result Acceptance Range NTU 1.00 ND 0.00 0 0 - 20**Turbidity** Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range **Turbidity** NTU 1.00 8.06 8.00 101. 90 - 110 Lab Control Sample Duplicate Parameter Unit DF Result Expected Recovery Acceptance Range NTU 1.00 7.96 8.00 99.5 90 - 110 **Turbidity**

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

/_{C2} – Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 02TDS12K

Date Calculated: 2/23/12

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference,	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	121.7017	121.7024	121.7021	0.0003	No	0.0004	4.0	25.0	ND	1
800023-1	50	51.2523	51.3817	51.3815	0.0002	No	0.1292	2584.0	50.0	2584.0	1
800023-2	20	49.0258	49.0983	49.098	0.0003	No	0,0722	3610.0	125.0	3610.0	1
800023-3	50	49.3066	49.443	49.4429	0.0001	No	0.1363	2726.0	50.0	2726.0	1
800023-4	20	51.4895	51.5477	51.5477	0.0000	No	0.0582	2910.0	125.0	2910.0	11
800023-5	50	50.4115	50.5404	50.5404	0.0000	No	0.1289	2578.0	50.0	2578.0	1
* 800023-6	50	49.8296	49.9651	49.9649	0,0002	No	0.1353	2706.0	50.0	2706.0	1
800023-7	50	50.9451	51.0751	51.0747	0.0004	No	0.1296	2592.0	50.0	2592.0	1
800023-8	20	49.8848	49.9787	49.9787	0.0000	No	0.0939	4695.0	125.0	4695.0	11
800023-9	20	49.3560	49.464	49.4636	0.0004	No	0.1076	5380.0	125.0	5380.0	1
800023-10	50	47.0055	47.1447	47.1446	0.0001	No	0,1391	2782.0	50.0	2782.0	1
800023-9D	20	50.3810	50.4922	50.4922	0.0000	No	0.1112	5560.0	125,0	5560.0	1
LCS	100	92.0978	92.147	92.1469	0.0001	No	0.0491	491.0	25.0	491.0	1
800023-13	10	49.2905	49.36	49.3597	0.0003	No	0.0692	6920.0	250.0	6920.0	1
800061-2	200	108.5820	108.5993	108.599	0.0003	No	0.0170	85.0	12.5	85.0	1
800061-4	100	110,7436	110.7649	110.7649	0.0000	No	0.0213	213.0	25.0	213.0	1
800091	1000	175.7695	175.7717	175.7717	0.0000	No	0,0022	2.2	2.5	ND	1
800092	10	48.1841	48.2281	48.2277	0.0004	No	0.0436	4360.0	250.0	4360.0	. 1
800116-1	50	51.0689	51.1818	51.1818	0.0000	No	0.1129	2258.0	50.0	2258.0	1
800116-2	50	47.5163	47.6342	47.6342	0.0000	No	0.1179	2358.0	50.0	2358.0	1
H								L			

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)

ays Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 02TDS12K Date Calculated: 2/23/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
			<u> </u>	
800023-1	3600	0.72	2340	1.10
800023-2	4620	0.78	3003	1.20
800023-3	3770	0,72	2450.5	1.11
800023-4	4060	0.72	2639	1.10
800023-5	3580	0.72	2327	1.11
800023-6	3670	0.74	2385.5	1.13
800023-7	3580	0.72	2327	1,11
800023-8	5680	0.83	3692	1.27
800023-9	6620	0.81	4303	1.25
800023-10	3720	0.75	2418	1.15
800023-9D	6620	0.84	4303	1.29
LCS				
800023-13	8910	0.78	5791.5	1.19
800061-2	150	0.57	97.5	0.87
800061-4	370	0.58	240.5	0.89
800091	13.6	ND	8.84	ND
800092	7310	0.60	4751.5	0.92
800116-1	3810	0.59	2476.5	0.91
800116-2	4000	0.59	2600	0.91



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TRUESDALL 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-349]

10 Days PAGE 1 TURNAROUND TIME

Я

DATE 02/21/12 COC Number

OMPANY	E2							_		_	 	•		_	_		_	-		
ROJECT NAME	PG&E Topock										 _		 					B	OMMENIC	
HONE	(530) 229-3303		4x (530)	FAX (530) 339-3303							 		 				<u></u>			
DDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 612	1 1			Pé	I'W Y	1501)								BAHNAT				
O. NUMBER	424973.01.DM		TEAM		3 4	Z UC	0 (1:0	en.		(0€)	 _		 			Vo _o				
AMPLERS (SIGNATURE		O.Kmepht			e7 (9'8	E) sjeje	Conda	N2540C	10//	SWO	 				ERO	10				
3AMPLE 1.D.		DATE	TIME	DESCRIPTION	CE LOBIN	MI BOT	Specific	IS SQI	MANAT	Furbidis					BWNN					
SC-700B-WDR-349	349	02/21/12 1340	3.60	Water	×	×	×		×				 		es)		DF)9=H(7,0007	



TOTAL NUMBER OF CONTAINERS

M

	4.6 %							
DITIONS	WARM [NO E						
SAMPLE CONDITIONS		YES 🛚						
	<u>जि</u> 1000 a	CUSTODY SEALED	UREMENTS:					
	RECEIVED		SPECIAL REQUIREMENTS:					
	27-12-2	Date/ 2 - 2 - 12 Time / 4 : 0 8	Time 2/1.2 0	Date //4/13 1830				
	Date <i>i</i> 2- Time i	Date/ 2.	Time T	Datel Hall	Date/	T≆me	Date/	Time
ORD	CH2MHIL	7, 7.	ナン	72.7				
URE RECORD		H	ر ا		y,		yí	
IGNATU	Company/ Agency	Company/ Agency	Agency	İ	Company/	Agency	Company/	Agency
CHAIN OF CUSTODY SIGNAT	Printed C. Langht	Rafer	To the	haberwing				
HAIN OF	Printed Name	A r v (c-Mame	Agmed (Printed Name	Printed	Name	Printed	Name
๋	Plangh	fail Dari	V ()) v	In the				
	Signature (Relinquished)	Signature (Received)	(Relinquished)	Signature (Received)	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	Inițials
2/15/12	900180		5mL	9.5	9 Am	
	900 186-1	Γ΄	5mL	9.5	11 Am	Gw
	7 -3				11210 AM	J
	900187-1				11:20 AM	
	7 -3	· •	4	7	11:30 Am	—
2/17/12	800023-15		5 m L	9.5	10:00 AM	Gu
	16			ì	Jorio Am	1
<u> </u>	V -17		<u> </u>	J	10:15 Am	1,
2/17/12	800024-1	9.5	N/A	NA	NIA	(2)
	-2			1	1	
<u> </u>		<u> </u>	<u> </u>	\downarrow	V	7
2/17/12	800025-1	9.5	/A	NIA	NA	Gu
	-2			i		<u> </u>
	-3					
	-4					
	-5					
	-6					
	7					
	J -8	<u> </u>			T T	
2/21/12	800057-1	٦	5mL	9.5	8130 Am	القا
	-2				8140 Am	
					8245 Am	
					8:50 Am	
	-5				8:55 AM	
	6				9:05 Am	
	7-7				9:15 Am	
	-8 9				9,25 AM	
	1 1				9:30 Am	
	10				9,35 Am	
	w -11		<u> </u>		9:40 AM	
2/22/12/8	300092	7	5mL	9.5	9 Am	
					111	<u>~</u>

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pic

Turbidity/pH Check

		1 (0)	bidity/pri C	TICOK	·		
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)	
0.00046	<1	72	2-17-12	B.E.	NO	yes 217-12, 18	::2
G:000 50 (1-1		721					
8:000 51 U-1							
800 078	<u> </u>	ZZ	2/2/1/12	ES	No		
400026 4005		1	1	1	$\overline{\mathcal{L}}$		
110 00 WOO21			17		yy		
800 002 - 1	21	72		J .		ys 29:00	
209061-1		72	T	BE	NO	yes 02-21-12	ı ili
26amples - Z		- 1		- 32	70	yes 02-21-12	17
25amples -4	 						
	1 - /	<u> </u>	4 /0	<u> </u>	р	<u> </u>	_
800057/1-11/		>2	2/21/2	u.n	yez	Yes 6 16:0	U
800092		72	2/22/12	M.N	405	20108	
800093(1-2	11	<u> </u>					
800 077 (1-10)) 41	72	22212	ら	N9	44 2 30 PM	
gn 078 (1-26)	44					0 1	
800 0 79 (1-24)				`			
80080 (1-28)	<i>\V</i>	4		<u></u>	4	1	
800 081	41	<i>L</i> 2	2/22/12	E)	NO		
sw 109	1		i i		ì	ì	
60110							
mill							
80112						,	
80113							
800021	72	4	2/23/12	ES	yus	2010-13	
SN0103	1.		101110		33	,,,,,,	
80010	 		l f	- 1	1	 	
90120						 	
200085(1-2)		72	2/20/12	V	No	(140 0) ((300 0	
800 118 (10-12)	!	12	2/24/12	<u> </u>	100	yes a 4inp.n	
	 	 	7			 	
90122-2	-						
800129(1-3)	1				1		
SUD 143 (1-3)					<u> </u>		
800150 4310)	< /	-2	2/28/12	M.M	Jus	3010A	
800151(1-8)			ļ.,				
800152(1-6		<u> </u>		<u> </u>	W	1	
800/15/1 3-8)	</td <td>22</td> <td>2/23/12</td> <td>μИ</td> <td>Yes</td> <td>3010 8</td> <td></td>	22	2/23/12	μИ	Yes	3010 8	
800 176 1 7-61		<i>\b</i>		<u></u>		<u> </u>	
(1-2)	74	42	2/28/12	ES	yes	2010A	
800179	Î	1		i	1		
80 179	J						
W181					T.		
80150	61	L2	2/1/12	ĒS	NO		
800190		L	1	T			
80165 (1-10)	41	72		al _		45 29:00 am	
CN200(1-3)	71	12	2/11/12	ES	LW2	30101	
8N213	1 1	1	1	1	ys 1	1 10 77	
\$w187	1 21	72		 	No	ywal'wpm	
W 196 (12,4)		 ``			100	1.	
400238 (T)	2	70/21/		ES	yu .	3010A	nii
1 3 VU & 2 3 (1)		72(pHG)	1-10-11-	<i>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</i>	1 1	אַ טי עג	PΗ



Sample Integrity & Analysis Discrepancy Form

_ Cli	ent: <u>E L'</u>	Lab#_ <i>\$00092</i>
Dat	te Delivered: ❷❷/ 월/ / 12 Time: 월 <u>/ 30</u> · By: □Mail ØF	Field 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 ⊅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 ØN/A
5 .	Were all requested analyses understood and acceptable?	ÄYes □No □N/A
6 .	Were samples received in a chilled condition? Temperature (if yes)? <u>Y - 6° C</u>	ØYes □No □N/A
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 ∞ ÛN/A
9.	Does the number of samples received agree with COC?	<u></u>
10.	Did sample labels correspond with the client ID's ALI	Yes DNo DN/A
11.	Did sample labels indicate proper preservation? Level Preserved (if yes) by: \(\sigma Truesdail\) \(\sigma Client\)	THYES DNO DANA
12.	Were samples pH checked? pH = $\underline{See\ C}$ \varnothing ϵ .	ØYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	ÁgYes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH	ÆQYes □No □N/A
15.	Sample Matrix: DLiquid Dninking Water Ground W	
	□Sludge □Soil □Wipe □Paint □Solid ☒(Other Water
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	L Shabenin



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

April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-350 PROJECT, GROUNDWATER MONITORING, TLI No.: 800238

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-350 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 28, 2012, 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.

On March 16, 2012, Mr. Duffy requested that the sample for Total Dissolved Solids be re-analyzed. The result from the re-analysis was 4460 mg/L versus 6080 mg/L from the original analysis. After discussing the results with Mr. Duffy, the result from the re-analysis was reported as it more closely matched historical data as well as the calculated result based on the Specific Conductivity.

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

Michael Ngo

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.: 424973.01.DM

Laboratory No.: 800238

Date: March 12, 2012

Collected: February 28, 2012

Received: February 28, 2012

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	Maksim Gorbunov / George Wahba

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 424973.01.DM P.O. No.: 424973.01.DM

Established 1931

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

Laboratory No.: 800238

Date Received: February 28, 2012

Analytical Results Summary

Lab Sample ID Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
SC-700B-WDR-350 E120.1	E120.1	NONE	2/28/2012	14:39	EC	7220	umhos/cm	2.00
SC-700B-WDR-350	E200.8	NONE-digested	2/28/2012	14:39	Chromium	Q	ug/L	1.0
SC-700B-WDR-350	E200.8	NONE-digested	2/28/2012	14:39	Manganese	16.9	ug/L	1.0
SC-700B-WDR-350	E218.6	LABFLT	2/28/2012	14:39	Chromium, hexavalent	Q	ng/L	0.20
SC-700B-WDR-350	SM2130B	NONE	2/28/2012	14:39	Turbidity	2	NTO	0.100
3C-700B-WDR-350	SM2540C	NONE	2/28/2012	14:39	Total Dissolved Solids	6080	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter,

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

Results below 0.01ppm will have two (2) significant figures. Result above or equal to 0.01ppm will have three (3) significant figures.

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

TRUESDAIL LABORATORIES, INC.

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Page 1 of 8

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Printed 3/12/2012

Laboratory No. 800238

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: 424973.01.DM

Release Number:

P.O. Number: 424973.01.DM

Samples Received on 2/28/2012 9:00:00 PM

Field ID Lab ID Collected Matrix SC-700B-WDR-350 800238-001 02/28/2012 14:39 Water Specific Conductivity - EPA 120,1 Batch 03EC12A Parameter Unit Analyzed DF MDL RL Result 800238-001 Specific Conductivity umhos/cm 03/02/2012 1.00 0.0950 2.00 7220 Method Blank Parameter Unit DF Result Specific Conductivity umhos 1.00 ND Duplicate Lab ID = 800240-008 Parameter Unit DF Result Expected RPD Acceptance Range Specific Conductivity umhos 1.00 914 915 0.109 0 - 10**Duplicate** Lab ID = 800240-014 Parameter Unit DF Result Expected RPD Acceptance Range Specific Conductivity umhos 1.00 972 923 5.17 0 - 10 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 690. 706 97.7 90 - 110 Lab Control Sample Duplicate Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 696 706 98.6 90 - 110 MRCCS - Secondary Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 681 706 96.4 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 947 998 94.9 90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Printed 3/12/2012

Page 3 of 8

Chrome VI by EPA 218.6			Batch	03CrH12C			
Parameter		Unit	Ana	lyzed D	F MDL	RL	Result
800238-001 Chromium, Hexa	avalent	ug/L	03/02	2/2012 16:30 1.0	0.0260	0.20	ND
Method Blank							
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND			(ah ID =	800175-001
Parameter Chromium, Hexavalent Low Level Calibration	Unit ug/L Verification	DF 1.00	Result 1.09	Expected 1.10	RPD 0.776		ince Range
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.00	Result 0.200	Expected 0.200	Recovery 99.8	Accepta 70 - 120	ince Range)
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.86	Expected 5.00	Recovery 97.2	90 - 110	nce Range) 800175-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.28	Expected/Added 6.10(5.00)	Recovery 104.	90 - 110	nce Range) 800175-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.05	Expected/Added 1.00(1.00)	Recovery 105.	90 - 110	nce Range) 800175-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.60	Expected/Added 6.33(5.00)	Recovery 105,	90 - 110	ince Range) 800175-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1,00	Result 6.58	Expected/Added 6.35(5.00)	Recovery 105.	90 - 110	nce Range) 800175-005
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.62	Expected/Added 1.60(1.00)	Recovery 102.	90 - 110	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 1.53	Expected/Added 1.50(1.00)	Recovery 103.	Accepta 90 - 110	nce Range



Client: E2 Consulting Eng	jineers, Inc.		oject Name: oject Number:	PG&E Topock Pro 424973.01.DM	oject	Page 4 of 8 Printed 3/12/2012
Matrix Spike						Lab ID = 800175-007
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.89	Expected/Added 1.83(1.00)	Recovery 105.	Acceptance Range 90 - 110 Lab ID = 800175-008
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 10.00	Expected/Added 9.56(5.00)	Recovery 109.	Acceptance Range 90 - 110 Lab ID = 800238-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.10	Expected/Added 1.11(1.00)	Recovery 99.1	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.91	Expected 5.00	Recovery 98.2	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 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 10.4	Expected 10.0	Recovery 104.	Acceptance Range 95 - 105



