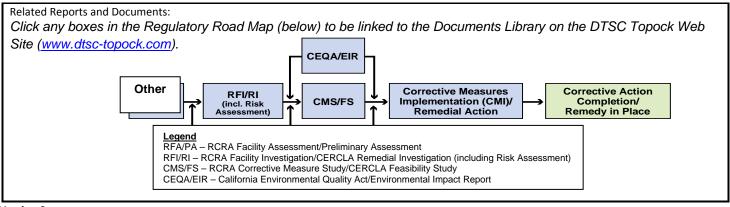
Topock Project I	Executive Abstract
Document Title:	Date of Document: October 14, 2011
Topock IM-3 Third Quarter 2011 Monitoring Report	Who Created this Document?: (i.e. PG&E, DTSC, DOI, Other)
Submitting Agency/Authored by: U.S. Department of the Interior and Regional Water Quality Control Board	PG&E
Final Document? Xes No	Document ID Number: PGE20111014A
Priority Status: HIGH MED LOW Is this time critical? Yes No Type of Document: Draft Report Letter Other / Explain: Other / Explain: MED MED MED	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 Waste Discharge ARARs 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 2011 period. The groundwater monitoring results for wells OW- CW-3M/D, and CW-4M/D will be submitted under separate cov Written by: PG&E	
Recommendations: This report is for your information only.	
How is this information related to the Final Remedy or Regulatory Requires The Topock IM-3 Third Quarter 2011 Monitoring Report is related groundwater treatment system as authorized by the U.S. Depart	ed to the Interim Measure. PG&E is currently operating the IM-3 tment 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
None.	



Version 9



Curt Russell Topock Site Manager GT&D Remediation Topock Compressor Station 145453 National Trails Hwy Needles, CA 92363

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October 14, 2011

Pamela S. Innis Topock Remedial Project Manager U.S. Department of the Interior Office of Environmental Policy and Compliance P.O Box 2507 (D-108) Denver Federal Center, Building 56 Denver, CO 80225-0007

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

Subject: Topock IM-3 Third Quarter 2011 Monitoring Report PG&E Topock Compressor Station, Needles, California Interim Measure No. 3 Groundwater Treatment System (Document ID: PGE20111014A)

Dear Ms. Innis and Mr. Perdue:

Enclosed is the Third Quarter 2011 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Interim Measure (IM) No. 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.

Page 2

Since initial operation in July 2005, the IM-3 groundwater treatment system has treated approximately 405,000,000 gallons of water and removed 5,039 pounds of total chromium through September 30, 2011.

The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

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 Third Quarter 2011 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

Third Quarter 2011 Monitoring Report

Interim Measure No. 3 Groundwater Treatment System

Document ID: PGE20111014A

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

October 14, 2011

CH2MHILL 155 Grand Avenue, Suite 800 Oakland, CA 94612

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

PG&E Topock Compressor Station Needles, California

Prepared for

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

on behalf of

Pacific Gas and Electric Company

October 14, 2011

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

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Dennis Fink, P.E. Project Engineer



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Appendix

A Third Quarter 2011 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	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 Third Quarter 2011. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

2.0 Sampling Station Locations

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

3.0 Description of Activities

The treatment system was initially operated between July 25 and July 28, 2005 for the Waste Discharge Requirement (WDR)-mandated startup phase. Discharge to the injection wells was initiated July 31, 2005 after successfully completing the startup phase in accordance with Order No. R7-2004-0103. Full-time operation of the treatment system commenced in August 2005. Since initial operation in July 2005, the IM-3 groundwater treatment system has treated approximately 405,000,000 gallons of water and removed 5,039 pounds of total chromium through September 30, 2011.

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

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

During the Third Quarter 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gallons per minute (gpm), excluding periods of planned and unplanned downtime. Extraction wells TW-2D and TW-2S were not operated during Third Quarter 2011. The operational run time for the IM groundwater extraction system (combined or individual pumping), by month, was approximately:

- 94.8 percent during July 2011
- 87.6 percent during August 2011
- 99.4 percent during September 2011

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

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

Activities during the Third Quarter 2011 included planned shutdowns in July, August, and September as detailed in Section 4.

4.0 Groundwater Treatment System Flow Rates

The Third Quarter 2011 treatment system monthly average flow rates (influent, effluent, and reverse osmosis concentrate) are presented in Table 2.

The system influent flow rate was measured by flow meters at groundwater extraction wells TW-2S, TW-2D, TW-3D, and PE-1 (Figure TP-RP-10-10-03). The treatment system effluent flow rate was measured by flow meters in the piping into injection wells IW-2 and IW-3 (Figure TP-RP-10-10-11). The RO concentrate flow rate was measured by a flow meter at the piping carrying water from RO concentrate tank T-701 to the truck load-out station (Figure PR-10-03 and PR-10-04).

The IM-3 facility treated approximately 16,698,530 gallons of extracted groundwater during the Third Quarter 2011. The IM-3 facility also treated approximately 2,525 gallons of water generated from the groundwater monitoring program and 20,700 gallons of injection well backwashing/re-development water.

Four containers of solids (sludge) were transported offsite from the IM-3 facility during Third Quarter 2011.

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 6.1 percent of downtime during Third Quarter 2011) are summarized below. The times shown are in Pacific Standard Time (PST) to be consistent with other data collected (e.g., water level data) at the site.

4.1 July 2011

During July 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during July 2011. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 94.8 percent during the July 2011 reporting period.

The IM-3 facility treated approximately 5,710,722 gallons of extracted groundwater during July 2011. The IM-3 facility treated 655 gallons of water generated from the groundwater monitoring program and 5,400 gallons of injection well backwashing/re-development water. No containers of solids from the IM-3 facility were transported offsite during July 2011.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 5.2 percent downtime during July 2011) are summarized below.

• July 3, 2011 (unplanned): The extraction well system was offline from 9:40 p.m. to 9:52 p.m. due to a City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 12 minutes.

- July 4, 2011 (planned): The extraction well system was offline from 5:08 a.m. to 5:12 a.m. due to changing back to City of Needles power from generator power. Extraction system downtime was 4 minutes.
- July 5, 2011 (unplanned): The extraction well system was offline from 11:08 p.m. to 11:14 p.m. due to a City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 6 minutes.
- July 6, 2011 (planned): The extraction well system was offline from 8:04 a.m. to 11:26 a.m. and from 11:28 a.m. to 11:50 a.m. due to changing back to City of Needles power from generator power and monthly scheduled oxidation tank maintenance. Extraction system downtime was 3 hours and 44 minutes.
- July 7, 2011 (planned): The extraction well system was offline from 10:24 a.m. to 10:26 a.m. and from 10:46 a.m. to 10:48 a.m. due to testing of critical alarms and leak detection system. Extraction system downtime was 4 minutes.
- July 13-14, 2011 (unplanned): The extraction well system was offline from 11:44 p.m. on July 13th to 12:10 a.m. on July 14th and from 12:12 a.m. to 12:58 a.m. on July 14th due to reduced microfilter performance. Extraction system downtime was 1 hour and 12 minutes.
- July 14, 2011 (planned): The extraction well system was offline from 10:00 a.m. to 12:32 p.m. due to scheduled maintenance on sludge control valve 410. Extraction system downtime was 2 hours and 32 minutes.
- July 27-28, 2011 (planned): The extraction well system was offline from 4:12 a.m. to 5:28 a.m. on July 27th and from 7:14 a.m. on July 27th to 12:46 p.m. on July 28th for monthly schedule maintenance. Extraction system downtime was 1 day and 6 hours and 48 minutes.
- July 28, 2011 (unplanned): The extraction well system was offline from 6:16 p.m. to 6:24 p.m. due to a City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 8 minutes.

4.2 August 2011

During August 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during August 2011. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 87.6 percent during the August 2011 reporting period.

The IM-3 facility treated approximately 5,263,298 gallons of extracted groundwater during August 2011. The IM-3 facility treated 350 gallons of water generated from the groundwater monitoring program and 13,500 gallons of injection well backwashing/re-development water. Two containers of solids from the IM-3 facility were transported offsite during August 2011.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 12.4 percent downtime during August 2011) are summarized below.