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Page 5 of 8 Printed 3/12/2012

Parameter		Unit	Anal	yzed I	DF	MDL	RL	Result
800238-001 Chromium		ug/L	03/01	/2012 18:54 5	.00	0.110	1.0	ND
Manganese		ug/L	03/01	/2012 18:54 5	.00	0.285	1.0	16.9
Method Blank								
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Low Level Calibration	n Verification							
Parameter	Unit	DF	Result	Expected	I	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	0.213	0.200		106.	70 - 130)
Manganese	ug/L	1.00	0.223	0.200		112.	70 - 130)
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	١	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	97.9	100.		97.9	85 - 115	5
Manganese	ug/L	5.00	95.7	100.		95.7	85 - 118	5
Matrix Spike							Lab ID =	800238-001
Parameter	Unit	DF	Result	Expected/Adde	ed l	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	107.	100.(100.)		107.	75 - 128	5
Manganese	ug/L	5.00	116.	117.(100.)		99.0	75 - 128	5
Matrix Spike Duplicat	te						Lab ID =	800238-001
Parameter	Unit	DF	Result	Expected/Adde	ed l	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	102.	100.(100.)		102.	75 - 12	5
Manganese	ug/L	5.00	115.	117.(100.)		98.3	75 - 12	5
MRCCS - Secondary	1							
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	10.1	10.0		101.	90 - 110	
Manganese	ug/L	1.00	9.79	10.0		97.9	90 - 110	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	9.52	10.0		95.2	90 - 110	•
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	9.32	10.0		93.2	90 - 110	_



Client: E2 Consulting En	gineers, Ind		oject Name: oject Numbe	PG&E Topo r: 424973.01.[-	et	Printed 3	age 7 of 8 /12/2012
Interference Check St	andard AB							
Parameter Manganese Interference Check St	Unit ug/L andard AB	DF 1.00	Result 9.57	Expected 10.0	R	tecovery 95.7	Accepta 80 - 120	ince Range
Parameter Manganese	Unit ug/L	DF 1.00	Result 9.18	Expected 10.0	R	lecovery 91.8	Accepta 80 - 120	nce Range
Total Dissolved Solids b	y SM 2540	0 C Unit		03TDS12A lyzed	DF	MDL	RL	Result
800238-001 Total Dissolved S	Solids	mg/L	03/01	/2012	1.00	0.400	250.	6080
Method Blank								
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID ≃	800238-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 6100	Expected 6080	R	0.328	Accepta 0 - 5	nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 477	Expected 500.	R	ecovery 95.4	Accepta 90 - 110	nce Range
Turbidity by SM 2130 B Parameter		Unit		02TUC12Q lyzed	DF	MDL	RL	Result
800238-001 Turbidity		NTU	02/29	/2012	1.00	0.0140	0.100	ND
Method Blank								
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID =	800238-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0.00	R	PD 0	Accepta 0 - 20	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.92	Expected 8.00	R	ecovery 99.0	Accepta 90 - 110	nce Range
Lab Control Sample D	uplicate							
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.06	Expected 8.00	R	ecovery 101.	Accepta 90 - 110	nce Range



Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 8 of 8

Project Number: 424973.01.DM Printed 3/12/2012

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 03TDS12A Date Calculated: 3/2/12

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	74.6823	74.6840	74.6837	0.0003	No	0.0014	14.0	25.0	ND	1
- 800187	965	109.3937	109.3956	109.3956	0.0000	No	0.0019	2.0	2.6	ND	11
800196-2	200	108.6908	108.7103	108.7099	0.0004	No	0.0191	95.5	12.5	95.5	1
800196-4	100	74.5390	74.5618	74.5616	0.0002	No	0.0226	226.0	25.0	226.0	1
800238	10	51.4250	51,4858	51.4858	0 .0000	No	0.0608	6080.0	250.0	6080.0	1
800257	100	67.0586	67.0827	67.0826	0.0001	No	0.0240	240.0	25.0	240,0	1
800238D	10	50.1284	50.1895	50.1894	0.0001	No	0.0610	6100.0	250.0	6100.0	1
LCS	100	74.7365	74.7844	74.7842	0.0002	No	0.0477	477.0	25.0	477.0	1

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

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS12A Date Calculated: 3/2/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0,65)	Measured TDS / Catc TDS <1.3
			·	
800187	6.02	ND	3.913	ND
800196-2	152	0.63	98.8	0.97
800196-4	372	0.61	241.8	0,93
800238	7280	0.84	4732	1.28
800257	410	0.59	266.5	0.90
800238D	7280	0.84	4732	1.29
LCS			<u>.</u>	
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	***************************************	AND THE PROPERTY OF THE PARTY O	<u> </u>	
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TRUESDAL LABORATORIES, INC. 14201 Franklin Avenue, Tustin, CA 92780-7008 (714)730-6239 FAX: (714) 730-6462 www.truesdail.com

CHAIN OF CUSTODY RECORD

TURNAROUND TIME COC Number

9

10 Days

COMMENTS

DATE 02/28/12

PAGE NUMBER OF CONTAINERS Turbidily (SM2130) [IM3Plant-WDR-350] TDS (SM2540C) Specific Conductance (120,1) (7,00S) ele^{jeM} lelo^T DESCRIPTION FAX (530) 339-3303 TEAM TIME 155 Grand Ave Ste 1000 DATE

Oakland, CA 94612

ADDRESS

424973.01.DM

P.O. NUMBER

SAMPLERS (SIGNATURE

(530) 229-3303

PHONE

PG&E Topock

PROJECT NAME

E2

COMPANY

SE TOUR CONTRACTOR OF THE PROPERTY OF THE PROP



7.002

TOTAL NUMBER OF CONTAINERS

3

Water

4:39

02/28/12

SC-700B-WDR-350

SAMPLE I.D.

Signature (Relinquished) C. LLLLL Name (C. KAICOHT Agency Time Time Table) C. LLLLL Name (C. KAICOHT Agency Time Time Table) C. LLLLLL Name (Company) CATAN Time Time Time Time Time Time Time Time		CHAIN OF CUSTODY SIGNATURI	111	RECORD		SAMPLE CONDITIONS
Date! 2-28-249 LED YES No Name Half Agency Time 2-28-249 LED YES No Name Half Agency Time Date! 2-28-249 LED YES No Name Half Agency T. 2 Time Lidth Agency T. 2 Time Lidth Agency T. 2 Time Lidth Agency Time Agency	Signature C. Kurk		Company/ Agency	exzm thu		COOL IZ WARM
hed) M Printed Hall to Company! L Name Hall Company! T. 2 Name Hall Company! Name Printed Agency Agency Name Agency Name Agency Name Agency Name Agency	Signature (Received)	Printed HANK	Company/ Agency	171	Date: 2-28-1545	YES 🔲 NO
Noted Mane High Company 7.2.2 Name High Marie Company Agency Name Company Agency Name Agency Name Agency	Signature (MK)	Printed HM3/7-12	Company/ Agency	121	Date/ ペスペスター/型。 Time ダンク &	SPECIAL REQUIREMENTS:
Printed Company/ hed) Name Agency Printed Company/ Name Agency	Signature () (Received)/124/12	The	Company/ Agency	72.21	Date/ Time 2/28/12 9:00 p.	
Printed Company/ Name Agency	Signature (Relinquished)	Printed Name	Company/ Agency		Date/ Time	
	Signature (Received)	Printed Name	Company/ Agency		Date/ Time	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

	Lab N	Number	Initia	ıl pH	Buffer Ad	ded (mL)	Final p	ЭН	Time E	uffered	Iniţi	als
	800	238	٦	•	5 m		9.5		10	An	Q	1
2/29/12	800	240-1	٩	5	N	/A	NIF	1	N	Á	7	ر (
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		-3										<u> </u>
		-7									·····	
		-5										
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MV

Turbidity/pH Check

			bidity/pn C				
Sample Number	Turbidity	рΗ	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)	
0.00946	<1	72	2-17-121	B.E.	NO	yes 417-12, 18	: 20
G:000 59 (1-1	5) <\ 1	721	l	*	1	4	
5000 51 U-1	1	į,	ľ				
800078	<u> </u>	22	2/2//12	ES.	NO	V	
\$ 4000 26 4005T	ļ. <u>, </u>	Ł	1	4	\overline{L}		
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209961-1		70	- <u>J</u>	BI	NO	yes 02-21-12	140
26unples - Z		1	1		1	1	•
2 samples -4					<u> </u>		
			0 (1 / 2	N.M	Yer	1/200	~)
800057 1-11	I -	>2	2/21/2		yer	Jes 6 16:00	-
800092	<u> </u>	72	2/22/12	M.N	1 2 2	20108	
800093(1-2	1-1	<u> </u>	- 1	B		1717	
800 077 (i-10)	2	72	2/22/12	<u> </u>	NO	44 230 PM	
gro 078 (1-26)	1	<u> </u>	ļ	(
800 0 79 (1-24)							
50050 (1-28)	1	<u> </u>	= /27/1	<u> </u>	<u> </u>	<u> </u>	
800 081	41	<i>L</i> 2	2/22/12	E3	NO		
sw 109	<u> </u>		i i	<u> </u>	ļ		
0110							
80(11							
80112							
8W113	1/	<u> </u>	4	4	4		
800021	72	<u>~</u> 1	2/23/12	ES	ys	2010-13	
800103	A	i	r.		0		
800110							
8012U		L	J.	2			
900085(1-2)		72	2/29/12	ES	N_0	yes a 4in p.a	
8114 (10-12)		1	1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		1		
800122-2			ſ				
800129(1-3)				-			
Sen 143(1-3)	1 1	U					
800 150 (1.710)	<1	42	2/24/12	MM	Keg	3010A	
800151(1-8)		T	AIRIGIA	1	1	1	
800152(1-6			tt/-	1/	1////		
20017511.3-8)	2/	22	2/23/12	иИ	Ves	30/0B	
300 1 F6 [J-6]	- /		1			1	
800 177 (1-2)	77	122	2 12/12	ES	us	2010A	
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	4	1	2/28/12	<u> </u>	1 20		
80190 401/5/16		+ + -	1	 		yu 29:00 am	
80165 (1-10) 4!	72	7 101/10	<u> </u>	***	WW W-1400(11)	
GN200(1-3)	71	42	2/11/12	<u> </u>	ys 1	30101	
8W213	 	1 2	 	 		<u> </u>	
40187	21	72	1		No	you a live p.m	
M 106 (12,4)		1 2/11	0 10010		<u> </u>	30104	£4
800238 (T)	4	72(pHG)	1 2 29 12	ES	ye	3010A	ΡĤ

Sample Integrity & Analysis Discrepancy Form

Clie	ent: <u>E 2</u>	Lab # <u>800138</u>
Dat	te Delivered: <u>02/28</u> /12	Field Service □Client
1.	, Was a Chain of Custody received and signed?	ÆYes □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 ZIN/A
4,	If a letter was sent with the COC, does it match the COC?	□Yes □No ÞNA
5 .	Were all requested analyses understood and acceptable?	ДYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? 3 <u>, 8° C</u>	∕quyes □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 ÞN/A
9.	Does the number of samples received agree with COC	∑ ZYes □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 ÆÍN/A
12.	Were samples pH checked? pH = \underline{SCC} C C C .	⊄Yes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	∠dYes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH 赵 Std	⊿Yes □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid 🗯	Vater □Waste Water Other Wa YeR
16.	Comments:	
17	Sample Check-In completed by Truesdail Log-In/Receiving:	d Steal unin

Analytical Bench Log Book

WDR pH Results

Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Mefer #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Tim e pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Resul
5C-100B	2-7-12	1245	2-7-12	1250	METERAI	2-7-12	1:45	-56.2	BON WELLS	1.3
s:									11	
5C-100B	2-2-12	1230	2-7-12	1235	NETER#1	2-7-12	1:45	-56.2	how theeps	2.2
s:									10	
5C-700B	2-14-17	1300	2-14-12	1305	MHER#1	2-14-12	02:40	-56.3	KON YHELDS	2.0
S:									و.	K 7.
5C-700B	2-21-12	13:40	2-21-12	1345	METER#1	24412	01:00	-56.1	C. Wight	ومار
s:	•		•							
SC-700B.	2-28-12	14:39	2-28-12	-	NETER#1	2-28-12	01:00 -	-56.4	C. Kmight	7.3
s:									1	<u> </u>
	i - -									
s:										

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

Truesdail Laboratories, Inc.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

March 21, 2012

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-351 PROJECT, GROUNDWATER

MONITORING,

TLI No.: 800349

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-351 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 6, 2012, 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.

Upon receipt of the samples at the lab, it was noted that the sample time on three of the sample containers for sample SC-100B-WDR-351 did not match the sample time on the chain of custody. Instead, they had the simple time of sample SC-700B-WDR-351. Mr. Shawn Duffy was notified and he requested that the three sample containers with the sample time matching that on the COC (13:02) be used for all analyses for that sample. The three sample containers with the discrepant sample time were not used.

Due to the discrepancy between the Total Dissolved Chromium (1.9 ug/L) and Hexavalent Chromium (ND<1.0 ug/L) results for sample SC-700B-WDR-351, sample from the Total Dissolved Chromium and Hexavalent Chromium sample containers were digested and analyzed for Total Dissolved Chromium. The results were both ND<1.0 ug/L. The original digestate was re-analyzed for confirmation and yielded a result of ND<1.0 ug/L. The result from the re-digested Total Dissolved Chromium was reported as it more closely matched the Hexavalent Chromium result.

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.

Manager, Analytical Services

Michael Ngo

Quality Assurance/Quality Control Officer 002

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwaters Project Name: PG&E Topock Project

Project No.: 424973.01.DM

Date: March 21, 2012 Collected: March 6, 2012 Received: March 6, 2012

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2320B	Total Alkalinity	Bita Emami
SM 4500-Si D	Soluble Silica	Jenny Tankunakom
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	Bita Emami
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	George Wahba

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

Oakland, CA 94612

Project Name: PG&E Topock Project

Attention: Shawn Duffy

P.O. No.: 424973.01.DM Project No.: 424973.01.DM

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Established 1931

Date Received: March 6, 2012 Laboratory No.: 800349

Analytical Results Summary

		Analysis	Extraction		Sample				
Lab Sample ID	Field ID	Method	Method	Sample Date	Time	Parameter	Result	Units	RL
800349-001	SC-700B-WDR-351	E120.1	NONE	3/6/2012	13:31	EC	7500	umhos/cm	2.00
800349-001	SC-700B-WDR-351	E200.7	NONE-digested	3/6/2012	13:31	Aluminum	Q	ng/L	50.0
800349-001	SC-700B-WDR-351	E200.7	NONE-digested	3/6/2012	13:31	BORON	066	ng/L	200
800349-001	SC-700B-WDR-351	E200.7	NONE-digested	3/6/2012	13:31	Iron	ΩN	ng/L	20.0
800349-001	SC-700B-WDR-351	E200.7		3/6/2012	13:31	Molybdenum	17.8	ng/L	10.0
800349-001	SC-700B-WDR-351	E200.7	NONE-digested	3/6/2012	13:31	Zinc	Ω	ng/L	10.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Antimony	Ω	ng/L	10.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Arsenic	QN	ug/L	1.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Baríum	14.6	ng/L	10.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Chromium	Ω	ng/L	1.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Copper	۵	ng/L	5.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Lead	Ω	ng/L	10.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Manganese	5.6	ng/L	1.0
800349-001	SC-700B-WDR-351	E200.8	NONE-digested	3/6/2012	13:31	Níckel	Q	ng/L	10.0
800349-001	SC-700B-WDR-351	E218.6	LABFLT	3/6/2012	13:31	Chromium, hexavalent	Q	ng/L	1.0
800349-001	SC-700B-WDR-351	E300	NONE	3/6/2012	13:31	Fluoride	2,12	mg/L	0.500
800349-001	SC-700B-WDR-351	E300	NONE	3/6/2012	13:31	Nitrate as N	3.14	mg/L	1.00
800349-001	SC-700B-WDR-351	E300	NONE	3/6/2012	13:31	Sulfate	523	mg/L	25.0
800349-001	SC-700B-WDR-351	SM2130B	NONE	3/6/2012	13:31	Turbidity	Q	NTU	0.100
800349-001	SC-700B-WDR-351	SM2540C	NONE	3/6/2012	13:31	Total Dissolved Solids	4460	mg/L	250
800349-001	SC-700B-WDR-351	SM4500NH3D	NONE	3/6/2012	13:31	Ammonia-N	Q	mg/L	0.500
800349-001	SC-700B-WDR-351	SM4500NO2B	NONE	3/6/2012	13:31	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
800349-002	SC-100B-WDR-351	E120.1	NONE	3/6/2012	13:02	EC	7830	umhos/cm	2.00
800349-002	SC-100B-WDR-351	E200.7	NONE-digested	3/6/2012	13:02	Aluminum	Q	ng/L	50.0
800349-002	SC-100B-WDR-351	E200.7	NONE-digested	3/6/2012	13:02	BORON	1030	ng/L	200
800349-002	SC-100B-WDR-351	E200.7	NONE-digested	3/6/2012	13:02	Iron	Q	ng/L	20.0
800349-002	SC-100B-WDR-351	E200.7	LABFLT-digested	3/6/2012	13:02	Iron	Q	ng/L	20.0
800349-002	SC-100B-WDR-351	E200.7	NONE-digested	3/6/2012	13:02	Molybdenum	19.6	ng/L	10.0
800349-002	SC-100B-WDR-351	E200.7	NONE-digested	3/6/2012	13:02	Zinc	Q	ug/L	10.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Antimony	Q	ng/L	10.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Arsenic	3.7	ng/L	1.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Barium	25.6	ng/L	10.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Chromium	811	ng/L	1.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Copper	Q	ng/L	5.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Lead	QN	ug/L	10.0
800349-002	SC-100B-WDR-351	E200.8	LABFLT-digested	3/6/2012	13:02	Manganese	6.4	ng/L	1.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Manganese	6.4	ng/L	1.0
800349-002	SC-100B-WDR-351	E200.8	NONE-digested	3/6/2012	13:02	Nickel	Q	ng/L	10.0
800349-002	SC-100B-WDR-351	E218.6	LABFLT	3/6/2012	13:02	Chromium, hexavalent	805	ng/L	10.5
800349-002	SC-100B-WDR-351	E300	NONE	3/6/2012	13:02	Fluoride	2.48	mg/L	0.500
800349-002	SC-100B-WDR-351	E300	NONE	3/6/2012	13:02	Nitrate as N	3.28	mg/L	1.00
800349-002	SC-100B-WDR-351	E300	NONE	3/6/2012	13:02	Sulfate	260	mg/L	25.0
800349-002	SC-100B-WDR-351	SM2130B	NONE	3/6/2012	13:02	Turbidity	Q	DIN	0.100
800349-002	SC-100B-WDR-351	SM2320B	NONE	3/6/2012	13:02	Alkalinity	148	mg/L	5.00
800349-002	SC-100B-WDR-351	SM2320B	NONE	3/6/2012	13:02	Bicarbonate	148	mg/L	5.00
800349-002	SC-100B-WDR-351	SM2320B	NON	3/6/2012	13:02	Carbonate	9	mg/L	5.00
800349-002	SC-100B-WDR-351	SM2540C	NONE	3/6/2012	13:02	Total Dissolved Solids	4710	mg/L	250
800349-002	SC-100B-WDR-351	SM4500NH3D	NONE	3/6/2012	13:02	Ammonia-N	Q	mg/L	0.500
800349-002	SC-100B-WDR-351	SM4500NO2B	NONE	3/6/2012	13:02	Nitrite as N	2	mg/L	0.0050
800349-002	SC-100B-WDR-351	SM4500-PB_E	NONE	3/6/2012	13:02	Total Phosphorous-P	2	mg/L	0.0200
800349-002	SC-100B-WDR-351	SM4500SI	NON	3/6/2012	13:02	Soluble Silica	20.2	mg/L	1.00
800349-002	SC-100B-WDR-351	SM5310C	NONE	3/6/2012	13:02	Total Organic Carbon	2	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.

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

Printed 3/21/2012

Laboratory No. 800349

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 3/6/2012 9:00:00 PM

Field ID		·		Lab ID	Col	lected	Matri	ix
SC-700B-WDR-351				800349-001		/2012 13:31	Wate	
SC-100B-WDR-351				800349-002		/2012 13:02	Wate	
Anions By I.C EPA 30	0.0		Batch	03AN12E				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
800349-001 Fluoride		mg/L	03/07	/2012 11:27	5.00	0.155	0.500	2.12
Nitrate as Nitro	gen	mg/L	03/07	//2012 11:27	5.00	0.135	1.00	3.14
Sulfate		mg/L	03/07	//2012 15:02	50.0	5.70	25.0	523.
800349-002 Fluoride		mg/L	03/07	/2012 11:39	5.00	0.155	0.500	2.48
Nitrate as Nitro	gen	mg/L	03/07	7/2012 11:39	5.00	0.135	1.00	3.28
Sulfate		mg/L	03/07	/2012 15:13	50.0	5.70	25.0	560.
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 =	800002-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Sulfate	mg/L	50.0	254.	255		0.461	0 - 20	_
Duplicate							Lab ID =	800349-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Fluoride	mg/L	5.00	2.47	2.48		0.404	0 - 20	_
Nitrate as Nitrogen	mg/L	5.00	3.30	3.28		0.487	0 - 20	



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

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Lab Control Sample
Parameter
Fluoride

Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.12	4.00	103.	90 - 110
Sulfate	mg/L	1.00	20.1	20.0	101.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.04	4.00	101.	90 - 110
Matrix Spike						Lab ID = 800002-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Sulfate	mg/L	50.0	780.	755(500.)	105.	85 - 115
Matrix Spike						Lab ID = 800349-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.7	22.5(20.0)	101.	85 - 115
Nitrate as Nitrogen	mg/L	5.00	23.9	23.3(20.0)	103.	85 - 115
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.11	4.00	103.	90 - 110
Sulfate	mg/L	1.00	20.1	20.0	100.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.02	4.00	100.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.14	3.00	104.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.12	3.00	104.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	14.9	15.0	99.3	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	14.9	15.0	99.2	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.97	3.00	99.0	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.97	3.00	99.0	90 - 110



Client: E2 Consulting Engineers, Inc.

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Parameter		Unit	Anal	yzed D	F	MDL	RL	Result
800349-001 Nitrite as Nitrogen		mg/L	03/07/	2012 14:10 1.0	00	0.000360	0.0050	ND
800349-002 Nitrite as Nitrogen	l	mg/L	03/07/	2012 13:57 1.0	00	0.000360	0.0050	ND
Method Blank								
Parameter	Unit	DF	Result					
Nitrite as Nitrogen Duplicate	mg/L	1.00	ND				Lab ID = 8	00320-010
Parameter Nitrite as Nitrogen	Unit mg/L	DF 1.00	Result ND	Expected 0.00	RP 0		Acceptar 0 - 20	ice Range
Lab Control Sample	1.1	DE	Desuit	Eventod	Day	0011051	Assantan	oo Dongo
Parameter Nitrite as Nitrogen Matrix Spike	Unit mg/L	DF 1.00	Result 0.0404	Expected 0.0400		covery 01	90 - 110	nce Range 300320-010
Parameter Nitrite as Nitrogen MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.0181	Expected/Added 0.0200(0.0200)		covery 0.5	Acceptar 80 - 120	nce Range
Parameter Nitrite as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0205	Expected 0.0200		covery 02.	Acceptar 90 - 110	nce Range
Parameter Nitrite as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0209	Expected 0.0200		covery 04.	Acceptar 90 - 110	nce Range
Parameter Nitrite as Nitrogen	Unit mg/L	DF 1.00	Result 0.0209	Expected 0.0200		covery 04.	Acceptar 90 - 110	nce Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Alkalinity by SM 2320B Batch 03ALK12C Parameter Unit DF Analyzed MDL RL Result 800349-002 Alkalinity as CaCO3 mg/L 03/13/2012 1.00 1.68 5.00 148 Bicarbonate (Calculated) mg/L 03/13/2012 1.00 1.68 5.00 148 Carbonate (Calculated) mg/L 03/13/2012 1.00 1.68 5.00 ND Method Blank Parameter Unit DF Result Alkalinity as CaCO3 mg/L 1.00 ND Duplicate Lab ID = 800349-002Parameter Unit DF Result Expected **RPD** Acceptance Range Alkalinity as CaCO3 mg/L 1.00 149 148 0.673 0 - 20Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Alkalinity as CaCO3 mg/L 1.00 107 100. 107 90 - 110 Lab Control Sample Duplicate Parameter 1 4 1 Unit DF Result Expected Recovery Acceptance Range Alkalinity as CaCO3 mg/L 1.00 103 100. 103 90 - 110 Matrix Spike Lab ID = 800349-002 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Alkalinity as CaCO3 1.00 240. mg/L 248(100.) 92.0 75 - 125



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Specific Conductivity - EPA 120.1

Batch 03EC12C

Specific Collaboration - El	FA 120.1		Date	1 USEC 12C				
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
800349-001 Specific Conductiv	vity	umhos/c	m 03/0	9/2012	1.00	0.0950	2.00	7500
800349-002 Specific Conductive	vity	umhos/c	m 03/0	9/2012	1.00	0.0950	2.00	7830
Method Blank				, , , , , , , , , , , , , , , , , , , ,				
Parameter	Unit	DF	Result					
Specific Conductivity	umhos	1.00	ND					
Duplicate							Lab ID =	800349-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ince Range
Specific Conductivity	umhos	1.00	7830	7830		0.00	0 - 10	J
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	698	706		98.9	90 - 110	_
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	699	706		99.0	90 - 110	_
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
Specific Conductivity	umhos	1.00	1000	998		100.	90 - 110)



Client: E2 Consulting Engineers, Inc.

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Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
800349-001 Chromium, Hexa	avalent	ug/L	03/07	/2012 14:48	5.25	0.136	1.0	ND
800349-002 Chromium, Hexa	avalent	ug/L	03/07	/2012 14:01	52.5	1.36	10.5	805.
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate							Lab ID =	800332-001
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.05	1.12	1.13		0.577	0 - 20	
Low Level Calibration	Verification	1						
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	0.213	0.200		106.	70 - 130)
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	4.84	5.00		96.7	90 - 110	כ
Matrix Spike							Lab ID =	800332-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.06	6.55	6.43(5.30)		102.	90 - 110)
Matrix Spike							Lab tD ≍	800348-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.06	18.2	18.5(10.6)		97.8	90 - 110	ס
Matrix Spike							Lab ID =	800349-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	5.25	5.16	5.42(5.25)		95.2	90 - 110	כ
Matrix Spike							Lab ID =	800349-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.19(1.06)		91.7	90 - 110)
Matrix Spike							Lab ID =	800349-002
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	52.5	1800	1860(1050)		94.7	90 - 110	כ
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	4.84	5.00		96.8	90 - 11	ם כ



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Metals by EPA 200.7, Tot	al		Batch	031912B		1	100 m	
Parameter	affire to the second	Unit	Anal	yzed	DF	MDL	RL	Result
800349-001 Aluminum		ug/L	03/19	/2012 15:30	1.00	2.83	50.0	ND
Boron		ug/L	03/19	/2012 15:30	1.00	1.50	200.	990.
fron		ug/L	03/19	/2012 15:30	1.00	1.34	20.0	ND
Molybdenum		ug/L	03/19	/2012 15:30	1.00	4.02	10.0	17.8
Zinc		ug/L	03/19	/2012 15:30	1.00	3.89	10.0	ND
800349-002 Aluminum		ug/L	03/19	/2012 15:49	1.00	2.83	50.0	ND
Boron		ug/L	03/19	/2012 15:49	1.00	1.50	200.	1030
Iron		ug/L	03/19	/2012 15:49	1.00	1.34	20.0	ND
Molybdenum		ug/L		/2012 15:49	1.00	4.02	10.0	19.6
Zinc		ug/L	03/19	/2012 15:49	1.00	3.89	10.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Aluminum	ug/L	1.00	ND					
Iron	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 =	800349-001
Parameter	Unit	DF	Result	Expected	ı	RPD	Accepta	ance Range
Aluminum	ug/L	1.00	ND	0.00		0	0 - 20	
Iron	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	984.	990.		0.577	0 - 20	
Molybdenum	ug/L	1.00	17.3	17.8		2.85	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Aluminum	ug/L	1.00	114.	100.		114.	85 - 11	5
Iron	ug/L	1.00	101.	100.		101.	85 - 11	5
Zinc	ug/L	1.00	96.7	100.		96.7	85 - 11	5
Boron	ug/L	1.00	95.4	100.		95.4	85 - 11	5



Client: E2 Consulting En	gineers, Ind		roject Name: roject Numbe	PG&E Topock Pror: 424973.01.DM	pject	Page 9 of 31 Printed 3/21/2012
Matrix Spike						Lab ID = 800349-001
Parameter Aluminum Iron	Unit ug/L ug/L	DF 1.00 1.00	Result 871. 900.	Expected/Added 1000(1000) 1000(1000)	Recovery 87.1 90.0	Acceptance Range 75 - 125 75 - 125
Zinc Boron Molybdenum	ug/L ug/L ug/L	1.00 1.00 1.00	1070 1970 979.	1000(1000) 1990(1000)	107. 97.8	75 - 125 75 - 125
MRCCS - Secondary	ug/L	1,00	519.	1020(1000)	96.1	75 - 125
Parameter Aluminum Iron Zinc Boron Molybdenum MRCVS - Primary	Unit ug/L ug/L ug/L ug/L ug/L	DF 1.00 1.00 1.00 1.00	Result 4930 4970 5160 4800 4930	Expected 5000 5000 5000 5000	Recovery 98.7 99.3 103. 96.0 98.5	Acceptance Range 90 - 110 90 - 110 90 - 110 90 - 110 90 - 110
Parameter Aluminum MRCVS - Primary	Unit ug/L	DF 1.00	Result 5000	Expected 5000	Recovery 100.	Acceptance Range 90 - 110
Parameter Aluminum MRCVS - Primary	Unit ug/L	DF 1.00	Result 5040	Expected 5000	Recovery 101.	Acceptance Range 90 - 110
Parameter Iron MRCVS - Primary	Unit ug/L	DF 1.00	Result 4980	Expected 5000	Recovery 99.6	Acceptance Range 90 - 110
Parameter Iron MRCVS - Primary	Unit ug/L	DF 1.00	Result 5000	Expected 5000	Recovery 100.	Acceptance Range 90 - 110
Parameter Zinc MRCVS - Primary	Unit ug/L	DF 1.00	Result 5120	Expected 5000	Recovery 102.	Acceptance Range 90 - 110
Parameter Zinc Boron MRCVS - Primary	Unit ug/L ug/L	DF 1.00 1.00	Result 5250 4800	Expected 5000 5000	Recovery 105. 96.1	Acceptance Range 90 - 110 90 - 110
Parameter Boron	Unit ug/L	DF 1.00	Result 4750	Expected 5000	Recovery 94.9	Acceptance Range 90 - 110



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Metals by EPA 200.8, To	Metals by EPA 200.8, Total		Batch	031312A				
Parameter	enger i i i i i i i i i i i i i i i i i i i	Unit	Anal	yzed	DF	MDL	RL	Result
800349-001 Antimony		ug/L	03/13	/2012 17:40	5.00	0.120	10.0	ND
Barium		ug/L	03/13	/2012 17:40	5.00	0.200	10.0	14.6
Copper		ug/L	03/13	/2012 17:40	5.00	0.125	5.0	ND
Lead		ug/L	03/13	/2012 17:40	5.00	0.110	10.0	ND
Manganese		ug/L	03/13	/2012 17:40	5.00	0.285	1.0	5.6
Nickel		ug/L	03/13	/2012 17:40	5.00	0.0750	10.0	ND
800349-002 Antimony		ug/L	03/13	/2012 18:16	5.00	0.120	10.0	ND
Barium		ug/L	03/13	/2012 18:16	5.00	0.200	10.0	25.6
Chromium		ug/L	03/13	/2012 18:16	5.00	0.110	1.0	811.
Copper		ug/L	03/13	/2012 18:16	5.00	0.125	5.0	ND
Lead		ug/L	03/13	/2012 18:16	5.00	0.110	10.0	ND
Manganese		ug/L	03/13	/2012 18:16	5.00	0.285	1.0	6.4
Nickel		ug/L	03/13	/2012 18:16	5.00	0.0750	10.0	ND
Method Blank		,						
Parameter	Unit	DF	Result					
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					
Low Level Calibration	Verification							
Parameter	Unit	DF	Result	Expected	F	Recovery	•	nce Range
Barium	ug/L	1.00	1.02	1.00		102.	70 - 130	
Chromium	ug/L	1.00	0.229	0.200		114.	70 - 130	
Nickel	ug/L	1.00	1.02	1.00		102	70 - 130	
Antimony	ug/L	1.00	1.04	1.00		104.	70 - 130	
Copper	ug/L	1.00	1.02	1.00		102.	70 - 130	1
Lead	ug/L	1.00	1.03	1.00		103.	70 - 130)
Manganese	ug/L	1.00	0.214	0.200		107.	70 - 130	1