- August 1, 2011 (unplanned): The extraction well system was offline from 6:28 a.m. to 6:32 a.m. due to computer rebooting to clear alarms. Extraction system downtime was 4 minutes.
- August 2, 2011 (planned): The extraction well system was offline from 10:38 a.m. to 11:42 a.m. due to tank management to control tank levels. Extraction system downtime was 1 hour and 4 minutes.
- August 3, 2011 (planned): The extraction well system was offline from 12:32 p.m. to 12:34 p.m., 12:36 p.m. to 12:38 p.m., and 12:54 p.m. to 12:58 p.m. due to testing of critical alarms and leak detection system. Extraction system downtime was 8 minutes.
- August 3, 2011 (unplanned): The extraction well system was offline from 7:26 p.m. to 8:18 p.m. due to a City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 52 minutes.
- August 6, 2011 (unplanned): The extraction well system was offline from 5:32 p.m. to 6:20 p.m. due to microfilter repair. Extraction system downtime was 48 minutes.
- August 11, 2011 (unplanned): The extraction well system was offline from 8:32 a.m. to 10:18 a.m. due to reduced microfilter performance. Extraction system downtime was 1 hour and 46 minutes.
- August 15, 2011 (planned): The extraction well system was offline from 3:26 a.m. to 3:54 a.m. due to tank level management in preparation for monthly scheduled maintenance. Extraction system downtime was 28 minutes.
- August 15-18, 2011 (planned): The extraction well system was offline from 5:22 a.m. on August 15th to 12:38 p.m. on August 18th, from 12:48 p.m. to 1:34 p.m. on August 18th, and from 4:18 p.m. to 7:16 p.m. on August 18th for a scheduled maintenance outage. Extraction system downtime was 3 days and 11 hours.
- August 22, 2011 (planned): The extraction well system was offline from 8:32 a.m. to 10:44 a.m. and from 10:58 a.m. to 11:00 a.m. due to chemical mixing pump maintenance. Extraction system downtime was 2 hours and 14 minutes.
- August 30, 2011 (planned): The extraction well system was offline from 8:52 a.m. to 11:02 a.m. due to primary reverse osmosis system maintenance. Extraction system downtime was 2 hours and 10 minutes.

4.3 September 2011

During September 2011, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gpm excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during September 2011. The operational run time for the IM-3 groundwater extraction system (combined or individual pumping) was 99.4 percent during the September 2011 reporting period.

The IM-3 facility treated approximately 5,724,510 gallons of extracted groundwater during September 2011. The IM-3 facility treated 1,520 gallons of water generated from the groundwater monitoring program and 1,800 gallons of injection well backwashing/re-development water. Two containers of solids from the IM-3 facility were transported offsite during September 2011.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 0.6 percent downtime during September 2011) are summarized below.

- September 2, 2011 (unplanned): The extraction well system was offline from 7:52 a.m. to 9:00 a.m. due to microfilter maintenance. Extraction system downtime was 1 hour and 8 minutes.
- September 3, 2011 (unplanned): The extraction well system was offline from 11:00 a.m. to 11:28 a.m., 2:46 p.m. to 3:14 p.m., and 3:16 p.m. to 4:30 p.m. due to microfilter strainer fouling and microfilter maintenance after microfilter shutdown due to high system pressure. Extraction system downtime was 2 hours and 10 minutes.
- September 7, 2011 (planned): The extraction well system was offline from 10:18 a.m. to 10:22 a.m., 10:24 a.m. to 10:28 a.m., 10:50 a.m. to 10:52 a.m., 10:58 a.m. to 11:00 a.m., and 11:18 a.m. to 11:20 a.m. due to testing of critical alarms and leak detection system. Extraction system downtime was 14 minutes.
- September 13, 2011 (unplanned): The extraction well system was offline from 4:18 a.m. to 4:26 a.m. due a City of Needles power imbalance that shut down extraction wells and from 11:52 a.m. to 11:58 a.m. due to return to City of Needles power from generator power once City of Needles power was restored. Extraction system downtime was 14 minutes.
- September 13, 2011 (planned): The extraction well system was offline from 5:14 a.m. to 5:16 a.m. due to testing of the leak detection system after a City of Needles power imbalance that shut down extraction wells. Extraction system downtime was 2 minutes.
- September 14, 2011 (planned): The extraction well system was offline from 7:32 a.m. to 7:34 a.m., 7:42 a.m. to 7:44 a.m., 7:52 a.m. to 7:54 a.m., 8:02 a.m. to 8:04 a.m., and 8:20 a.m. to 8:22 a.m. due to testing of leak detection system. Extraction system downtime was 10 minutes.
- September 21, 2011 (planned): The extraction well system was offline from 1:54 p.m. to 2:02 p.m. due to testing of plant instrumentation and controls updates. Extraction system downtime was 8 minutes.
- September 28, 2011 (planned): The extraction well system was offline from 12:22 p.m. to 12:44 p.m. due to primary reverse osmosis system maintenance. Extraction system downtime was 22 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 Third Quarter 2011, analysis of pH was conducted by field method pursuant to the Regional Water Board letter dated October 16, 2007 (subject: Clarification of Monitoring and Reporting Program Requirements), authorizing pH measurements to be conducted in the field. The field method pH samples were collected at the designated sampling locations and field tested within 15 minutes of sampling.

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

Influent, effluent, RO concentrate, and sludge sampling frequency 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 Third Quarter 2011 were prepared by certified analytical laboratories, and are presented in Appendix A.

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

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

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

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

7.0 Conclusions

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

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

8.0 Certification

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:	bernn
Name:	Curt Russell
Company:	Pacific Gas and Electric Company
Title:	Topock Site Manager
Date:	October 14, 2011

Tables

Sampling Station Descriptions

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

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

Note:

= Sequential sample identification number at each sample station.

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

Flow Monitoring Results

Parameter	System Influent ^{a,b} (gpm)	System Effluent ^b (gpm)	Reverse Osmosis Concentrate ^b (gpm)
July 2011 Average Monthly Flowrate	127.9	125.0	2.0
August 2011 Average Monthly Flowrate	117.9	114.7	2.3
September 2011 Average Monthly Flowrate	132.5	130.0	1.9

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

Notes:

gpm: gallons per minute

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

^b The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the Third Quarter 2011 is approximately 0.64 percent.

Parameter	Sample Collection Dates	Results
Influent	July 5, 2011	See Table 4
	August 2, 2011	
	September 6, 2011	
Effluent	July 5, 2011	See Table 5
	July 12, 2011	
	July 19, 2011	
	July 26, 2011	
	August 2, 2011	
	August 9, 2011	
	August 15, 2011	
	August 19, 2011	
	August 23, 2011	
	August 30, 2011	
	September 6, 2011	
	September 13, 2011	
	September 20, 2011	
	September 27, 2011	
Reverse Osmosis Concentrate	July 5, 2011	See Table 6
Sludge ^a	July 5, 2011	See Table 7

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

Notes:

^a Sludge samples analysis is required quarterly by composite.

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) Influent Monitoring Results ^a

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

Sampling	g Frequency										Мо	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	e 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	MDL Date	0.400	0.0140	0.0380		0.100	2.20	2.80	0.0020	0.120	0.280	0.200	0.0015	0.120	0.0250	0.110	0.280	0.270	0.0750	0.0550	0.00020	0.500	1.30	1.30
SC-100B-WDR-316	7/5/2011	4720	0.107	7840	7.2	810	852	ND (50.0)	ND (0.500)	ND (10.0)	3.40	26.0	1.04	ND (5.00)	2.68	ND (10.0)	9.50	20.9	ND (10.0)	3.04 M	ND (0.0050) 562	ND (20.0)	ND (10.0)
RL		125	0.100	2.00		1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-100B-WDR-320	8/2/2011	4590	ND (0.100)	7800	7.3	877	887	ND (50.0)	ND (0.500)	ND (10.0)	3.50	26.5	1.00	ND (5.00)	2.68	ND (10.0)	8.60	24.7	ND (10.0)	3.09 N	ND (0.0050) 533	ND (20.0)	ND (10.0)
RL		125	0.100	2.00		1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-100B-WDR-325	9/6/2011	4590	0.180	7810	7.2	828	860	ND (50.0)	1.51	ND (10.0)	3.40	25.6	1.04	ND (5.00)	2.65	ND (10.0)	8.80	20.4	ND (10.0)	3.22	ND (0.0050) 527	ND (20.0)	ND (10.0)
RL		125	0.100	2.00		1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	12.5	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

 $\mu g/L = micrograms per liter$

µmhos/cm = micromhos per centimeter

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

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

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

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

Effluent	Ave. Monthly	NA	NA	NA 6.	.5-8.4 6.5-8	3.4 25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Limits ^b	Max Daily	NA	NA	NA 6.	.5-8.4 6.5-8	3.4 50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Samplin	ng Frequency			Weekly												Monthly	y							
$\overline{}$	Analytes	TDS	Turbidity	Specific Conductance	Field ^e e pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
	Units ^c	mg/L	NTU	µmhos/cm	pH units	μg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	μg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
		0.400	0.0140	0.0380		0.0550	0.0220	2.80	0.0020	0.120	0.280	0.200	0.0015	0.120	0.0250	0.110	0.280	0.270	0.0750	0.0550	0.00020	0.500	1.30	1.30
Sample ID	Date																							
SC-700B-WDR-316	6 7/5/2011	4180	ND (0.100)	7090	7.10	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	ND (10 0) 1.01	ND (5.00)	1.89	ND (10.0)) 2.00	18.2	ND (10.0)	2.73	ND (0.0050)	494	ND (20.0)) ND (10.0)
RL	0 773/2011	125	0.100	2.00		1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	, , ,	0.500	10.0	1.00	10.2	10.0	1.00	0.0050	12.5	20.0	10.0
SC-700B-WDR-317	7 7/12/2011	4280	ND (0.100)	7210	7.20	ND (1.00)	ND (0.200)		0.300 				0.200		0.500		ND (1.00)						20.0 	
RL	,	125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-318	8 7/19/2011	4270	ND (0.100)	7220	7.00	ND (1.00)	ND (0.200)										1.60							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-319	9 7/26/2011	4380	ND (0.100)	7410	7.10	ND (1.00)	ND (0.200)										ND (1.00)							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-320	0 8/2/2011	4360	ND (0.100)	7400	7.00	2.10	1.50	ND (50.0)	1.58	ND (10.0)	ND (1.00)	10.2	0.988	ND (5.00)	2.42	ND (10.0)		17.0	ND (10.0)	3.94	ND (0.0050)	469	ND (20.0)) ND (10.0)
RL		125	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	12.5	20.0	10.0
SC-700B-WDR-321	1 8/9/2011	4120	0.184	7190	7.10	ND (1.00)	ND (0.200)										1.60							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-322	2 8/15/2011	4020	ND (0.100)	6930	7.30	ND (1.00)	ND (0.200)										1.90							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-3221	B 8/19/2011	3940	ND (0.100)	6910	7.20	ND (1.00)	ND (0.200)										6.70							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-323	3 8/23/2011	4130	0.136	7110	7.00	ND (1.00)	ND (0.200)										3.10							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-324	4 8/30/2011	4100	0.109	7200	6.90	ND (1.00)	ND (0.200)										1.00							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-325	5 9/6/2011	4660	0.100	7270	7.30	1.50	ND (0.200)	ND (50.0)	1.01	ND (10.0)	ND (1.00)	13.2	1.02	ND (5.00)	1.94	ND (10.0)) 5.70	16.9	ND (10.0)	2.97	ND (0.0050)	492	ND (20.0) ND (10.0)
RL		125	0.100	2.00		1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	12.5	20.0	10.0
SC-700B-WDR-326	6 9/13/2011	4040	0.124	7130	6.90	ND (1.00)	ND (0.200)										5.00							
RL		125	0.100	2.00		1.00	0.200										1.00							
SC-700B-WDR-327	7 9/20/2011	4240	0.104	7440	7.00	ND (1.00)	ND (1.00)										2.40							
RL		125	0.100	2.00		1.00	1.00										1.00							
SC-700B-WDR-328	8 9/27/2011	4380	0.109	7490	7.10	ND (1.00)	ND (1.00)										8.00							
RL		125	0.100	2.00		1.00	1.00										1.00							

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) Effluent Monitoring Results ^a *Third Quarter 2011 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.
- ^e Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) Reverse Osmosis Concentrate Monitoring Results^a *Third Quarter 2011 Monitoring Report for Interim Measure No.3 Groundwater Treatment System*

Sampling Frequency											Quarter	ly										
Analytes Units ^b MDL Sample ID Date	TDS mg/L 0.434	Specific Conductance µmhos/cm 0.0380	Field ^c pH pH units 		Hexavalent Chromium mg/L 0.00022	Antimony mg/L 0.00024	mg/L	Barium mg/L 0.00040	Beryllium mg/L 0.0018	Cadmium mg/L 0.00094	Cobalt mg/L 0.00097	Copper mg/L 0.00025	Fluoride mg/L 0.0500	Lead mg/L 0.00022	Molybdenum mg/L 0.00054	Mercury mg/L 0.00040	Nickel mg/L 0.00015	Selenium mg/L 0.00068	Silver mg/L 0.00035	Thallium mg/L 0.00025	Vanadium mg/L 0.00074	Zinc mg/L 0.0025
SC-701-WDR-316 7/5/2011 RL	30100 833	42400 2.00	7.0	0.00490 0.0020	ND (0.0021) 0.0021	ND (0.0100) 0.0100	ND (0.0020 0.0020) 0.0770 0.0100	ND (0.0100) 0.0100	ND (0.0030) 0.0030	ND (0.005 0.0050	0)ND (0.0050 0.0050) 15.5 1.00	ND (0.010	0) 0.130 0.0100	ND (0.0020) 0.0020	0.0111 0.0100	0.0222 0.0100	ND (0.0050)) ND (0.002 0.0020	0) ND (0.0100 0.0100) ND (0.0100) 0.0100

NOTES:

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

MDL = method detection limit

mg/L = milligrams per liter

ND = parameter not detected at the listed value

RL = project reporting limit

µg/L = micrograms per liter

µmhos/cm = micromhos per centimeter

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

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

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

Topock IM-3 Waste Discharge Applicable or Relevant and Appropriate Requirements (ARARs) Sludge Monitoring Results^a Third Quarter 2011 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Sampling F	Frequency										Qu	arterly								
Sample ID	Analytes Units ^b MDL Date	Chromium mg/kg 0.0117	Hexavalent Chromium mg/kg 0.00012	Antimony mg/kg 0.0059	Arsenic mg/kg 0.0078	Barium mg/kg 0.0045	Beryllium mg/kg 0.0036	Cadmium mg/kg 0.0055	Cobalt mg/kg 0.0053	Copper mg/kg 0.0055	Fluoride mg/kg 0.0050	Lead mg/kg 0.0094	Molybdenum mg/kg 0.0080	Mercury mg/kg 0.00020	Nickel mg/kg 0.0051	Selenium mg/kg 0.0064	Silver mg/kg 0.0044	Thallium mg/kg 0.0027	Vanadium mg/kg 0.0035	Zinc mg/kg 0.0078
SC-Sludge-WDR-316 RL	7/5/2011	4900 10.3	34.7 4.15	34.1 2.06	ND (2.06) 2.06	70.2 2.06	ND (10.3) 10.3	ND (2.06) 2.06	7.48 2.06	55.2 2.06	24.7 4.15	8.53 2.06	9.75 2.06	0.125 0.103	20.7 2.06	ND (2.06) 2.06	ND (2.06) 2.06	ND (2.06) 2.06	125 2.06	54.4 2.06

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).

 $^{\boldsymbol{b}}$ Units reported in this table are those units required in the ARARs.

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B SC-100B-WDR-316	Ron Phelps	7/5/2011	3:00:00 PM	TLI	EPA 120.1	SC	7/7/2011	Gautam Savani
					TLI	EPA 200.7	В	7/13/2011	Ethel Suico
					TLI	EPA 200.7	FE	7/13/2011	Ethel Suico
					TLI	EPA 200.8	AL	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	AS	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	7/10/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	7/7/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	7/6/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	7/6/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	7/6/2011	Giawad Ghenniwa
					FIELD	HACH	PH	7/5/2011	Ron Phelps
					TLI	SM2130B	TRB	7/6/2011	Gautam Savani
					TLI	SM2540C	TDS	7/7/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	7/6/2011	Maria Mangarova
					TLI	SM4500NO2B	NO2N	7/6/2011	Jenny Tankunakorn
SC-100B	SC-100B-WDR-320	Ron Phelps	8/2/2011	2:00:00 PM	TLI	EPA 120.1	SC	8/5/2011	Gautam Savani
					TLI	EPA 200.7	AL	8/5/2011	Ethel Suico
					TLI	EPA 200.7	В	8/5/2011	Ethel Suico
					TLI	EPA 200.7	FE	8/5/2011	Ethel Suico
					TLI	EPA 200.7	FETD	8/5/2011	Ethel Suico
					TLI	EPA 200.8	AS	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MND	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	8/5/2011	Katia Kiarashpoor

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B SC-100B-WDR-320	SC-100B-WDR-320	Ron Phelps	8/2/2011	2:00:00 PM	TLI	EPA 200.8	PB	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	8/5/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	8/8/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	8/3/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	8/3/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	8/3/2011	Giawad Ghenniwa
					FIELD	HACH	PH	8/2/2011	Ron Phelps
					TLI	SM 2320B	ALKB	8/5/2011	Kim Luck
					TLI	SM 2320B	ALKC	8/5/2011	Kim Luck
					TLI	SM2130B	TRB	8/3/2011	Gautam Savani
					TLI	SM2540C	TDS	8/9/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	8/4/2011	Maria Mangarova
					TLI	SM4500NO2B	NO2N	8/4/2011	Jenny Tankunakorn
SC-100B	SC-100B-WDR-325	Ron Phelps	9/6/2011	2:00:00 PM	TLI	EPA 120.1	SC	9/9/2011	Gautam Savani
					TLI	EPA 200.7	AL	9/8/2011	Ethel Suico
					TLI	EPA 200.7	В	9/8/2011	Ethel Suico
					TLI	EPA 200.7	FE	9/8/2011	Ethel Suico
					TLI	EPA 200.7	FETD	9/8/2011	Ethel Suico
					TLI	EPA 200.7	ZN	9/28/2011	Ethel Suico
					TLI	EPA 200.8	AS	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MND	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	9/29/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	9/8/2011	Maksim Gorbunov
					TLI	EPA 300.0	FL	9/7/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	9/7/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	9/7/2011	Giawad Ghenniwa
					FIELD	HACH	PH	9/6/2011	Ron Phelps
					TLI	SM 2320B	ALKB	9/12/2011	Kim Luck