Client: E2 Consulting Engi	neers, Inc.		oject Name: oject Number:	PG&E Topock Pro: 424973.01.DM	pject	Page 13 of 31 Printed 3/21/2012
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	5.00	97.6	100.	97.6	85 - 115
Chromium	ug/L	5.00	97.7	100.	97.7	85 - 115
Nickel	ug/L	5.00	96.9	100.	96.9	85 - 115
Antimony	ug/L	5.00	99.7	100.	99.7	85 - 115
Copper	ug/L	5.00	101.	100.	101	85 - 115
Lead	ug/L	5.00	94.8	100.	94.8	85 - 115
Manganese	ug/L	5.00	93.2	100.	93.2	85 - 115 _.
Matrix Spike						Lab ID = 800349-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	115.	115.(100.)	100.	75 - 125
Chromium	ug/L	5.00	103.	102.(100.)	101.	75 - 125
Nickel	ug/L	5.00	96.9	100.(100.)	96.9	75 - 125
Antimony	ug/L	5.00	100.	100.(100.)	100.	75 - 125
Copper	ug/L	5.00	94.2	100.(100.)	94.2	75 - 125
Lead	ug/L	5.00	92.1	100.(100.)	92.1	75 - 125
Manganese	ug/L	5.00	99.2	106.(100.)	93.6	75 - 125
Matrix Spike Duplicate						Lab ID = 800349-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	112.	115.(100.)	97.5	75 - 125
Chromium	ug/L	5.00	97.3	102.(100.)	95.4	75 - 125
Nickel	ug/L	5.00	92.3	100.(100.)	92.3	75 - 125
Antimony	ug/L	5.00	97.4	100.(100.)	97.4	75 - 125
Copper	ug/L	5.00	90.8	100.(100.)	90.8	75 - 125
Lead	ug/L	5.00	90.7	100.(100.)	90.7	75 - 125
Manganese	ug/L	5.00	96.8	106.(100.)	91.2	75 - 125
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	10.0	10.0	100.	90 - 110
Chromium	ug/L	1.00	9.88	10.0	98.8	90 - 110
Nickel	ug/L	1.00	9.67	10.0	96.7	90 - 110
Antimony	ug/L	1.00	9.17	10.0	91.7	90 - 110
Copper	ug/L	1.00	10.0	10.0	100.	90 - 110
Lead	ug/L	1.00	9.51	10.0	95.1	90 - 110
	41	4				

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.

10.0

95.6

90 - 110

9.56

ug/L

Manganese

1.00



Client: E2 Consulting En	gineers, Inc		roject Name: roject Numbe	PG&E Topock r: 424973.01.DM		Page 17 of 31 Printed 3/21/2012
Interference Check St	andard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	9.59	10.0	95.9	80 - 120
Nickel	ug/L	1.00	9.43	10.0	94.3	80 - 120
Interference Check St	andard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	9.48	10.0	94.8	80 - 120
Antimony	ug/L	1.00	ND	0.00		
Interference Check St	andard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0.00		
Copper	ug/L	1.00	9.93	10.0	99.3	80 - 120
Interference Check St	andard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	10.0	10.0	100.	80 - 120
Lead	ug/L	1.00	ND	0.00		
Interference Check St	andard AB					
Paramet e r	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0.00	•	
Manganese	ug/L	1.00	9.64	10.0	96.4	80 - 120
Interference Check Sta	andard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	9.70	10.0	97.0	80 - 120
Serial Dilution						Lab ID = 800349-002
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	25.0	26.8	25.6	4.39	0 - 10
Chromium	ug/L	25.0	802.	811	1.09	0 - 10



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Metals by EPA 200.8, Total		Batch 031412B					기업을 가능하고 하는 것 1 12일 : 기업을 하는 기업을 하는 것이다.		
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
800349-001 Arsenic		ug/L	03/15	/2012 02:57	5.00	0.285	1.0	ND	
800349-002 Arsenic		ug/L	03/15	/2012 03:47	5.00	0.285	1.0	3.7	
Method Blank									
Parameter	Unit	DF	Result						
Arsenic	ug/L	1.00	ND						
Duplicate							Lab ID =	800349-00	
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ance Rang	
Arsenic	ug/L	5.00	ND	0.00		0	0 - 20		
Low Level Calibration	Verification								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Rang	
Arsenic	ug/L	1.00	0.218	0.200		109.	70 - 13	0	
Lab Control Sample									
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Rang	
Arsenic	ug/L	5.00	97.3	100.		97.3	85 - 11	5	
Matrix Spike							Lab ID =	800349-00	
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accept	ance Rang	
Arsenic	ug/L	5.00	102.	100.(100.)		102.	75 - 12	5	
Matrix Spike Duplicate	₽.						Lab (D ≍	800349-00	
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accept	ance Rang	
Arsenic	ug/L	5.00	100.	100.(100.)		100.	75 - 12	5	
MRCCS - Secondary									
Parameter	Unit	DF	Result	Expected	ı	Recovery	Accept	ance Rang	
Arsenic	ug/L	1.00	9.16	10.0		91.6	90 - 11	0	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected	ı	Recovery	Accept	ance Rang	
Arsenic	ug/L	1.00	9.85	10.0		98.5	90 - 11	0	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected	ı	Recovery	Accept	ance Rang	
Arsenic	ug/L	1.00	9.44	10.0		94.4	90 - 11	0	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected	I	Recovery	Accept	ance Rang	
Arsenic	ug/L	1.00	9.04	10.0		90.4	90 - 11	0	



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Parameter		Unit	Anal	yzed	DF MDL	RL	Result
800349-001 Chromium		ug/L	03/15	/2012 07:53 5	5.00 0.110	1.0	ND
Method Blank							
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab ID =	800460-00
Parameter	Unit	DF	Result	Expected	RPD	Accepta	ance Rang
Chromium	ug/L	5.00	ND	0.00	0	0 - 20	
Manganese	ug/L	5.00	7.29	7.38	1.23	0 - 20	
Low Level Calibration V	erification/						
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	0.202	0.200	101.	70 - 13	0
Manganese	ug/L	1.00	0.229	0.200	115.	70 - 13	0
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	5.00	113,	100.	113.	85 - 11	5
Manganese	ug/L	5.00	98.3	100.	98.3	85 - 11	5
Matrix Spike						Lab ID =	800460-00
Parameter	Unit	DF	Result	Expected/Adde	ed Recovery	Accept	ance Rang
Chromium	ug/L	5.00	97.1	100.(100.)	97.1	75 - 12	5
Manganese	ug/L	5.00	102.	107.(100.)	94.5	75 - 12	5
Matrix Spike Duplicate						Lab ID =	= 800460-00
Parameter	Unit	DF	Result	Expected/Adde	•		ance Rang
Chromium	ug/L	5.00	99.6	100.(100.)	99.6	75 - 12	
Manganese	ug/L	5.00	100.	107.(100.)	92.8	75 - 12	5
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	9.41	10.0	94.1	90 - 11	
Manganese	ug/L	1.00	9.56	10.0	95.6	90 - 11	0
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery		ance Rang
Chromium	ug/L	1.00	9.82	10.0	98.2	90 - 11	0



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Parameter		Unit	Ana	yzed	DF	MDL	RL	Result
800349-002 Silica		mg/L	03/09	/2012	25.0	0.532	1.00	20.2
Method Blank								
Parameter	Unit	DF	Result					
Silica	mg/L	1.00	ND					
Duplicate							Lab ID =	800349-002
Parameter	Unit	DF	Result	Expected		RPD		ance Range
Silica	mg/L	25.0	20.2	20.2		0.152	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	-	ance Range
Silica	mg/L	1.00	0.204	0.220		92.7	90 - 110)
Matrix Spike							Lab ID =	800349-002
Parameter	Unit	DF	Result	Expected/Ad	dded	Recovery	Accepta	ance Range
Silica	mg/L	25.0	30.0	30.2(10.0)		98.5	75 - 125	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Silica	mg/L	1.00	0.106	0.110		96.1	90 - 110	כ
MRCVS - Primary			÷					
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Silica	mg/L	1.00	0.384	0.400		96.0	90 - 110	ס
		to l'es						enere kalender
Total Dissolved Solids b	y SM 254			03TDS12C				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
300349-001 Total Dissolved	Solids	mg/L		/2012	1.00	0.400	250.	4460
800349-002 Total Dissolved	Solids	mg/L	03/07	/2012	1.00	0.400	250.	4710
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	800349-002
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	4620	4710		1.93	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	495	500.		99.0	90 - 110	-



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Parameter	e en eus bynne eu neise	Unit	Anal	yzed	DF	MDL	RL	Result
800349-002 Total Organic Car	rbon	mg/L	03/07	/2012 13:17	1.00	0.0103	0.300	ND
Method Blank								
Parameter	Unit	DF	Result					
Total Organic Carbon	mg/L	1.00	ND					
Duplicate							Lab ID =	800349-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	19.7	20.0		98.6	90 - 110	•
Matrix Spike							Lab ID =	800320-020
Parameter	Unit	DF	Result	Expected/Add	ed i	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	11.9	12.3(10.0)		95.9	75 - 125	į
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	ı	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	9.87	10.0		98.7	90 - 110	}
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	1	Recovery	•	ince Range
Total Organic Carbon	mg/L	1.00	9.49	10.0		94.9	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	1	Recovery	Accepta	ince Range
Total Organic Carbon	mg/L	1.00	10.1	10.0		101.	90 - 110)



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Total Phosphate, SM 450	0-PB,E		Batch	03TP12B				
Parameter	기요 기 문학문학생활	Unit	Unit Analyzed		DF	MDL	RL	Result
800349-002 Phosphate, Total	As P	mg/L	03/08/	/2012 1	.00	0.00530	0.0200	ND
Method Blank								
Parameter Phosphate, Total As P	Unit mg/L	DF 1.00	Result ND					
Duplicate	•						Lab ID = 8	00349-002
Parameter Phosphate, Total As P Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.00	F	RPD 0	Acceptance Ra	
Parameter Phosphate, Total As P Matrix Spike	Unit mg/L	DF 1.00	Result 0.0998	Expected 0.100	F	Recovery 99.8	Acceptance Rai 90 - 110 Lab ID = 800349-	
Parameter Phosphate, Total As P MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.0586	Expected/Adde 0.0650(0.0650		Recovery 90.2	Acceptar 75 - 125	ice Range
Parameter Phosphate, Total As P MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0583	Expected 0.0600	F	Recovery 97.2	Acceptai 90 - 110	nce Range
Parameter Phosphate, Total As P	Unit mg/L	DF 1.00	Result 0,0612	Expected 0.0650	F	Recovery 94.2	Acceptai 90 - 110	nce Range



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Ammonia Nitrogen by SM				03NH3-E12A				
Parameter		Unit	Anal	yzed [)F	MDL	RL	Result
800349-001 Ammonia as N		mg/L	03/07	/2012 1	.00	0.00120	0.500	ND
800349-002 Ammonia as N		mg/L	03/07	/2012 1	.00	0.00120	0.500	ND
Method Blank								
Parameter	Unit	DF	Result					
Ammonia as N	mg/L	1.00	ND					
Duplicate							Lab ID =	800349-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Ammonia as N	mg/L	1.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	ı	Recovery	Accepta	ince Range
Ammonia as N	mg/L	1,00	9.44	10.0		94.4	90 - 110)
Matrix Spike							Lab ID =	800349-001
Parameter	Unit	DF	Result	Expected/Adde	ed l	Recovery	Accepta	ince Range
Ammonia as N	mg/L	1.00	6.03	6.00(6.00)		100.	75 - 125	5
Matrix Spike Duplicate							Lab ID =	800349-001
Parameter	Unit	DF	Result	Expected/Adde	ed	Recovery	Accepta	ance Range
Ammonia as N	mg/L	1.00	5.92	6.00(6.00)		98.6	75 - 125	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	•	ance Range
Ammonia as N	mg/L	1.00	5.92	6.00		98.6	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	•	ance Range
Ammonia as N	mg/L	1.00	6.50	6.00		108.	90 - 110	ס



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Parameter		Unit	Anal	yzed	DF MDL	RL	Result
300349-002 Manganese		ug/L	03/13	/2012 1 7:26 5	.00 0.285	1.0	6.4
Method Blank							
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab ID =	800348-00
Parameter	Unit	DF	Result	Expected	RPD	Accept	ance Rang
Chromium	ug/L	5.00	8.92	9.00	0.915	0 - 20	
Manganese	ug/L	5.00	40.1	39.5	1.58	0 - 20	
Low Level Calibration	verification	I					
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	0.229	0.200	114.	70 - 13	0
Manganese	ug/L	1.00	0.214	0.200	107.	70 - 13	0
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	5.00	97.7	100.	97.7	85 - 11	5
Manganese	ug/L	5.00	93.2	100.	93.2	85 - 11	5
Matrix Spike						Lab ID =	= 800348-00
Parameter	Unit	DF	Result	Expected/Adde	ed Recovery	Accept	ance Rang
Chromium	ug/L	5.00	108.	109(100.)	99.5	75 - 12	5
Manganese	ug/L	5.00	133.	140.(100.)	93.5	75 - 12	5
MRCCS - Secondary	•						
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	9.88	10.0	98.8	90 - 11	0
Manganese	ug/L	1.00	9.56	10.0	95.6	90 - 11	0
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	9.52	10.0	95.2	90 - 11	0
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	9.26	10.0	92.6	90 - 11	0
MRCVS - Primary	-						4
Parameter	Unit	DF	Result	Expected	Recovery	Accept	ance Rang
Chromium	ug/L	1.00	9.98	10.0	99.8	90 - 11	_

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MRCVS - Primary						
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.15	Expected 10.0	Recovery 91.5	Acceptance Range 90 - 110
Parameter Manganese MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.53	Expected 10.0	Recovery 95.3	Acceptance Range 90 - 110
Parameter Manganese Interference Check St	Unit ug/L andard A	DF 1.00	Result 9.24	Expected 10.0	Recovery 92.4	Acceptance Range 90 - 110
Parameter Chromium Interference Check St	Unit ug/L andard A	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Chromium Interference Check St	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Manganese Interference Check St	Unit ug/L andard A	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Manganese Interference Check S	Unit ug/L andard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 9.59	Expected 10.0	Recovery 95.9	Acceptance Range 80 - 120
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 9.96	Expected 10.0	Recovery 99.6	Acceptance Range 80 - 120
Parameter Manganese Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 9.64	Expected 10.0	Recovery 96.4	Acceptance Range 80 - 120
Parameter Manganese Serial Dilution	Unit ug/L	DF 1.00	Result 9.70	Expected 10.0	Recovery 97.0	Acceptance Range 80 - 120 Lab ID = 800349-002
Parameter Chromium	Unit ug/L	DF 25.0	Result 802.	Expected 811	RPD 1.09	Acceptance Range 0 - 10

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Metals by 200.7, Dissolv	ved		Batch	031912B				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
800349-002 Iron		ug/L	03/19	9/2012 16:30 1	.00	1.34	20.0	ND
Method Blank								
Parameter	Unit	DF	Result					
! ron	ug/L	1.00	ND					
Duplicate	110						Lab ID =	800348-001
Parameter	Unit	DF	Result	Expected	R	PD.	Accepta	ance Range
Iron	ug/L	1.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	lecovery	Accepta	ance Range
Iron	ug/L	1.00	101.	100.		101.	85 - 11	5
Matrix Spike							Lab ID =	800348-001
Parameter	Unit	DF	Result	Expected/Adde	ed R	lecovery	Accepta	ance Range
Iron	ug/L	1.00	98.0	100.(100.)		98.0	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Iron	ug/L	1.00	4970	5000		99.3	90 - 110)
MRCVS - Primary		À						
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Iron	ug/L	1.00	4980	5000		99.6	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	•	ance Range
Iron	ug/L	1.00	5000	5000		100.	90 - 110)
Interference Check S	tandard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	•	ance Range
Iron	ug/L	1.00	2100	2000		105.	80 - 120	כ
Interference Check S	Standard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	-	ance Range
Iron	ug/L	1.00	2170	2000		108.	80 - 12	כ
Interference Check S	Standard AB							1.0
Parameter	Unit	DF	Result	Expected	F	Recovery	-	ance Range
Iron	ug/L	1.00	2110	2000		106.	80 - 120	ו