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B SC-100B-WDR-3	SC-100B-WDR-325	Ron Phelps	9/6/2011	2:00:00 PM	TLI	SM 2320B	ALKC	9/12/2011	Kim Luck
					TLI	SM2130B	TRB	9/7/2011	Gautam Savani
					TLI	SM2540C	TDS	9/7/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	9/7/2011	Maria Mangarova
					TLI	SM4500NO2B	NO2N	9/7/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-316	Ron Phelps	7/5/2011	3:00:00 PM	TLI	EPA 120.1	SC	7/7/2011	Gautam Savani
					TLI	EPA 200.7	В	7/13/2011	Ethel Suico
					TLI	EPA 200.7	FE	7/13/2011	Ethel Suico
					TLI	EPA 200.8	AL	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	AS	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	7/10/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	7/10/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	7/7/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	7/6/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	7/6/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	7/6/2011	Giawad Ghenniwa
					FIELD	HACH	PH	7/5/2011	Ron Phelps
					TLI	SM2130B	TRB	7/6/2011	Gautam Savani
					TLI	SM2540C	TDS	7/7/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	7/6/2011	Maria Mangarova
					TLI	SM4500NO2B	NO2N	7/6/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-317	Ron Phelps	7/12/2011	2:00:00 PM	TLI	EPA 120.1	SC	7/13/2011	Gautam Savani
					TLI	EPA 200.8	CR	7/18/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	7/18/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	7/13/2011	Sonya Bersudsky
					FIELD	HACH	PH	7/12/2011	Ron Phelps
					TLI	SM2130B	TRB	7/13/2011	Gautam Savani
					TLI	SM2540C	TDS	7/13/2011	Jenny Tankunakorn

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-318	Ron Phelps	7/19/2011	2:30:00 PM	TLI	EPA 120.1	SC	7/20/2011	Gautam Savani
					TLI	EPA 200.8	CR	7/25/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	7/25/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	7/20/2011	Sonya Bersudsky
					FIELD	HACH	PH	7/19/2011	Ron Phelps
					TLI	SM2130B	TRB	7/20/2011	Gautam Savani
					TLI	SM2540C	TDS	7/21/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-319	C.Knight	7/26/2011	2:05:00 PM	TLI	EPA 120.1	SC	7/27/2011	Gautam Savani
					TLI	EPA 200.8	CR	7/28/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	7/28/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	7/27/2011	Sonya Bersudsky
					FIELD	HACH	PH	7/26/2011	C.Knight
					TLI	SM2130B	TRB	7/27/2011	Gautam Savani
					TLI	SM2540C	TDS	7/28/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-320	Ron Phelps	8/2/2011	2:00:00 PM	TLI	EPA 120.1	SC	8/5/2011	Gautam Savani
					TLI	EPA 200.7	AL	8/5/2011	Ethel Suico
					TLI	EPA 200.7	В	8/5/2011	Ethel Suico
					TLI	EPA 200.7	FE	8/5/2011	Ethel Suico
					TLI	EPA 200.8	AS	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	8/5/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	8/5/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	8/8/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	8/3/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	8/3/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	8/3/2011	Giawad Ghenniwa
					FIELD	HACH	PH	8/2/2011	Ron Phelps
					TLI	SM2130B	TRB	8/3/2011	Gautam Savani
					TLI	SM2540C	TDS	8/9/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	8/4/2011	Maria Mangarova

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-320	Ron Phelps	8/2/2011	2:00:00 PM	TLI	SM4500NO2B	NO2N	8/4/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-321	Ron Phelps	8/9/2011	1:30:00 PM	TLI	EPA 120.1	SC	8/10/2011	Gautam Savani
					TLI	EPA 200.8	CR	8/17/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	8/17/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	8/10/2011	Sonya Bersudsky
					FIELD	HACH	PH	8/9/2011	Ron Phelps
					TLI	SM2130B	TRB	8/10/2011	Gautam Savani
					TLI	SM2540C	TDS	8/12/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-322	Ron Phelps	8/15/2011	6:00:00 AM	TLI	EPA 120.1	SC	8/16/2011	Gautam Savani
					TLI	EPA 200.8	CR	9/9/2011	Hope Trinidad
					TLI	EPA 200.8	MN	9/9/2011	Hope Trinidad
					TLI	EPA 218.6	CR6	8/16/2011	Sonya Bersudsky
					FIELD	HACH	PH	8/15/2011	Ryan Phelps
					TLI	SM2130B	TRB	8/16/2011	Gautam Savani
					TLI	SM2540C	TDS	8/17/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-322B	C.Knight	8/19/2011	1:18:00 PM	TLI	EPA 120.1	SC	8/22/2011	Gautam Savani
					TLI	EPA 200.8	CR	8/24/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	8/24/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	8/22/2011	Sonya Bersudsky
					FIELD	HACH	PH	8/19/2011	C.Knight
					TLI	SM2130B	TRB	8/20/2011	Kim Luck
					TLI	SM2540C	TDS	8/22/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-323	C.Knight	8/23/2011	12:16:00 PM	TLI	EPA 120.1	SC	8/26/2011	Gautam Savani
					TLI	EPA 200.8	CR	9/2/2011	Hope Trinidad
					TLI	EPA 200.8	MN	9/2/2011	Hope Trinidad
					TLI	EPA 218.6	CR6	8/25/2011	Sonya Bersudsky
					FIELD	HACH	PH	8/23/2011	C.Knight
					TLI	SM2130B	TRB	8/24/2011	Gautam Savani
					TLI	SM2540C	TDS	8/29/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-324	Ron Phelps	8/30/2011	9:30:00 AM	TLI	EPA 120.1	SC	8/31/2011	Gautam Savani
					TLI	EPA 200.8	CR	9/6/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	9/6/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	8/31/2011	Sonya Bersudsky
					FIELD	HACH	PH	8/30/2011	Ron Phelps

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-324	Ron Phelps	8/30/2011	9:30:00 AM	TLI	SM2130B	TRB	8/31/2011	Gautam Savani
					TLI	SM2540C	TDS	8/31/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-325	Ron Phelps	9/6/2011	2:00:00 PM	TLI	EPA 120.1	SC	9/9/2011	Gautam Savani
					TLI	EPA 200.7	AL	9/8/2011	Ethel Suico
					TLI	EPA 200.7	В	9/8/2011	Ethel Suico
					TLI	EPA 200.7	FE	9/8/2011	Ethel Suico
					TLI	EPA 200.7	ZN	9/28/2011	Ethel Suico
					TLI	EPA 200.8	AS	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	9/15/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	9/29/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	9/8/2011	Maksim Gorbunov
					TLI	EPA 300.0	FL	9/7/2011	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	9/7/2011	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	9/7/2011	Giawad Ghenniwa
					FIELD	HACH	PH	9/6/2011	Ron Phelps
					TLI	SM2130B	TRB	9/7/2011	Gautam Savani
					TLI	SM2540C	TDS	9/7/2011	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	9/7/2011	Maria Mangarova
					TLI	SM4500NO2B	NO2N	9/7/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-326	Ron Phelps	9/13/2011	10:00:00 AM	TLI	EPA 120.1	SC	9/14/2011	Gautam Savani
					TLI	EPA 200.8	CR	9/21/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	9/21/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	9/14/2011	Sonya Bersudsky
					FIELD	HACH	PH	9/13/2011	Ron Phelps
					TLI	SM2130B	TRB	9/14/2011	Gautam Savani
					TLI	SM2540C	TDS	9/14/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-327	Ron Phelps	9/20/2011	1:00:00 PM	TLI	EPA 120.1	SC	9/22/2011	Gautam Savani
					TLI	EPA 200.8	CR	10/4/2011	Maksim Gorbunov
					TLI	EPA 200.8	MN	10/4/2011	Maksim Gorbunov

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-327	Ron Phelps	9/20/2011	1:00:00 PM	TLI	EPA 218.6	CR6	9/21/2011	Sonya Bersudsky
					FIELD	HACH	PH	9/20/2011	Ron Phelps
					TLI	SM2130B	TRB	9/21/2011	Gautam Savani
					TLI	SM2540C	TDS	9/26/2011	Jenny Tankunakorn
SC-700B	SC-700B-WDR-328	Ron Phelps	9/27/2011	10:00:00 AM	TLI	EPA 120.1	SC	9/28/2011	Gautam Savani
					TLI	EPA 200.8	CR	10/4/2011	Maksim Gorbunov
					TLI	EPA 200.8	MN	10/4/2011	Maksim Gorbunov
					TLI	EPA 218.6	CR6	9/28/2011	Sonya Bersudsky
					FIELD	HACH	PH	9/27/2011	Ron Phelps
					TLI	SM2130B	TRB	9/28/2011	Gautam Savani
					TLI	SM2540C	TDS	9/29/2011	Jenny Tankunakorn
SC-701	SC-701-WDR-316	Ron Phelps	7/5/2011	3:00:00 PM	TLI	EPA 120.1	SC	7/7/2011	Gautam Savani
					TLI	EPA 200.8	AG	7/19/2011	Katia Kiarashpoor
					TLI	EPA 200.8	AS	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BA	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	BE	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CD	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CO	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CR	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	CU	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	HG	7/12/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MN	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	MO	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	NI	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	PB	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SB	7/12/2011	Katia Kiarashpoor
					TLI	EPA 200.8	SE	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	TL	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	V	7/11/2011	Katia Kiarashpoor
					TLI	EPA 200.8	ZN	7/11/2011	Katia Kiarashpoor
					TLI	EPA 218.6	CR6	7/7/2011	Sonya Bersudsky
					TLI	EPA 300.0	FL	7/8/2011	Giawad Ghenniwa
					FIELD	HACH	PH	7/5/2011	Ron Phelps
					TLI	SM2540C	TDS	7/7/2011	Jenny Tankunakorn
ase Separator	SC-Sludge-WDR-316	Ron Phelps	7/5/2011	3:20:00 PM	TLI	EPA 300.0	FL	7/6/2011	Giawad Ghenniwa

TABLE 8

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

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

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Separator	SC-Sludge-WDR-316	Ron Phelps	7/5/2011	3:20:00 PM	TLI	EPA 300.0	NO3N	7/6/2011	Giawad Ghenniwa
					TLI	EPA 6010B	AG	7/12/2011	Ethel Suico
					TLI	EPA 6010B	AS	7/12/2011	Ethel Suico
					TLI	EPA 6010B	BA	7/12/2011	Ethel Suico
					TLI	EPA 6010B	CD	7/12/2011	Ethel Suico
					TLI	EPA 6010B	CO	7/12/2011	Ethel Suico
					TLI	EPA 6010B	CR	7/12/2011	Ethel Suico
					TLI	EPA 6010B	CU	7/12/2011	Ethel Suico
					TLI	EPA 6010B	MN	7/12/2011	Ethel Suico
					TLI	EPA 6010B	MO	7/12/2011	Ethel Suico
					TLI	EPA 6010B	NI	7/12/2011	Ethel Suico
					TLI	EPA 6010B	PB	7/12/2011	Ethel Suico
					TLI	EPA 6010B	SB	7/12/2011	Ethel Suico
					TLI	EPA 6010B	SE	7/12/2011	Ethel Suico
					TLI	EPA 6010B	TL	7/12/2011	Ethel Suico
					TLI	EPA 6010B	V	7/12/2011	Ethel Suico
					TLI	EPA 6010B	ZN	7/12/2011	Ethel Suico
					TLI	SM2540B	MOIST	7/7/2011	Gautam Savani
					TLI	SW 6020A	BE	7/14/2011	Katia Kiarashpoor
					TLI	SW 6020A	HG	7/15/2011	Katia Kiarashpoor
					TLI	SW 7199	CR6	7/19/2011	Sonya Bersudsky

TABLE 8

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

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

NOTES:

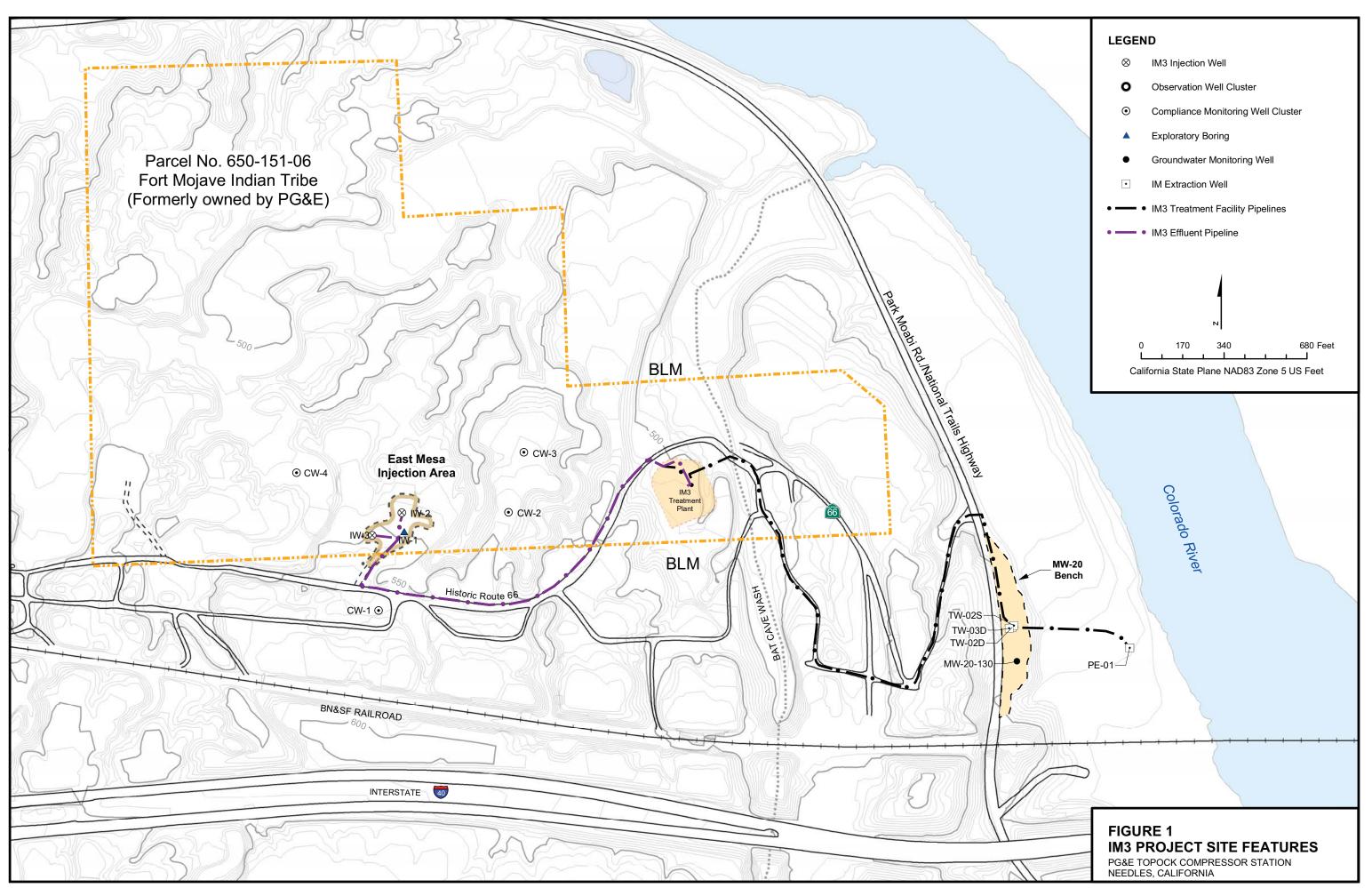
SC-700B = Sampling location for all effluent samples is tap on pipe downstream from tank T-700 to injection well IW-2 (see attached P&ID TP-PR-10-10-04).