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Interference Check Sta	andard AB							
Parameter Iron	Unit ug/L	DF 1.00	Result 2120	Expected 2000	Reco	overy 6.	Accepta 80 - 120	nce Range
Turbidity by SM 2130 B		Unit		03TUC12B	DF	MDL	RL	Result
800349-001 Turbidity 800349-002 Turbidity		NTU NTU	03/07	7/2012 7/2012	1.00 0.	.0140 .0140	0.100 0.100	ND ND
Method Blank								
Parameter Turbidity Duplicate	Unit NTU	DF 1.00	Result ND				Lab ID =	800349-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0.00	RPD 0		Accepta 0 - 20	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.41	Expected 8.00	Reco 10	overy 5,	Accepta 90 - 110	nce Range
Lab Control Sample D	•							
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.20	Expected 8.00	Reco 10:	overy 2.	Accepta 90 - 110	nce Range

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

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Total Dissolved Solids by SM 2540 C

Calculations

Batch: 03TDS12C Date Calculated: 3/9/12

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	110.3671	110.3673	110.3671	0.0002	No	0.0000	0.0	25.0	ND	1
800320-16	50	50.5020	50.5299	50.5295	0.0004	No	0.0275	550.0	50.0	550,0	1
800330-10	100	75.7663	75.8215	75.8211	0.0004	No	0.0548	548.0	25.0	548.0	1
800330-11	100	76.5136	76,5685	76.5681	0.0004	No	0.0545	545.0	25.0	545.0	1_
800351-5	100	72,5001	72.5318	72.5318	0.0000	No	0.0317	317.0	25.0	317.0	1
800348-1	20	47.5312	47.5903	47.5903	0,0000	No	0.0591	2955.0	125.0	2955.0	1
800348-2	. 10	75.3043	75.3577	75.3573	0.0004	No	0.0530	5300.0	250.0	5300.0	1
800349-1	10	49.2576	49.3026	49.3022	0.0004	No	0.0446	4460.0	250.0	4460.0	1
800349-2	10	48.0118	48.059	48.0589	0.0001	No	0.0471	4710.0	250.0	4710.0	1
800349-2D	10	49.6834 ⁹	49.7299	49.7296	0.0003	No	0.0462	4620.0	250.0	4620.0	⁻ 1
LCS	100	111.1855	111.2352	111.235	0.0002	No	0.0495	495.0	25.0	495.0	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)

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS12C Date Calculated: 3/9/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Caic TDS <1.3
		i		
800320-16	1008	0.55	655.2	0.84
800330-10	922	0.59	599.3	0.91
800330-11	904	0.60	587.6	0.93
800351-5	571	0.56	371.15	0.85
800348-1	4900	0.60	3185	0.93
800348-2	8560	0.62	5564	0.95
800349-1	7560	0.59	4914	0.91
800349-2	7870	0.60	5115.5	0.92
800349-2D	7870	0.59	5115.5	0,90
LCS				
		www.compression.com/com/com/com/com/com/com/com/com/com/		
			ļ ļ	
]	



1

Alkalinity by SM 2320B

3/13/12

Date of Analysis: ☐

TE I HUESDAIL LABORATORIES, INC.

03ALK12C 3/13/12 Water Analytical Batch: | Date Calculated:

	OH Alkatinity as CaCO, as CaCO.	╶ ┩╫╫	
			Q S
j	CO3 Alkalinity as CaCO,	ND ND ND S	88
	HCO3 Conc. as CaCO,	148.0 148.0 148.0	19.0
	Total Alkalinity Reported	Value ND 148.0 149.0 240.0	107.0
	RL, ppm		5
	to Total to 3 Alkalinity as	1.0 149.0 240.0	107.0
	Total r titrant reach ph unit lov		The second secon
	Titrant Volume to reach pH 4.5	0.05 7.45 12.00	535
	Volume Alkalinity as to reach PH 8.3 CaCO3	0.0 0.0 0.0 46.0	50.0
Titrant	Volume to reach pH 8.3	230	2.2
	N of HCL	0.02	0.02
	Sample Volume (mf)	50 50 50 50	50
	Sample pH	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10.25 10.16
	- Control of the Cont		
	Lab ID	BLANK 800349-2 800349-2 D 800349-2 MS	CSD

Calculations as follows;

A x N x 50000 mL sample Tor P≖

Where:

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

mL sample

C ≈ Total mL titrant to reach pH 0.3 unit lower

N = Normality of standard acid

B = mL titrant to first recorded pH

Where:

as mg/L CaCO3 Low Alkalinity:

> P = Phenolphthatein Alkalinity, mg CaCO3/L T = Total Alkalinity, mg CaCO3/L

> > Accept Limit | QC Within

Measured Value, ppm

Reporting Limit, RL 5 ppm

Blank Summary

Control?

3

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

MS/MSD = Matrix Spike/Duplicate ND = Not Detected (below the reporting limit) LCS = Laboratory Control Standard/Duplicate

QC Within Control? Laboratory Control Sample (LCS/LCSD) Summary

QC Std Measured L.D. Theoretical value, ppm % Recovery LCS 107 100 107.0% LCSD 103 100 103.0%	, min	A 0 0 0 0	Accetance	Ë		00 440	2 20	00 440	0 00
Measured Value, ppm 107	(minima)		% Recovery	•		107.0%	00.151	103.0%	20.00
		Theoretical	Value	value, ppm		250		9	
QC Std I.D. LCS LCSD		Measured	Value onm	المراجعة	101))	400	3	
	747	77008	٥.		2		000	1000	

OC Within Control?

Yes

<20%

0.7%

149

Yes

Sample Matrix Spike (MS/MSD) Summary

000	uru Accept Limit	
	RPD	
OC Within	Control?	
MS Accept	Limit 75-125	27.0.
MS	Rec 92%	
Theor Conc of Spk	248.00	•
Measrd Conc	240	
MS/MSD Amt	100	
Added Spk Conc	100	
Dil Factor		
Unspk sp!	148	
Lab Number	800349-2	

Analyst Printed Name ALK 3-13-2012

Analyst-Signature

Reviewer Printed Name Hope T.

QC Within Control?

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-351]

10 Days PAGE TURNAROUND TIME COC Number

Я

DATE 03/06/12

COMMENTS t=Hd NUMBER OF CONTAINERS - Reactive (4500-Si Cord) 1 Q (8500-NOSB) Dissolved Metals (2007) Fe, Mn lab suered × × (300.0) F, NO3, SO4 \times \times (4-002p) q lejot × Metals (2007) See List Below × × × Turb (2130) × TDS (2540 c) × × EC (150.1) Alkalinity (2320-B) Cr(VI) (218.6) Lab Fillered × × × × × DESCRIPTION 530-339-3303 13:02 13.31 TIME FAX 03/06/12 03/06/12 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 PG&E Topock IM3 530-229-3303 CH2M HILL /E2 424973.01.DM SC-100B-WDR-351 SC-700B-WDR-351 SAMPLERS (SIGNATURE PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE

,	CHAIN OF CUSTODY SIGNATU	NATURE	RE RECORD		SAMPLE CONDITIONS
(Relinquished) (Clare W Nar	Printed P. Kugilt	Company/ Agency	のまときまし	Date/ 3-6-12 Time (5:17	RECEIVED COOL IN WARM S. L. T.
Signature Signature Rrir (Received)	Printed HD 116	Company/ Agency	174	Date/ 3 - 6 - / と Time ノς・/ 2	CUSTODY SEALED YES [] NO []
Signature Prir Prir (Relinquished)	Printed H. Moll H.	Company/ Agency	771	Date/ と/ の - Time /> - 6 - / 2	S
Signature Mud & Prir (Received)	Printed Maleithwing Agency	Company/ Agency	76.	Date/ 3/6/14 14: 000	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn
Signature Prir (Relinquished) Nar	Printed Name	Company/ Agency		Date/ Time	
Signature Prir (Received) Nar	Printed Name	Company/ Agency		Date/ Time	

TOTAL NUMBER OF CONTAINERS

 $\widetilde{\mathcal{L}}$

Q.

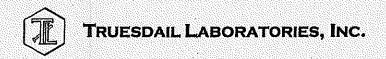
113

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab	Number	Initial pH	Buffer Added (ml	L) Final pH	Time Buffered	Initials
3/1/12		258-1		NIA	NA	N/A	(L)
	Ì	-2		ĺ	1	1	(,
		-3					
		-4					
		-5					
		-6					
		7					
		-8					
		_9					
		-\0					
		· -//	J	V.	4	4	
3/2/12.	800	290-1		5 mL	9.5	3:30 pm	Ru
3/6/12	800	332-1	7	5mL	۹,5	4:00 pm	GJ
		-3				Hiopm	İ
		4				4:15 pm	
<u>_</u> ,\(\bu_,\)_	•	V -5				4:25 pm	
3/7/12	800	1-8/1	7	5 mL	9.5	9:30 Am	$\mathcal{Q}J$
J.,	7	-2	4		7	9:40 AM	
3/7/12	800	349-1		5 mL	9.5	11:30 AM	ليبكي
4		<u>l -2</u>	<u> </u>	L.	<u> </u>	Mito An	7
3/7/12	800	<u> 1-478</u>	<u> </u>	SML	9.5	4.30 pm	Gur
<u> </u>		<u>√</u> -3	7	7	<u> </u>	4:40 pm	
3 8 12		396-1	7	5 ML	9.5	3:30 pm	G.
3/9/12		421-1	9.5	N/A	NA	N/A	(2)
<u> </u>		<u>b -2</u>	<u> </u>		1	<u> </u>	<u> </u>
3/13/12	800'	143 -1	7	Sal	9.5	3155 pm 4:05 pm	رک
, \(\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		<u>-3</u>	7		4	4:05 pm	<u> </u>
3/14/12	800	460	<u> </u>	S mL	9.5	9 Am	Qu/
		:					

Turbidity/pH Check

r			Turk	naity/pn Ci	IECK		Adjusted to
	Sample Number	Turbidity	рН	Date	Analyst	Need Digest	pH<2 (Y/N)
D _i S	880239 (1-21	< 1	< 2	2129/12	ES	yes	390 A
	00.00	21	22	1	i	1	/
· 1	800 240 (1-14)					J	ıl _
ַ	800 25 t	<u> </u>	22	3/2/12	V	NO	
	800 284	: 7			1	1	
	800 286				1	:./	
	700 287 11-3	71	72	3/2/12		yes.	3010A
	800 285	1		1	ſ		
	800262						
	800 275	 		- J	V	J	V
	800 285	21	72	3/2/12	ES	NO	
		21	72	3/5/12	BE	No	49 365 Kg
	800 294(12,4)	Solia	-	3/6/12	M.M	yes	TTLC
	800186	3000		1/0/12	L	1 L	de la
. L.	800 348 [1-2]	<1	>2	2/8/12	M.M	ves	3010A
	800 340 11-21	4/	12	3/8/12	MM	yen	30104
Mark 4	800 349 (12)	7/	22	3/8/12	MiM	Ves	3000 A
¥			-	210/12	- 	1	7
	800321	1	1	-1/		+ - J	
	800 3 FF	<u> </u>	22	3/8/12	占	ins	3010A
	(41 4 77 - (2)	7!	1	718/16		igis	T
	SW 358-13		<u> </u>	3/8/12	MM	403	3010 A
	800394	71	<u>22</u> <u>>2</u>	3/9/12	KA-	No	Ves 011.25 cm
	800320-10,-23	41	32	3/9/12	KK	No	Ves @ 11.30 am
	800334	4	12	3/9/12	KK	NO	VES @ 11:30 am
	800339 (1-3)	41		2610	KK	No	125 @ 11:30 m
	800351(-7-9) 4]	<u>\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ </u>	3/9/12	KL.	100	VOS 011:25 0V
	800358-2	41	12	3/9/12	PE.		AKZ G II ZW WALL
	8003+2 (18/18)	rx 3Pile	12	2014	V.I.	. N.A	VRI Q 11:35am
	800372 (10-12	1 4		3/9/12	KV-	NO NO	185 @ 11:40 am
	200391(1-10)) 4	12	3/9/12	F-4-	No	123 6 17 m
	800392 (1-10)		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3/9/12	KK	178	Jes & 12pm
	800395	Z (122	3912			TYPE O Zpm
	800411 (1-4)	4	1-32-	3/9/12	Pk.	NO	
	85041911-20		32 72	3/12/12	34	N C	Xc5 12:35 PM
	800 419 (1-3)		12	3/4/	 	1/21	3010 A
	300421(-1)	4/	<u> </u>	3/11/12	U.M	1 yes	X 25 13:35
	800 427(1,274		72	3/12/12	35	×e 5	30\0 A
•	T 200 2580-11		\$7	3/2/12	BES	+ - 1	+ - 1
Y	D 800 258LI-		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	4	l		
	80045811-6) <u> </u>	12	3/14/12	Bit	+-4-	++
٦	800 460	1 31	\ \\ \lambda_2	2/1/1/10			
	an 476-5	41	772	3/14/12	ES	No	
	300 462	2,	42		<u> </u>		70 10 A
	800 463	71		+	+-1	gu	1
	801465	<u> </u>					Ves 15 PM
	800486 (1.2		72	3/14/12	BE	NO	
	(A) 80049711-3		\ \ <u>Z</u>	3115,12	BE	xes	3010A .
	8004981) \	4	<u> </u>	1_1_	 	1
					1 1/	1 1.	
	800 34961		>2	318112	j v	Yes	30 10 4



Sample Integrity & Analysis Discrepancy Form

. CII	ent: $\mathcal{E}\mathcal{L}'$	Lab # <u> </u>
Da	te Delivered:0 <u>3</u> /06 / 12 Time: <u>ଥ/ 00</u> ⋅ By: □Mail 🔘 F	Field Service
1.	. Was a Chain of Custody received and signed?	ÆQYes □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 ÞÁWA
5 .	Were all requested analyses understood and acceptable?	æQiYes □No □N/A
<i>6.</i>	Were samples received in a chilled condition? Temperature (if yes)? 3/80C	ÆYes □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 ⊘ZN/A
9.	Does the number of samples received agree with Coc?	Yes ONO ONA
10.	Did sample labels correspond with the client ID's?	ZYes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail 🌣 Client	Yes DNo DN/A
12.	Were samples pH checked? pH = $\underline{Sel\ C}$. O . C .	AYes □No □N/A
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 □No □N/A
15.	Sample Matrix: □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid △	
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	L. Stephywno



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

April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-352 PROJECT, GROUNDWATER MONITORING, TLI No.: 800460

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-352 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 13, 2012, 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

Michael Ngo

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

Laboratory No.: 800460

Date: March 26, 2012 Collected: March 13, 2012 Received: March 13, 2012

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	Maksim Gorbunov / George Wahba / Melissa Scharfe

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 424973.01.DM P.O. No.: 424973.01.DM

Established 1931

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Laboratory No.: 800460

Date Received: March 13, 2012

Analytical Results Summary

Lab Sample ID Field ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
800460-001	SC-700B-WDR-352 E120.1	E120.1	NONE Grander	3/13/2012	13:00	EC	7540 ND	umhos/cm	2.00
800460-001	SC-700B-WDR-352	E200.8	NONE-digested	3/13/2012	13:00	Manganese	7.4	ug/L	1.0
800460-001	SC-700B-WDR-352	E218.6	LABFLT	3/13/2012	13:00	Chromium, hexavalent	Q	ng/L	0.20
800460-001	SC-700B-WDR-352	SM2130B	NONE	3/13/2012	13:00	Turbidity	2) NTO	0.100
800460-001	SC-700B-WDR-352 SM2540C	SM2540C	NONE	3/13/2012	13:00	Total Dissolved Solids	4380	mg/L	250

ND: Non Detected (below reporting limit)

mg/L; Milligrams per liter.

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

Result above or equal to 0.01ppm will have three (3) significant figures. Quality Control data will always have three (3) significant figures.

TRUESDAIL LABORATORIES, INC.