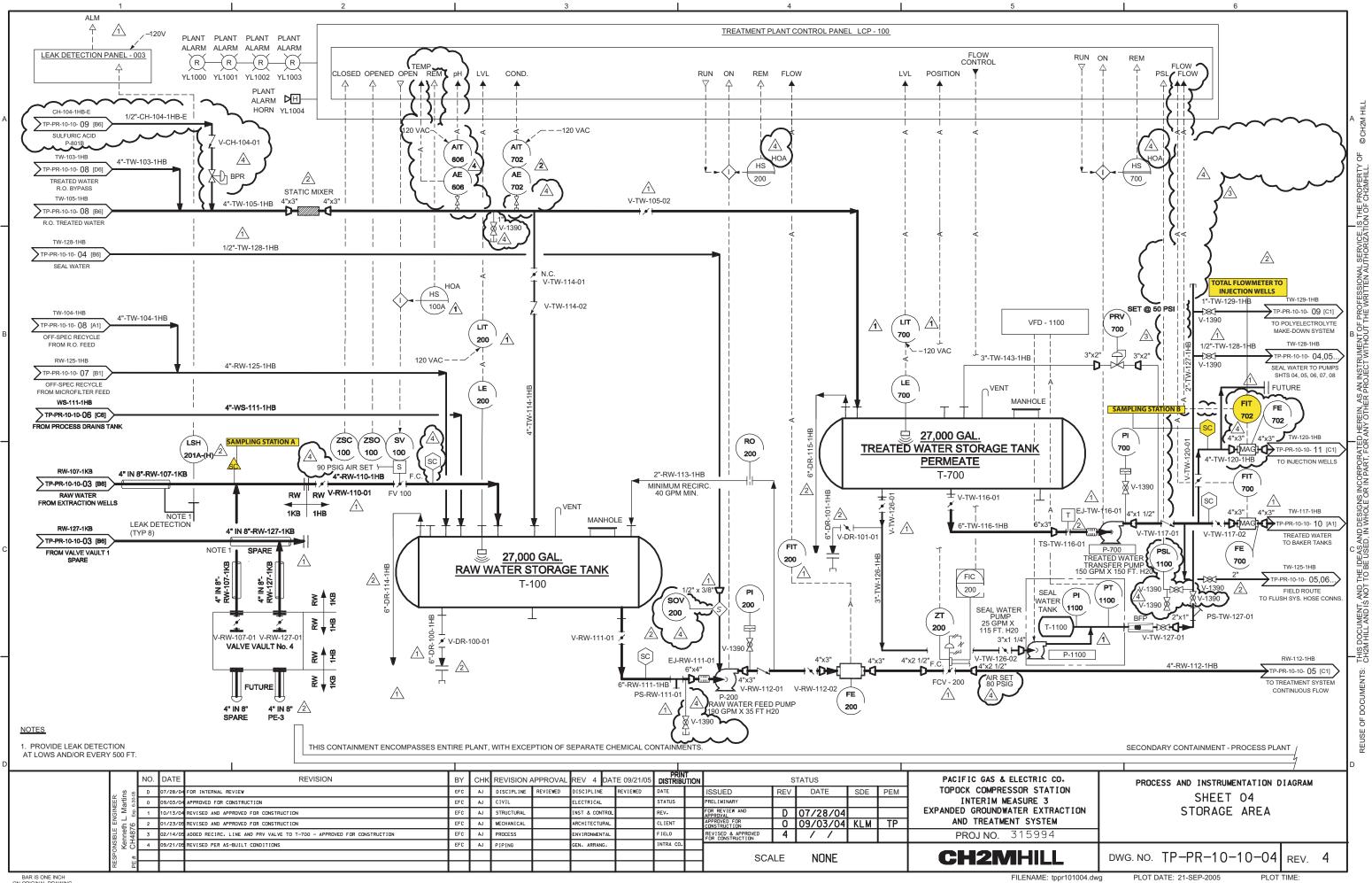
SC-100B = Sampling location for all influent samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04).

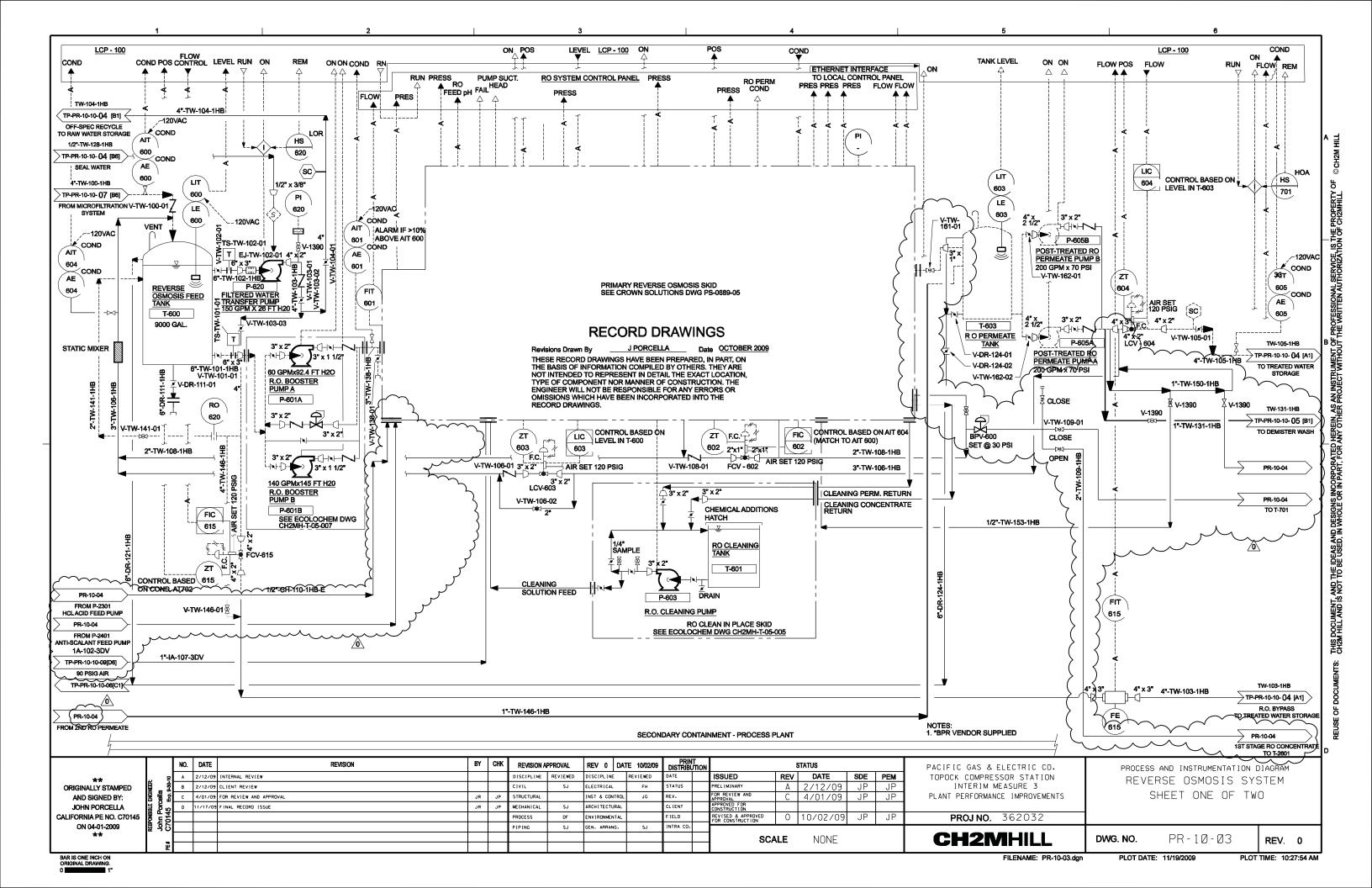
SC-701 = Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID PR-10-04).

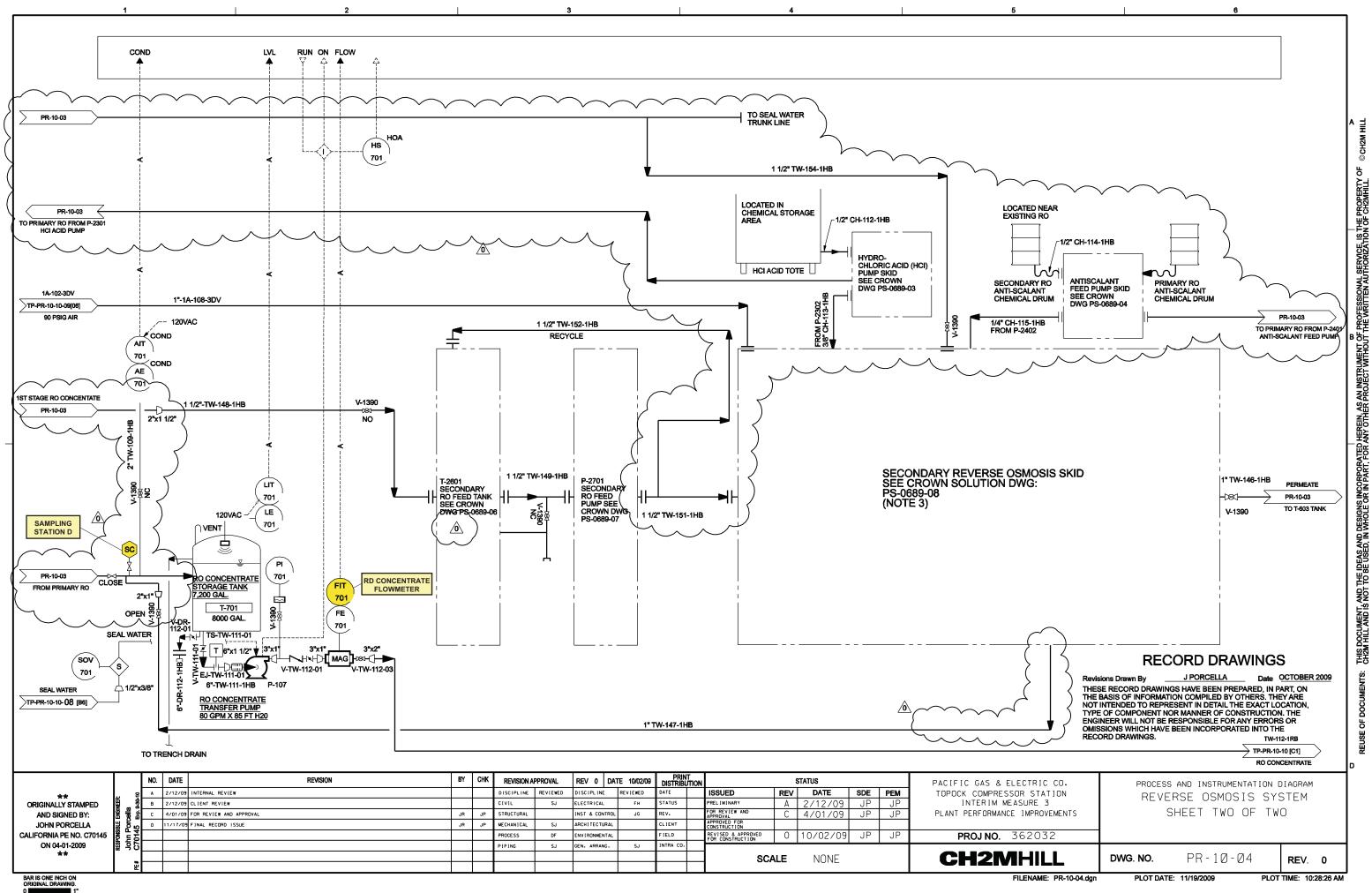
Prior to April 11, 2007 the analytical methods listed in the 40 CFR Part 136 for pH and TDS were E150.1 and E160.1, respectively. Per EPA and Department of Health Services guidelines, the analytical methods listed in the current 40 CFR Part 136 have changed to SM4500-H B and SM2540C as shown on the table.

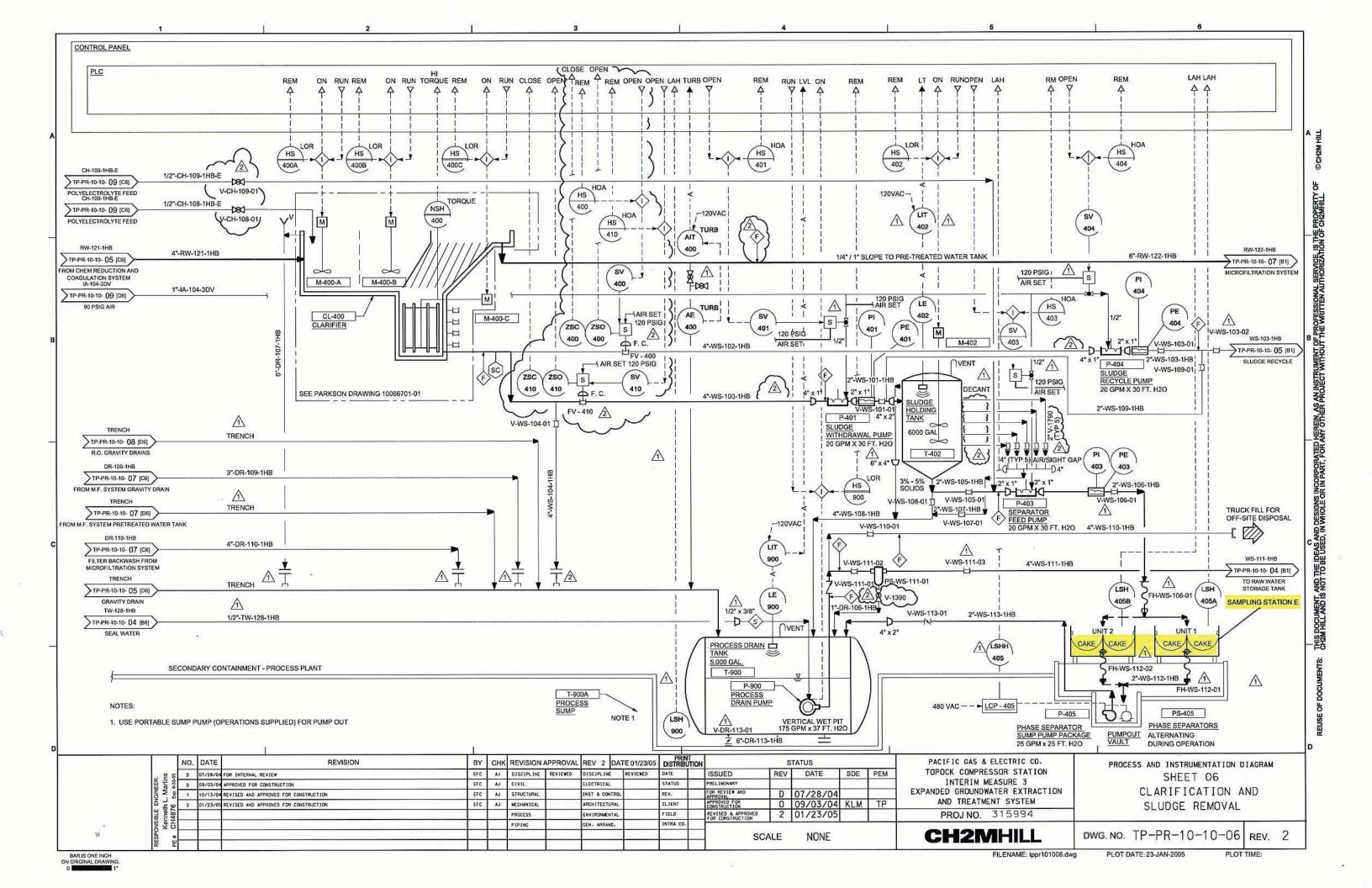
Figures

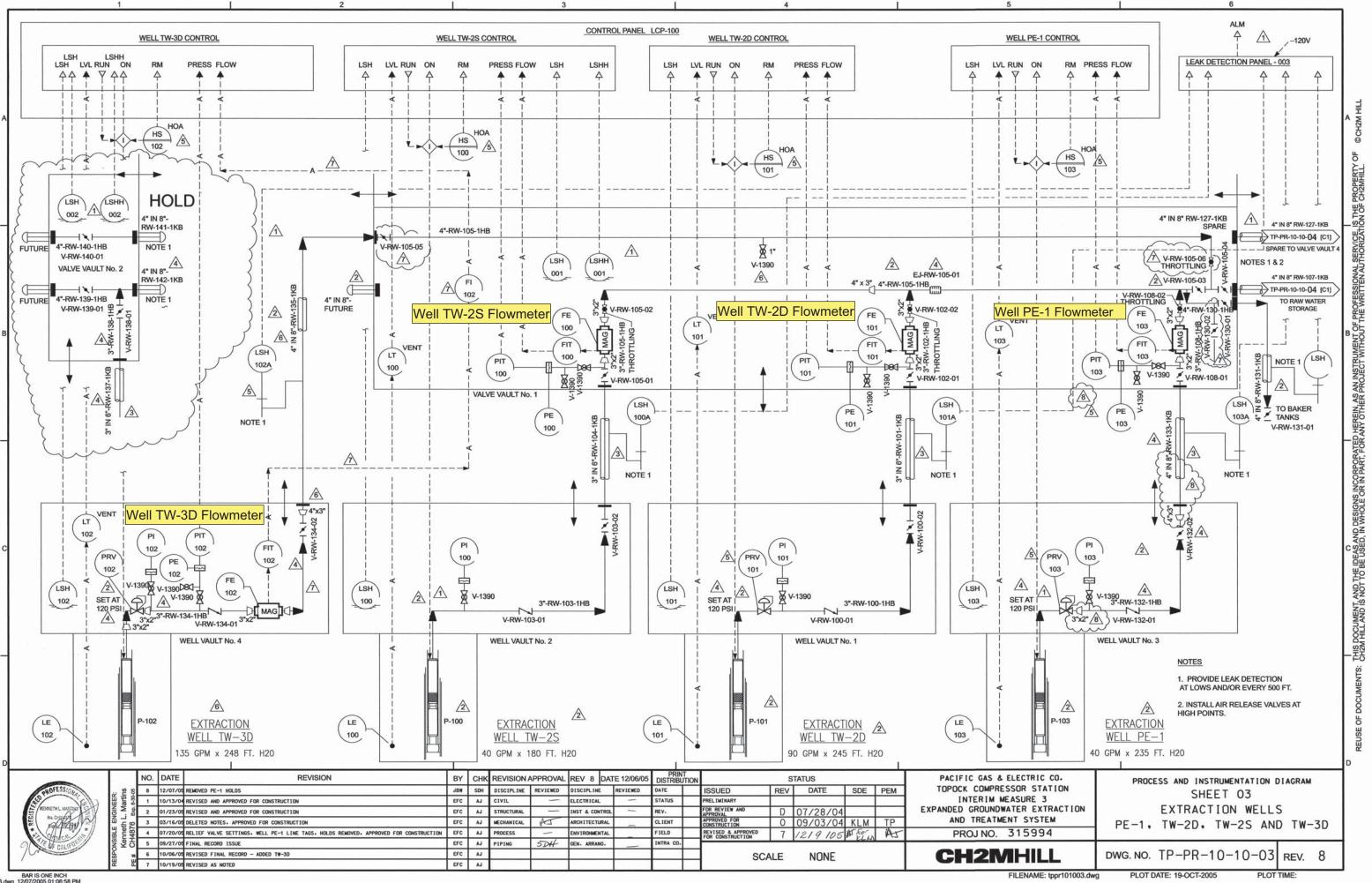


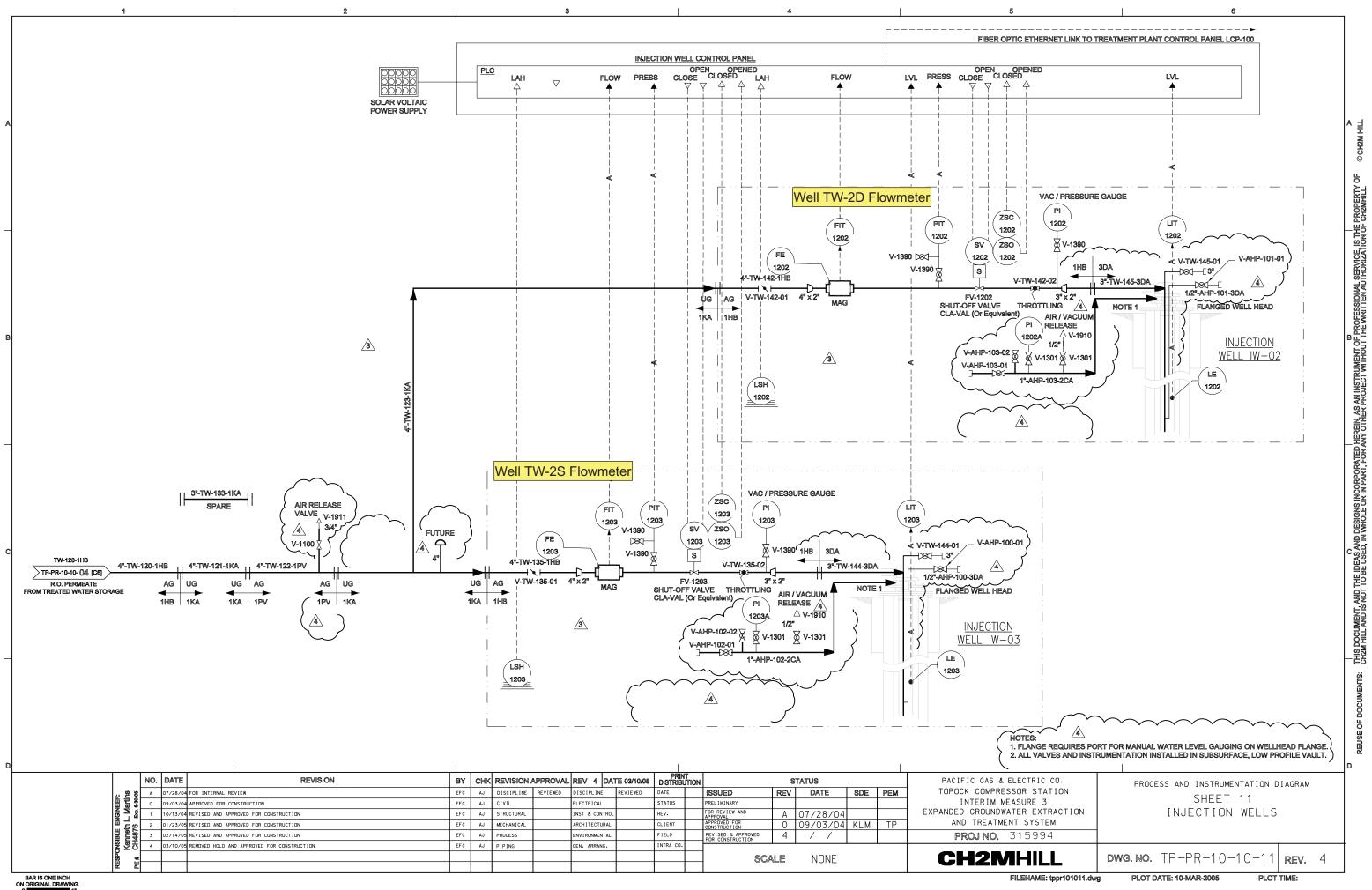












Appendix A Third Quarter 2011 Laboratory Analytical Reports

LABORATORY REPORT

Date: July 12, 2011

Client: Truesdail Laboratories, Inc. 14201 Franklin Avenue Tustin, CA 92780 Attn: Sean Condon



"dedicated to providing quality aquatic toxicity testing"

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

Laboratory No.:	A-11070701-001
Sample ID.:	995929

Sample Control: The sample was received by ATL chilled, with the chain of custody record attached.

Date Sampled:	07/05/11
Date Received:	07/07/11
Date Tested:	07/08/11 to 07/12/11

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

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

Attached are the test data generated from the analysis of your sample.

Result Summary:

Sample ID. 995929 $\frac{\text{Results}}{\text{PASS}}$ (LC50 > 750 mg/l)

Quality Control:

Reviewed and approved by:

Joseph A. L Laboratory Director

Laboratory Director

FATHEAD MINNOW HAZARDOUS WASTE SCREEN BIOASSAY



Lab No.: <u>A11070701-001</u> Client/ID: <u>Tpuesda:1</u> 995929

33

Final

mg/I CaCO,

43

mg/I CaCO₃

TEST SUMMARY

TECTINATA

Species: *Pimephales promelas*. Fish weight (gm): av: <u>()</u> <u>3</u>, min: <u>0</u>,<u>2</u>; max: <u>0</u>,<u>3</u>, Reference Toxicant: SDS conducted monthly. Test chamber volume: 10 liters. Temperature: 20 +/- 2°C. Aeration: none, unless D.O. drops below 5.0 mg/l. Number of replicates: 2. Dilution water: Soft reconstituted water (40-48 mg/l CaCO₃). Source: In-Lab Culture. Regulations: CCR Title 22. Test Protocol: California F&G/DHS 1988. Endpoints: Survival at 96 hrs. Test type: Static. Feeding: None. Number of fish per chamber: 10. Photoperiod: 16/8 hrs light/dark.

TEST DATA											
	INITIAL	24 Hr	48 Hr	72 Hr	96 Hr						