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Page 1 of 8

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Printed 3/26/2012

Laboratory No. 800460

REPORT

E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Release Number:

Project Number: 424973.01.DM

P.O. Number: 424973.01.DM

Samples Received on 3/13/2012 9:00:00 PM

Field ID Lab ID Collected Matrix SC-700B-WDR-352 800460-001 03/13/2012 13:00 Water Specific Conductivity - EPA 120.1 Batch 03EC12D Parameter Unit Analyzed DF MDL RL Result 800460-001 Specific Conductivity umhos/cm 03/15/2012 1.00 0.0950 2.00 7540 Method Blank Parameter Unit DF Result Specific Conductivity umhos 1.00 ND **Duplicate** Lab ID = 800460-001 Parameter Unit DF Result Expected RPD Acceptance Range Specific Conductivity umhos 1.00 7550 7540 0.1320 - 10Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 693 706 98.2 90 - 110 MRCCS - Secondary Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 700. 706 99.2 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range Specific Conductivity umhos 1.00 965 998 96.7 90 - 110

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories. 008



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Page 2 of 8 Printed 3/26/2012

Chrome VI by EPA 218.6

Batch 03CrH12J

V			Daton	000111720				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
800460-001 Chromium, Hexa	valent	ug/L	03/16	/2012 11:39 1	.05	0.0260	0.20	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	800517-006
Parameter Chromium, Hexavalent Low Level Calibration	Unit ug/L Verification	DF 1.00	Result 6.41	Expected 6.36	F	RPD 0.722		ance Range
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.00	Result 0.192	Expected 0.200	F	Recovery 96.0	Accepta 70 - 130	ance Range)
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.79	Expected 5.00	F	Recovery 95.8	90 - 110	ance Range) 800460-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.24	Expected/Adde 5.40(5.25)	d F	Recovery 96.9	90 - 110	ance Range) 800460-001
Paramèter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.15	Expected/Adde 1.22(1.06)	d F	Recovery 92.9	90 - 110	ance Range) 800517-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 6.28	Expected/Adde 6.46(5.00)	ed F	Recovery 96.4	90 - 110	ance Range) 800517-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 0.985	Expected/Adde 1.04(1.00)	d F	Recovery 93.9	90 - 110	ance Range) 800517-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 1.56	Expected/Adde 1.58(1.00)	d F	Recovery 97.6	90 - 110	ince Range) 800517-004
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 8.95	Expected/Adde 9.27(5.00)	d F	Recovery 93.7	Accepta 90 - 110	ince Range

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01.DM

Page 5 of 8 Printed 3/26/2012

Metals by EPA 200.8, T	otal		Batch	031412B			
Parameter		Unit	Ana	lyzed D	F MDL	RL	Result
800460-001 Chromium		ug/ L	03/15	5/2012 07:24 5.0	00 0.110	1.0	ND
Manganese		ug/L	03/15	5/2012 07:24 5.0	0 0.285	1.0	7.4
Method Blank							
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab ID =	8004 60-001
Parameter	Unit	DF	Result	Expected	RPD	Accepta	ance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20	_
Manganese	ug/L	5.00	7.29	7.38	1.23	0 - 20	
Low Level Calibration	n Verification	I					
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	0.202	0.200	101.	70 - 130)
Manganese	ug/L	1.00	0.229	0.200	115.	70 - 130)
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	113.	100,	113.	85 - 118	5
Manganese	ug/L	5.00	98.3	100.	98.3	85 - 118	5
Matrix Spike						Lab ID =	800460-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	97.1	100.(100.)	97.1	75 - 125	5
Manganese	ug/L	5.00	102.	107.(100.)	94.5	75 - 128	5
Matrix Spike Duplica	ate					Lab ID =	800460-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	99.6	100.(100.)	99.6	75 - 12	5
Manganese	ug/L	5.00	100.	107.(100.)	92.8	75 - 128	5
MRCCS - Secondar	у						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	9.41	10.0	94.1	90 - 110)
Manganese	ug/L	1.00	9.56	10.0	95.6	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	9.82	10.0	98.2	90 - 110	_

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012



Client: E2 Consulting En	gineers, Inc.		oject Name: oject Numbe	PG&E Topoo :: 424973.01.D	•	Page 7 of 8 Printed 3/26/2012
Interference Check S	tandard A					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	ND	0.00		
Interference Check S	tandard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10,2	10.0	102.	80 - 120
Interference Check S	tandard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	10.1	10.0	101.	80 - 120
Interference Check S	tandard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	10.1	10.0	101.	80 - 120
Interference Check S	tandard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	10,1	10.0	101	80 - 120
			D-4-b	OOTGG4AD		
Total Dissolved Solids I	oy SIVI 2540	7.7		03TDS12D	DE MDI	
Parameter		Unit	· · · · · · · · · · · · · · · · · · ·	yzed	DF MDL	RL Result
800460-001 Total Dissolved	Solids	mg/L	03/14	/2012	1.00 0,400	250. 4380
Method Blank						
Parameter	Unit	DF	Result			
Total Dissolved Solids	mg/L	1.00	ND			
Duplicate						Lab ID = 800427-004
Parameter	Unit	DF	Result	Expected	ŔPĎ	Acceptance Range
Total Dissolved Solids	mg/L	1.00	208	205	1.45	0 - 5
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	501	500.	100.	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

----- 404072 04 DM

Page 8 of 8

Project Number: 424973.01.DM

Printed 3/26/2012

Turbidity by SM 2130 B			Batch	03TUC12H		*:		
Parameter	ere e u cereu ulifea u	Unit	Ana	lyzed	DF	MDL	RL	Result
800460-001 Turbidity		NTU	03/14	/2012	1.00	0.0140	0.100	ND
Method Blank								
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID =	800460-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
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	8.40	8.00		105	90 - 110)
Lab Control Sample Du	uplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	8.23	8.00		103.	90 - 110)

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

سے Mona Nassimi

Manager, Analytical Services

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

015



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 03TDS12D

Date Calculated: 3/15/12

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	111.3978	111.3982	111.3980	0.0002	No	0.0002	2.0	25.0	ND	1
800420-1	100	75.9713	76.0254	76.0253	0.0001	No	0.0540	540,0	25.0	540.0	1
800420-2	100	108.0925	108.1475	108.1475	0.0000	No	0.0550	550.0	25.0	550.0	1
800420-3	50	47.8501	47.8796	47.8792	0.0004	No	0.0291	582.0	50.0	582.0	1
800427-2	200	112.9730	112.9887	112.9886	0.0001	No	0.0156	78.0	12.5	78.0	1
800427-4	100	74.2344	74.255	74.2549	0.0001	No	0.0205	205.0	25.0	205.0	1
800459-1	20	50.9590	51.0409	51.0406	0.0003	No	0,0816	4080.0	125.0	4080.0	1
800459-2	50	47.9639	48,0731	48.0731	0.0000	No	0.1092	2184.0	50.0	2184.0	1
800459-3	100	100.6790	100.7273	100.7273	0.0000	No	0.0483	483.0	25.0	483.0	1
800459-4	100	111.5162	111.5642	111.5642	0.0000	No	0.0480	480.0	25.0	480.0	11
800459-5	50	50.4229	50.461	50.4608	0.0002	No	0.0379	758.0	50.0	758.0	1
800427-4D	100	68.3197	68.3406	68.3405	0.0001	No	0.0208	208.0	25.0	208.0	1
LCS	100	103.7342	103.7845	103.7843	0.0002	No	0.0501	501.0	25.0	501.0	1
800459-6	100	65.6268	65.6646	65.6643	0.0003	Nο	0.0375	375.0	25.0	375.0	1
800460	10	49.3263	49.3703	49.3701	0.0002	No	0.0438	4380.0	250.0	4380.0	1
800469	1000	167.3462	157.3475	167.3472	0.0003	No	0.0010	1.0	2.5	ND	1
800487-1	100	76.3432	76.364	76.3636	0.0004	No	0.0204	204.0	25.0	204.0	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 Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS12D Date Calculated: 3/15/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
5004004				
800420-1	950	0.57	617.5	0.87
800420-2	938	0.59	609.7	0.90
800420-3	1015	0.57	659.75	0.88
800427-2	158	0.49	102.7	0.76
800427-4	374	0.55	243.1	0.84
800459-1	5600	0.73	3640	1.12
800459-2	3290	0.66	2138.5	1.02
800459-3	802	0.60	521.3	0.93
800459-4	807	0.59	524.55	0.92
800459-5	1270	0.60	825.5	0.92
800427-4D	374	0.56	243.1	0.86
LCS				
800459-6	622	0.60	404.3	0.93
800460	7520	0.58	4888	0.90
800469	6.41	ND	4.1665	ND
800487-1	364	0.56	236.6	0.86

A

M

WelChem TDS_0810.xis

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-352]

COC Number

TURNAROUND TIME DATE 03/13/12

g

10 Days PAGE 1

COMPANY	E2							/	/ /	/	/	/	/	/	/	/	/	/		,	O E 14 D PARA CO	
PROJECT NAME	PG&E Topock						_		_											,		
PHONE	(530) 229-3303		AX (530)	FAX (530) 339-3303			-			_								S	_			
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 1612	1 1			As	N. Mo	(1501)										HAINIATI				
P.O. NUMBER	424973.01.DM		TEAM			OF FIRE	(100	BOUP!	-	(DE L							31	VO ₂				
SAMPLERS (SIGNATURE	ATURE			***************************************	7 (9.8 kg	Pocoudi Netals (2	PUOD O	SW2540K	_	EWS) AH							BER					
SAMPLE 1.D.		DATE	TIME	DESCRIPTION) gg	I POI	load's	Sai	\rightarrow		/						MUM				***************************************	ľ
SC-700B-WDR-352	२-352	03/13/12 1300	ari	Water	×	×	×	×	×				·········				'n		C	1=6	100	1



Sarrone Conditions
See Formations

TOTAL NUMBER OF CONTAINERS

3

		CHAIN OF CUSTODY SIGNATUR	GNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)		Printed Now 1 HELDS	Companyl (JPZ) Agency (JPZ)	Datel 3-13-12 Time	RECEIVED COOL BY WARM 5 3.7 "
Signature (Received)	A Comment of the Comm	Printed ///201/10	Company/ 72/	Date/ ター/ティノグ Time ノくさの	CUSTODY SEALED YES [] NO []Z
Signature (Relinquished)	17	Printed HIMITE	Company/ X/	Date/>-/3-/-	SPECIAL REQUIREMENTS:
Signature (wa	Printed (), Name () Late 1 Late	Company/ j 7 j Agency	Date/ 3//3//2 2//00	
Signature (Relinquished)		Printed Name	Company/ Agency	Date/ Time	
Signature (Received)		Printed Name	Company/ Agency	Date/ Time	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab N	lumber	Initia	ΙрΗ	Buffer A	dded (mL)	Fin	al pH	Time B	uffered	Init	——
3/1/12		258-1	۹.			/A		/A	N		1	lais 1
ľ		~ 2	<u> </u>				//		1		(3	
		3									 	
		<u>-</u> 4										-
		-5										╫
		-6						-				├
		7										┼─
		-8										├
		-9					,			 		\vdash
		-\0								1		
	J	11		,		<i>j</i> .	•	1				<u></u>
3/2/12.	8002	90-1	Γ		5 n	1L	9.	5	3:30	pm	2	J
3/6/12	8003	32-1	7		5	mL	q	1.5	4:00		G.	J
<u> </u>		-3							4:10			
		-7							4:15	pm		
<u>,</u> ,	4	-5				ø		,	4: 25	pm		
3/7/12	8003	18-1	7		5	ML	٩.	5	9:30	Am	Q.	\mathcal{J}
<i>\\</i>	7	-2	<u> </u>			1	ļ	v	9:40			,
3/7/12	8003	79-1	7		ç	THL	9.	5	<u> </u>	Am	ركم	刀
4	7	-2				V	1	,	No Mo	Am	1	,
3/7/12	800					ML	9.	S	4.30	pm	<u>C</u>	./
	1	<u>-3</u>	7	a		1		<u>. </u>	4:40	pm	<u> </u>	,
3 8 12	8003		<u> </u>		5 mL	,	٩.	5	3:30	pm	<u>G</u>	_
3/9/12	8000	121-1	9.9	5		/A	\mathcal{N}	A	V	/A	<u>ري</u> <u>ئي </u>	
7	<u>্ </u>	-2	/	<u> </u>			7				<u>\</u>	
3/13/12	8004		<u> </u>			<u> </u>	9.5		3122	pm	<u>ري</u>	,
- / · · · · ·	<u> </u>	-3	7				<u> \</u>		4:05	pm	<u> </u>	
3/14/12	8004	160		\dashv		mL	9.	5	90	m	<u>Gu</u>	_
											······································	
			 									
· .												

Turbidity/pH Check

				bidity/pH C			
	Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
0,5	800239 (1-21	< 1	<2	2129/12	ES	yes	300 A
7	000240 11-121	c1	<2		1		1
	800 240 [1-14]	V	l d	1	1	il	
	800257	61	<u>~2</u>	3/2/12		NO.	
	800 284	· /	1	1	1	1	
	800286				1		
	800 287 (1-3	71	72	3/2/12		Yes	3010A
	8 m 285	1	7	1			30700
	800262		- 1				
	800 275				V		1,
	800 289		72	3/2/12	ES ES	NO	V
		<u> </u>	72	3/5/12		***************************************	100
	800,294(1,2,4)	21	2 ~		BE	No	19 6 B
	800186	Solia		3/6/12	M.M.	Yes	TTLC
	800 303	ct	-	1	<i>V</i>	<i>V</i>	<u> </u>
	800 348 (1-2)		22	3/8/12	H.M	yes	3010A
作了	800 349 (12)	4/	22	3/8/12	· M.M	yes	3010A
	800 298	7/	12	3/8/12	MiM	yas	3000 A
	800321		<u> </u>				
	800377	V	V	1		<i>y</i>	y
	gro 376	71	22	3/8/12	ES	ys	3010A
	SW 358-13					<u> </u>	L
	80039U	71	<i>C</i> 2	3/8/12	MM	Yes	3010A
	800320-10-23	4	>2	3/9/12	KK	No	Ves O11: 25 am
	800337	<u></u>	52	3/9/12	KK	No	VRS @ 11.30 am
	800339 (1-3)	4	12	3/9/12	ILK	NO	VRS @ 11:30 AM
	800351(-7-9) 41		3/9/12	1¢ K	No	PE 6 11:30 m
	800358-2	41	\2	3/9/12	Kle-	1/6	VOS 0 11:35 ON
	800372 (MX)	KK 312/1R		1 1112			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	800372 10-12		12	3/9/12	64-	NO	VRI @ 11:350
	200391(1-10)	41	12	3/9/12	FK	100	hes & 11:40 av
	800392(1-10)	2	<u> </u>	3/9/12		Na	NRS & 11:40 av
	\$00 70E	L (CE	No	Jes & 12 pm
	800395		72	3912	Pk		1000
	800411 (1-4)	41	22	3912		140	Met of spr
	800419 (1-20)	<u> </u>	72	3/12/12	BE	N C	Xcs 12:35
	800 419 (1-3)	<u> </u>	72	1		<u> </u>	- V
	200 421 (-1)	۷/	<u> </u>	3(11/12	u.u.	Yes	3010 A
	800 427 (1,2,4)		72	3/18/12	BE.	No	Xcs 13:35
T		 	X 2	3/2/12	3.E	Xc 5	3010 A
10		 	<u> </u>	1		4	4
	800 U58(1-6)	<1	<2 	3/14/12	Bit	4	4
T	800 460	۲١.	72-2-6		4	<u></u>	xes 1
	GN 476-5	41	72'	3/14/12	ES	No	
	3n 462	Z	42	1		1	
	800 463	71				gu	70 W A
	80465	71		1	4	4	T
	800486 (12)	₹ 1	72	3/14/12	BE	NO	Yes 15 P1
1	9) 80049711-6	71	12	3/15/12	BE	xes	3010A .
`	800498(1)	'V'	¥	1	¥	' 4	
	111114 008		1	 	 		J.
	€ 800 349(E))	4	1			1 T	30104



TRUESDAIL LABORATORIES, INC.

Sample Integrity & Analysis Discrepancy Form

. Cli	ent: <u>E &</u> *	Lab#	800460
Da	te Delivered:ℓ <u>/3</u> / <u>/3</u> / 12	ՃField Service	□ Client
1.	. Was a Chain of Custody received and signed?	Ø(Yes □N	o □ <i>N/A</i>
2.	Does Customer require an acknowledgement of the COC?	□Yes □N	o ØNA
3 .	Are there any special requirements or notes on the COC?	□Yes □N	o ANA
4.	If a letter was sent with the COC, does it match the COC?	□Yes □M	o ,⊉N/A
5.	Were all requested analyses understood and acceptable?	,⊉Yes □N	
6.	Were samples received in a chilled condition? Temperature (if yes)? <mark>₹.२°C</mark>	ÁdiYes □No	o DN /A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	শ্ব(Yes □No	o □ <i>N/A</i>
8.	∜Were sample custody seals intact?	□Yes □No	d NA
9.	Does the number of samples received agree with COC?	ØYes □No	DN/A
10.	Did sample labels correspond with the client ID's?	ДiYes □No	□ <i>N/A</i>
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	□Yes □No	ØÍN∕A
12.	Were samples pH checked? pH = $\underline{See\ C}$ \mathcal{O} · \mathcal{C} .	Ø Yes □No	□N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	∕యYes □No	□N⁄A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): 및 RUSH 전 Std	.⊠Yes □No	□N⁄A
15.	Sample Matrix: □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid		te Water <i>ER</i>
16.	Comments:		
17	Sample Check-in completed by Truesdail Log-In/Receiving	. L. Stiarbn	way

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

Revision 1: 04/10/12

April 10, 2012

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

Construction Control of the Control

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-353 PROJECT, GROUNDWATER

MONITORING, TLI NO.: 800584

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-353 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 20, 2012, 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

Michael Ngo

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

Laboratory No.: 800584

Date: April 2, 2012

Collected: March 20, 2012 Received: March 20, 2012

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	George Wahba / Melissa Scharfe

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 424973,01.DM P.O. No.: 424973.01.DM



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Laboratory No.: 800584

Date Received: March 20, 2012

Analytical Results Summary

RL	1.0 1.0 1.0 1.0 0.100 250
Units	umhos/cm ug/L ug/L NTU MT/L
Result	7380 ND 1.4 ND 0.110 4340
Parameter	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids
Sample Time	11:30 11:30 11:30 11:30 11:30
Sample Date	3/20/2012 3/20/2012 3/20/2012 3/20/2012 3/20/2012 3/20/2012
Extraction Method	NONE NONE-digested NONE-digested LABFLT NONE
Analysis Method	E120.1 E200.8 E200.8 E218.6 SM2130B SM2540C
D Field ID	SC-700B-WDR-353 E120.1 SC-700B-WDR-353 E200.8 SC-700B-WDR-353 E200.8 SC-700B-WDR-353 E218.6 SC-700B-WDR-353 SM2130B SC-700B-WDR-353 SM2130B
Lab Sample ID Field ID	800584-001 800584-001 800584-001 800584-001 800584-001 800584-001

NO: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

Result above or equal to 0.01ppm will have three (3) significant figures. Quality Control data will always have three (3) significant figures.

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Page 1 of 6

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Printed 4/2/2012

Laboratory No. 800584

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Field ID

SC-700B-WDR-353

Samples Received on 3/20/2012 9:00:00 PM

Lab ID Collected Matrix

800584-001 03/20/2012 11:30 Water

Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
800584-001 Specific Conduct	ivity	umhos/d	m 03/21	/2012	1.00	0.0950	2.00	7380
Method Blank								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	800584-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7390	Expected 7380	F	RPD 0.135	Accepta 0 - 10	ance Range
Parameter Specific Conductivity Lab Control Sample D	Unit umhos uplicate	DF 1.00	Result 705	Expected 706	ŧ	Recovery 99.8	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 710.	Expected 706	F	Recovery 100.	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 695	Expected 706	F	Recovery 98.4	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 970.	Expected 998	F	Recovery 97.2	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 972	Expected 998	F	Recovery 97.4	Accepta 90 - 110	ance 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: 424973.01.DM

Page 2 of 6 Printed 4/2/2012

Chrome VI by EPA 218.6			Batch	03CrH12M			
Parameter		Unit	Ana	lyzed [F MDL	RL	Result
800584-001 Chromium, Hexa	valent	ug/L	03/21	/2012 11:20 5.	25 0.136	1.0	ND
Method Blank							
Parameter	Unit	DF	Result				
Chromium, Hexavalent	ug/L	1.00	ND				
Duplicate						Lab ID =	800584-001
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Chromium, Hexavalent	ug/L	5.25	0.154	0.161	4.64	0 - 20	
Low Level Calibration	Verification						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.00	0.199	0.200	99.4	70 - 130	_
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.00	4.87	5.00	97.4	90 - 110	•
Matrix Spike						Lab ID =	800584-001
Parameter	Unit	DF	Result	Expected/Added	d Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	5.25	4.98	5.41(5.25)	91.7	90 - 110	_
Matrix Spike						Lab ID =	800584-001
Parameter	Unit	DF	Result	Expected/Added	d Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.18(1.06)	94.8	90 - 110	
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.00	4.82	5.00	96.3	90 - 110	_
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104.	95 - 105	•



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 424973.01,DM

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Metals by EPA 200.8, Total			Batch	032712A				
Parameter		Unit	Ana	lyzed [)F	MDL	RL	Result
800584-001 Chromium		ug/L	03/27	7/2012 15:42 5	.00	0.110	1.0	ND
Manganese		ug/L	03/27	7/2012 15:42 5	.00	0.285	1.0	1.4
Method Blank			·					
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	800584-001
Parameter	Unit	DF	Result	Expected	R	RPD	Accepta	ance Range
Chromium	ug/L	5.00	ND	0.00		0	0 - 20	· ·
Manganese	ug/L	5.00	1.31	1.35		2.78	0 - 20	
Low Level Calibration	n Verification	ì						
Parameter	Unit	DF	Result	Expected	R	tecovery	Accepta	ance Range
Chromium	ug/L	1.00	0.215	0.200		107.	70 - 130	_
Manganese	ug/L	1.00	0.218	0.200	109.		70 - 130	כ
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	tecovery	Accepta	ance Range
Chromium	ug/L	5.00	100.	100.		100.	85 - 11	5
Manganese	ug/L	5.00	99.4	100.		99.4	85 - 11	5
Matrix Spike							Lab ID =	800584-001
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery	Accepta	ance Range
Chromium	ug/L	5.00	94.2	100.(100.)		94.2	75 - 12	5
Manganese	ug/L	5.00	91.0	101.(100.)		89.6	75 - 12	5
MRCCS - Secondary	,							
Parameter	Unit	DF	Result	Expected	R	tecovery	Accepta	ance Range
Chromium	ug/L	1.00	10.0	10.0		100.	90 - 110	
Manganese	ug/L	1.00	10.2	10.0		102.	90 - 110	כ
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	tecovery	Accepta	ance Range
Chromium	ug/L	1.00	9.59	10.0		95.9	90 - 110	•
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ance Range
Chromium	ug/L	1.00	9.40	10.0		94.0	90 - 110	_

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

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Client: E2 Consulting Engineers, Inc.

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Total Dissolved Solids b	otal Dissolved Solids by SM 2540 C							
Parameter		Unit	Analyzed		DF	MDL	RL	Result
800584-001 Total Dissolved S	Solids	mg/L	03/21	/2012	1.00	0.400	250.	4340
Method Blank								***************************************
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID =	800535-005
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 260.	Expected 262	RPD 0.766		Acceptance Range 0 - 5	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 512	Expected 500.		Recovery 102.		nce Range
Turbidity by SM 2130 B	+1 +4	Unit		03TUC12K	DF	MDL	RL	Result
800584-001 Turbidity		NTU		lyzed /2012	1.00	0.0140	0,100	0,110
Method Blank		INTO	03/2	12012	1.00	0.0140	0,100	U, 11U
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID =	800584-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result 0.112	Expected 0.110		PD 1.80	Accepta 0 - 20	nce Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.02	Expected 8.00	Recovery 100.		Acceptance Range 90 - 110	
Lab Control Sample D	uplicate							
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.95	Expected 8.00		ecovery 99.4	Accepta 90 - 110	ince Range



Client: E2 Consulting Engineers, Inc.

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Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

for - Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 03TDS12F Date Calculated: 3/22/12

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	112.3117	112.3121	112.3119	0.0002	No	0.0002	2.0	25.0	ND	1
* 800535-1	50	49.8842	49.9563	49.9561	0.0002	No	0.0719	1438.0	50.0	1438.0	1
800535-2	50	49.8228	49.8936	49.8932	0.0004	No	0.0704	1408.0	50.0	1408.0	1
800535-3	50	48.1836	48.2372	48.2372	0.0000	No	0.0536	1072.0	50.0	1072.0	1
800535-4	100	74.7339	74.7641	74.764	0.0001	No	0.0301	301.0	25.0	301.0	1
800535-5	100	105.3528	105.3792	105.379	0.0002	No	0.0262	262.0	25.0	262.0	1
800584	10	49.0239	49.0677	49.0673	0.0004	No	0.0434	4340.0	250.0	4340.0	1
800\$35-5D	100	111.3701	111.3965	111.3961	0.0004	No	0.0260	260.0	25.0	260.0	1
LCS	100	110.7277	110.779	110.7789	0.0001	No	0.0512	512.0	25.0	512.0	1
LCSD				i			Talanta Menanta anta anta anta anta anta anta ant		M		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)

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS12F Date Calculated: 3/22/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Cald TDS <1,3
			1000 +	
800535-1	2010	0.72	1306,5	1.10
800535-2	2000	0.70	1300	1.08
800535-3	1590	0.67	1033.5	1.04
800535-4	474	0.64	308.1	0.98
800535-5	405	0.65	263.25	1.00
800584	7390	0.59	4803.5	0.90
800535-5D	405	0.64	263.25	0.99
LCS				
			-	
	- WINDOWS A AD			
			1	***************************************



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TRUESDAL 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-353]

ROOSRY DA

9

253 COMMENTS 9=1/0 NUMBER OF CONTAINERS Rec'd 03/20/12 & Turbidity (SM2130) 105 (SM2540C) × × DESCRIPTION Water FAX (530) 339-3303 TEAM TIME 03/20/12 155 Grand Ave Ste 1000 DATE ટુ Oakland, CA 94612 (530) 229-3303 424973,01.DM PG&E Topock SAMPLERS (SIGNATURE SC-700B-WDR-353 E2 PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE



Son Topic Conditions of the Condition of

TOTAL NUMBER OF CONTAINERS

3

1	THE THE THE THE THE THE THE THE THE THE	CHAIN OF CUSTODY SIGNATURE RECORD	GNATURE	RECORD		SAMPLE CONDITIONS
<u>*</u>	Signature (Relinquished) GLIM Off	Printed (1:04.01. Cit 04.17-	Company/ Agency	DM I	Date/ 3 ~ 2 0 ~ 1 2 Time	RECEIVED COOL D WARM H. & E
±,,,,,,,,,,,,	Signature (Received)	Printed H Polit	Company/ Agency	121	Date/ 3~80~/ 化 Time /5.2 の	CUSTODY SEALED YES NO
·	Signature (Relinquished)	Printed HACLI FO	Company/ Agency	721	Datel 3 - 20 - 7 & Time	SPECIAL REQUIREMENTS:
01	Signature * Collins (Received)	Printed Madinal Was Agency	Company/ Agency	777	Date! 3/20/18 Time	
6	Signature (Relinquished)	Printed Name	Company/ Agency		Date/ Time	
0}	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
3/16/12	800534-1	95	N/A	N/A	N/A	MG
	-2	\$				
	3					-
	-4					
	-5					
1	V ~6	V	V	V	· 1	
3/21/12	800584	7.0	5mC	9,5	10:1500	m
				·		
				·		
				-		
					·	
·						
	· · · · · · · · · · · · · · · · · · ·				· · ·	
						·
			-			

CJ 3/23/12 036 017 Turbidity/pH Check

Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
50 504 (1-3)	∠1	72	3/16/12	ES	No	415 a) 10500 am
	1	22	1	}		
gw 509	- 1	1			T	
GN 510	71 71			工工	m	3010A
gn 5/2 (1-2)		く2	3/19/12	Bb	yy xes	3010 A
800517(1-9)	\$\frac{1}{1} \frac{1}{2}	12	J	1	1	
80.0518 24.5161		12	1 1		/	30(cA
9 4 = 534 (1-51	1 7 00				1	3 alop
8 0 0533(1-33		42	3-20-12	BE	No	No
800 540	<u> </u>	<u> </u>				
840541		<u> </u>	 			
800547 (1-2)	 	12	3-25-12	3 E	Yes	39 /0A
800550	71		+			· ·
802546	-	<u> </u>	1			
800 551	1		+			
8003520-91	<u> </u>		+			
800554	+	72	3-21-12		Nº 2	yes 12:00
843 559 (1-10)	<u> </u>	72	+ 1		1	12:00
800 560 (1-10)		>2	3-21-12		- NO	ye5
800504 LI-3)		1 12	 	BE	<u> </u>	№ 0
@10540	<u> </u>	\	327-12		No	№ 0
800 547 (172)		1				
8 00 541	<u> </u>					
800565	 	 	+			
8005562		 	+			
800283		-				
201564			3-22-12		No	No
80260911-3	< 1	<u> </u>	1 2 2 1 1			
804601	J	7.2		 	No	yes 8:30AM
80461511-36		1			1	
80061361-3		-		<u> </u>		
8006124-2		- -				1 1
800611 11-19		4	3-72-12	Bb	X 25	30 lo A
800566	71	42				yes 9:30
9.00584	<1 >t	7 7 2		+	xes	3010 A X (59)
800 609-1		-+		1-1-	No	X = > 9:30 P
800 609 (2-		 		+	~0	yes 9130A
800 582	<u> </u>	72		 	- \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1
840 573(1-	<u> </u>	72		+		yes 11:30
800607(1				BE	No.	V 9113
800 61011	6 <1	72				NO
800628	- '`	1		+ 1,	1	1
800 50	<u> </u>		3/26/12	KX	No	No
800672		<u> </u>	3/76/17	1		Yes @ 8 15 a
7900079(1	-101) (1	>7				
8104 75 (1	-10) 스1	72		+- , † .		
300676(1-19) 61,	72	12/10	- V	100	NO
800649		12	3/26/17	KK		1 1/2
800650	<u>CL</u>	42	2/2/12	* KK	- Ves	Phys 32012
800 639	2164	kk <u>2</u> 2	- 3/24/2	_ P#		YES 3010 A



Sample Integrity & Analysis Discrepancy Form

Client: <u>EL'</u>	Lab # _ \$'008'4
Date Delivered: ₽3/20/12 Time: ½:00 By: □Mail ��F	Field Service
1. Was a Chain of Custody received and signed?	ଷYes □No □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 ØN/A
4. If a letter was sent with the COC, does it match the COC?	□Yes □No ÆN/A
5. Were all requested analyses understood and acceptable?	ÁgYes □No □N/A
6. Were samples received in a chilled condition? Temperature (if yes)? 4.8° C	√⊒Yes □No □N/A
7. Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	AQYes □No □N/A
3. •Were sample custody seals intact?	□Yes □No ÆN/A
Does the number of samples received agree with 600?	ДiYes □No □N/A
0. Did sample labels correspond with the client 10 \$2	. ∠dYes □No □N/A
1. Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	Yes □No ⊠N/A
2. Were samples pH checked? pH = $\frac{\int ee}{\int e}$ C. ϕ . e	Yes □No □N/A
3. Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Y⊿Yes □No □N/A
4. Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH 总 Std	ØYes □No □N/A
5. <u>Sample Matrix:</u> □Liquid □Drinking Water □Ground \ □Sludge □Soil □Wipe □Paint □Solid Ø	. 1// / .
6. Comments:	
7. Sample Check-In completed by Truesdail Log-In/Receiving:	_ director Shar

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April 10, 2012

E2 Consulting Engineers, Inc. Mr. Shawn Duffy 155 Grand Ave., Suite 1000 Oakland, California 94612 Revision 1: 04/10/12

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-354 PROJECT, GROUNDWATER MONITORING, TLI No.: 800732

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-354 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 27, 2012, 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

Michael Ngo

Quality Assurance/Quality Control Officer

TRUESDAIL LABORATORIES, INC.

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 424973.01.DM

Laboratory No.: 800732

Date: April 5, 2012 **Collected:** March 27, 2012

Received: March 27, 2012

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	Melissa Scharfe / Maksim Gorbunov

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

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 424973.01.DM P.O. No.: 424973.01.DM



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Date Received: March 27, 2012 Laboratory No.: 800732

Analytical Results Summary

RL	2.00 1.0 1.0 1.0 0.100 250
Units	umhos/cm ug/L ug/L ug/L NTU mg/L
Result	7620 ND 4.3 ND ND 4480
Parameter	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids
Sample Time	10:00 10:00 10:00 10:00 10:00
Sample Date	3/27/2012 3/27/2012 3/27/2012 3/27/2012 3/27/2012 3/27/2012
Extraction Method	NONE NONE-digested NONE-digested LABFLT NONE
Analysis Method	t E120.1 t E200.8 t E200.8 t E218.6 t SM2130B t SM2540C
7 Field ID	SC-700B-WDR-354 E120.1 SC-700B-WDR-354 E200.8 SC-700B-WDR-354 E218.6 SC-700B-WDR-354 E218.6 SC-700B-WDR-354 SM213 SC-700B-WDR-354 SM213
Lab Sample ID Field ID	800732-001 800732-001 800732-001 800732-001 800732-001

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.

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

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Laboratory No. 800732

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: 424973.01.DM P.O. Number: 424973.01.DM

Release Number:

Samples Received on 3/27/2012 9:00:00 PM

Field ID				Lab ID	Col	lected	Matr	ix
SC-700B-WDR-354				800732-001	03/27	/2012 10:00	Wat	er
Specific Conductivity -	EPA 120.1		Batch	03EC12G				
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
800732-001 Specific Conduc	ctivity	umhos/cr	n 03/28	B/2012	1.00	0.0950	2,00	7620
Method Blank								
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				l ah ID ≕	800732-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7620	Expected 7620	F	RPD 0.00		ance Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 703	Expected 706	F	Recovery 99.6	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 702	Expected 706	F	Recovery 99.4	Accepta 90 - 110	ance Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 974	Expected 998	F	Recovery 97.6	Accepta 90 - 110	ance Range)



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 424973.01.DM

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Chrome VI by EPA 218.6

Batch 03CrH12P

Omomo ti by Er A Eroio								
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
800732-001 Chromium, Hexay	valent	ug/L	03/28	3/2012 13:45 5	5.25	0.136	1.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate							Lab ID =	800742-001
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.05	1.18	1.19		0.818	0 - 20	
Low Level Calibration \	√erification	l						
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.00	0.234	0.200		117.	70 - 13	0
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	4.75	5.00		95.0	90 - 11	0
Matrix Spike							Lab ID =	800732-001
Parameter	Unit	DF	Result	Expected/Adde	ed R	ecovery	Accept	ance Range
Chromium, Hexavalent	ug/L	5.25	5.14	5.44(5.25)		94.3	90 - 11	0
Matrix Spike							Lab ID =	800732-001
Parameter	Unit	DF	Result	Expected/Adde	ed R	ecovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.23(1.06)		95.2	90 - 11	0
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Ŕ	ecovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	4.77	5.00		95.4	90 - 11	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accept	ance Range
Chromium, Hexavalent	ug/L	1.00	9.96	10.0		99.6	95 - 10	5



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Project Number: 424973.01.DM

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Metals by EPA 200.8, Total Batch 040412B Parameter Unit Analyzed DF MDL RL Result 800732-001 Chromium ug/L 04/05/2012 12:38 5.00 0.110 1.0 ND Manganese ug/L 04/05/2012 12:38 5.00 4.3 0.285 1.0 Method Blank Parameter Unit DF Result Chromium ug/L 1.00 ND Manganese ug/L 1.00 ND Duplicate Lab ID = 800732-001 Parameter Unit DF Result Expected RPD Acceptance Range Chromium ND ug/L 5.00 0.00 0 0 - 20Manganese 5.00 ug/L 4.32 4.29 0.581 0 - 20Low Level Calibration Verification Parameter Unit DF Result Expected Recovery Acceptance Range Chromium ug/L 1.00 0.239 0.200 120. 70 - 130 Manganese ug/L 1,00 0.241 0.200 120. 70 - 130 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Chromium 103. ug/L 5.00 100. 103. 85 - 115 Manganese ug/L 5.00 101 100. 101 85 - 115 Matrix Spike Lab ID = 800732-001 Parameter Unit DF Result Expected/Added Recovery Acceptance Range Chromium ug/L 5,00 108. 100.(100.) 108. 75 - 115 Manganese 5.00 ug/L 108. 104.(100.) 104. 75 - 115 MRCCS - Secondary Parameter Unit DF Result Expected Recovery Acceptance Range Chromium ug/L 1.00 9.67 10,0 96.7 90 - 110 Manganese ug/L 1.00 9.36 10.0 93,6 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range Chromium 1.00 9.52 10.0 ug/L 95.2 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Range Chromium ug/L 1.00 9.15 10.0 91.5 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.

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Parameter	-	Unit	Ana	lyzed	DF	MDL	RL	Result
800732-001 Total Dissolved	Solids	mg/L		9/2012	1.00	0.400	250,	4480
Method Blank		g				0.100	200.	4400
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	800732-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ince Range
Total Dissolved Solids	mg/L	1.00	4350	4480		2.94	0 - 5	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Total Dissolved Solids	mg/L	1.00	509	500.	102.		90 - 110	_
Parameter		Unit		03TUC12P lyzed	DF	MDL	RL	Result
Turbidity by SWI 2130 B			Dalui	00100121	1.0			
			Ana	lyzed				
Parameter 800732-001 Turbidity		Unit NTU	Ana		DF 1.00	MDL 0.0140	RL 0.100	Result ND
Parameter 800732-001 Turbidity Method Blank	Linit	NTU	Ana 03/28	lyzed				
Parameter 800732-001 Turbidity Method Blank Parameter	Unit NTU		Ana	lyzed				
Parameter 800732-001 Turbidity Method Blank	~	NTU DF	Ana 03/28 Result	lyzed			0.100	
Parameter 800732-001 Turbidity Method Blank Parameter Turbidity	~	NTU DF	Ana 03/28 Result	lyzed 8/2012	1.00		0.100 Lab ID =	ND 800732-001
Parameter 800732-001 Turbidity Method Blank Parameter Turbidity Duplicate	NTU	DF 1.00	Ana 03/28 Result ND	lyzed	1.00	0.0140	0.100 Lab ID =	ND
Parameter 800732-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter	NTU Unit	DF 1.00	Ana 03/28 Result ND Result	lyzed 3/2012 Expected	1.00	0.0140 RPD	0.100 Lab ID = Accepta	ND 800732-001
Parameter 800732-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity	NTU Unit	DF 1.00	Ana 03/28 Result ND Result	lyzed 3/2012 Expected	1.00 F	0.0140 RPD	0.100 Lab ID = Accepta 0 - 20	ND 800732-001 ance Range
Parameter 800732-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample	NTU Unit NTU	DF 1.00 DF 1.00	Ana 03/28 Result ND Result ND	Expected 0.00	1.00 F	0.0140 RPD 0	0.100 Lab ID = Accepta 0 - 20	ND 800732-001 ance Range
Parameter 800732-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter	NTU Unit NTU Unit NTU	DF 1.00 DF 1.00	Ana 03/28 Result ND Result ND Result	Expected 0.00	1.00 F	0.0140 RPD 0	0.100 Lab ID = Accepta 0 - 20 Accepta	ND 800732-001 ance Range
Parameter 800732-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter Turbidity	NTU Unit NTU Unit NTU	DF 1.00 DF 1.00	Ana 03/28 Result ND Result ND Result	Expected 0.00	1.00 F	0.0140 RPD 0	0.100 Lab ID = Accepta 0 - 20 Accepta 90 - 110	ND 800732-001 ance Range



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch: 03TDS12H

Date Calculated: 3/30/12

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	67.7811	67.7815	67.7812	0.0003	; No	0.0001	1.0	25.0	ND	1
800732	10	49.5254	49.5705	49.5702	0.0003	No	0.0448	4480.0	250.0	4480.0	1
800756	100	108.6863	108.7256	108.7252	0.0004	No	0.0389	389.0	25.0	389.0	1
800732D	10	51.0752	51.1191	51.1187	0.0004	No	0.0435	4350.0	250.0	4350.0	1
LCS	100	105.6241	105.6754	105.675	0.0004	No	0.0509	509.0	25.0	509.0	1
-											
							<u> </u>				
									<u> </u>		
							<u> </u>	<u></u>	.	1	_,,,
		-	 	<u> </u>	!	1		ļ	To the second se	<u> </u>	
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 Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 03TDS12H Date Calculated: 3/30/12

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
800732	7620	0.59	4953	0.90
800756	622	0.63	404.3	0,96
800732D	7620	0.57	4953	0.88
LCS		I and the second of the second	1	
				
			:	
-				
			,	



NX

N N N N N N

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

COMPANY

CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-354]

Days PAGE K) TURNAROUND TIME DATE 03/27/12 COC Number

뇽

COMMENTS NUMBER OF CONTAINERS Rec'd 03/27/12 Turbidily (SM2130) 108 (SM2540C) DESCRIPTION FAX (530) 339-3303 Water 000 TIME 03/27/12 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 424973.01.DM PG&E Topock SAMPLERS (SIGNATURE SC-700B-WDR-354 舀 PROJECT NAME

P.O. NUMBER

ADDRESS

PHONE

SAMPLE 1.D.



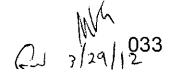
TOTAL NUMBER OF CONTAINERS

 ω

D	CHAIN OF CUSTODY SIGNATUR	IGNATURE RE	RE RECORD		SAMPLE CONDITIONS
	Printed Compain Name Name Internal	Company! []7]	71/ Date! 3-27-17/7 Time 15-30	3011	RECEIVED COOL S WARM C 4.2 °F
Res.	Printed HAO 1770	Company/ Agency	11 Date 3-27-12 Time 15.20	2/-2	CUSTODY SEALED YES [] NO []
8/18	Printed William	Company/ Agency	Date/3-2		SPECIAL REQUIREMENTS:
4	Printed / / Name - Alva, 17 P. Cariva	Company/	(.4 Time 2.27)	3-27-12	
Signature	Printed	Company/	Date/ Time		
	Printed Name	Company/ Agency	Date/ Time		

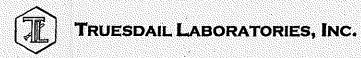
Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

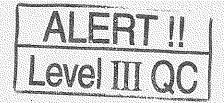
Date	Lab Number	Initial pH	Buffer Added (mL)		Time Buffered	Initials
3/16/12	800534-1	9.5	N/A	N/A	N/A	149
	-2	\$				
	-3					
	-4					·
	-5					
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	₩ ~6	√	Y	¥		V
3/21/12	800584	7.0	5mc	9,5	10:1500	70
3/23/12	900651-1	9.5	NA	NA	NA	mt
	-2					
-	- 3	4	4	7	4	4
3/28/12	1	7,0	5mL.	9,5	9:25cm	mf_
3/28/12	800732		SML SML	9,5	9:30 Am 10:35am	<u>(/ /)</u>
3/28/12	800742	7.0	5mL	4,5	10:35am	70
				·		
					,	
<u> </u>						



Turbidity/pH Check

			oluity/pn C			Adjusted to
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	pH<2 (Y/N)
200@46	عد	<u> </u>	3/26/12	KK	URS 3	3010 A
800 648	1		1			7/00/1
800679	J	1		1		
210680	< \$	42	3-27-12	BE	~ °	w°.
800691	< \	<2	Ì	1		
209692	J	J	7	J	•	
900700	< \	72	4	V	4	xes 14:00
800 701	7	4	7	,	4.	1
200 707(1.5)	<1	1-4 52	3-28-12	38	N°C	5-> xes 9:45
800 709	.	〈 Z				No
800708(1-5)		.5 > 2			<u> </u>	5 -7 xes 9.45 AM
80+71011-5		-572				5 -> x cs 9.45 "
800711(1-8)		-872				ニョ → メロリリ(45·
80071211-8		7,872			<u> </u>	7,8 -> xc3 9:45"
800713(1-8)		798 72				798 -> × c) 9:45 .
800 714U-8)		79872			<u> </u>	798 -7 ×c59:45;
800 715(1-10)		72			<u> </u>	XCS 9:45 AM
822722(1-8))	79872				798 -> 705 9:45 "
800 720		427212	BE 3-28-12		 	₩Q
800 721	<u> </u>	424/42	Bt 3-28-12		<u> </u>	
80-2717	71	2 1272	Bt3-28-12		Xes	3010A
800 718		<u> </u>	<u> </u>			
20e 719	<u> </u>	<u> </u>	<u> </u>	, Y	<u> </u>	30104 Yes 10 00 AM
80032	BE \$<1	>2	<u> </u>	<u> </u>	¥25	30104 YES 10 30 HM
790142	<1	BE 42 >2	3/29/12	BE	NO	3alaA J
800 747	>1	a v	 		yes	xes 7:15
800 750 U-11		72	\	\	NO	
8c= 751	۲۱	<2 of	3.27-2			340A ************************************
800 756	< \	<2 →2 10 ±	<u> </u>	J	Ye5	3010A 200 81000003
800 77002) <1	(2)2	3-30-12	36 36	yes.	
800 77811-7 800 78 \	1	72	4-2-12	13 6.	BE 4-2-16	13-1-14 /es 7:357 M
859 78 1				BE	No.	/ O
801788	<u> </u>	\ \\ \(\frac{1}{2} \)	4-3-12	136	+ 70	
800 789	<u> </u>	くて	 	1		XC5 12:45 PM
9.00797	() 2 (va): 83	72	+	 	+	Xes 15: PM
800 804	<1 € BZ		4-4-12	B 6.	yes	3010 A XC 7:45 AM
% c 3 8 3 0 (i)		>2	1 1	1	1 1	2- xes 7:45
800 831(1-	3) <u> </u>	-272		 	y c	3010
269 837		<2 1	 	+	1	
800 808	 	-				
800811	\ \	+		+	No.	NO
8008/0	1				 	
800 812	+ +	+ + -		1		
800 8 16				<u> </u>		
800 826 - 4	 			+		
800 877		+				
800823		>2		+		XCS 10.00 AM
80082411-	3	+		1 1.		1
Dan Prillia	<u> </u>	¥	V	<u> </u>	1 3	





Sample Integrity & Analysis Discrepancy Form

Clie	ont: <u>E2</u>	Lab # <u>80073</u>
Dat	e Delivered: <u>3</u> /27/12 Time: 21:00 By: □Mail AF	Field Service
1.	. Was a Chain of Custody received and signed?	⊠Yes □No □N/A
)	Does Customer require an acknowledgement of the COC?	□Yes □No ¤/N/A
	Are there any special requirements or notes on the COC?	□Yes □No Q'N/A
	If a letter was sent with the COC, does it match the COC?	□Yes □No ŒN/A
	Were all requested analyses understood and acceptable?	ØYes □No □N/A
	Were samples received in a chilled condition? Temperature (if yes)? 4-2° C	Maryes ⊡No □N/A
	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	X Yes □No □N/A
	Were sample custody seals intact?	□Yes MiNo □N/A
	Does the number of samples received agree with COC?	ØYes □No □N/A
	Did sample labels correspond with the client ID's?	Ż¥Yes □No □N/A
	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	□Yes ¤(No □N/A
	Were samples pH checked? pH =	Yes □No N/A
	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Yes ONO ON/A
	Have Project due dates been checked and accepted? Turn Around Time (TAT): ♥ RUSH □ Std	¥Yes □No □N/A
	Sample Matrix: DLiquid Drinking Water Ground W	
	□Sludge □Soil □Wipe □Paint □Solid 🕱 🤇	other water
	Comments:	$\overline{}$

Analytical Bench Log Book

WDR pH Results

Sample Name	Date of sampling	Time of sampling	Date of analysis	Time of analysis	pH Meter #1, #2, or #3 etc. See cover Sheet for Serial Number	Date pH meter Calibrated	Time pH meter Calibrated	Slope of the Curve	Analyst Name (for the pH result)	pH Result
5C-700B	36-12	13:31	3-6-12	1339	METER#1	3-6-12	01:00	-55.6	C Kush-	7.0
otes:						•		·	·	
2 5C100B	3-6-12	13:02	3-6-12	1311	METER #1	3-6-12	01:00	-55.6	C. Kriest	7.3
entes:									11	
3 <i>5C-700 B</i>	3-13-12	1300	3-13-12	1304	METER#1	3-13-12	1:00	56.5	For PHELPS	711
ates:				- ·				•		
4 SC- 700 B	3-20-12	14:30	3-20-12	11:36	METER #	3-20-12	01:00	-56.1	Geng n. 900	1.0
otes:									11	
SC-700B	3-27-12	10:00	3-27-12	1005	WIETER#1	3-27-12	1:00	-56.0	MON PHELOS	7.0
ines:										
<u> </u>										
otes:		<u> </u>				-				
<u>/ </u>										
ites:						*	··			
· · · · · · · · · · · · · · · · · · ·		 								
		Remi	nder: WDR	Required	pH Range for the	Effluent (SC-	700B) is: 6.5	- 8.4		