Date/Time:	7-8-11 1000	7-9-11 1070	» 7-10-11 1000	7-11-11 1000	7-12-11 (030						
Analyst:	2	2	Gn	Jan	7						
7 charg see	°C DO pH	°C DO pH #	D °C DO pH #D	℃ DO pH #D	°C DO pH #D						
Control A	27.6 3.1 7.9	20.9 7.6 7.8 (21.17.17.70	21.1 7.9 7.7 0	21.0 21 8.0 0						
Control B	20.6 8.3 7.8	20. 9 9.4 7.6) 21.1 8 17.7 0	21181760	21.0 8.7 7.8 0						
400 mg/l A	20.6 7.8 8.2	20.1 8.4 7.8 (21.0 8.1 7.8 0	20.8 8.7 8.0 0						
400 mg/l B			3 211 8-0 6-00	21.0 8.2 7.9 0	21.1 8.6 8.0 0						
750 mg/l A		20.9 8.7 8.0 (21.1 858.0 0	21.0 8.6 8.0 0						
750 mg/l B		21.0 8.4 8.0 (21.0 6.2 8.1 0	210 46.5 7.9 0	261 8.9 8.0 0						
Comments: Extraction method: Mechanical shaking <u>×</u> . None (aqueous solution) <u>-</u> . Dissolved Oxygen (DO) readings in mg/l O ₂ . Test Aerated: (Yes) / No											
[[CON	TROL	HIGH CONCENTR		tal Number Dead						
	Alkalinity	Hardness		Hardness Con							
Initial	33 mg/I CaCO,	43 mg/l CaCO,	3 mg/1 CaCO, 44	/ mg/l CaCO ₃ 400 r	mg/l () /20						

RESULTS (the checked result applies based on fish survival rates)								
\Box	PASSED	LC50 > 750 mg/l (<40% dead in 750 mg/l conc.)						
NA	FAILED	\geq 40% dead in 750 mg/l (close to passing - definitive test recommended)						
NA	FAILED	LC50 < 400 mg/l (>60% dead in 400 mg/l conc.)						

mg/l CaCO₃

53

63

mg/l CaCO₃

750 mg/l

/20



14201 FRANKLIN AVENUE, TUSTIN, CALIFORNIA 92780

Laboratory Transmittal Form

Please sign, date & <u>return this form with the results</u>, to: **TRUESDAIL LABORATORIES, INC.** *Attn: <u>Sean Condon</u>* 14201 Franklin Avenue, Tustin, California 92780 Please include Truesdail Sample ID on your invoice

Attention: Joe LeMay

Date: 07/06/11 Page: 1 of 1

Address: 4350 Transport St. #107, Ph#:805-650- 0546

Laboratory: Aquatic Testing Laboratories

City: Ventura State: CA Zip: 93003

				Tests/Methods	Required	_	
Sample ID	Date	Time	Matrix	Acute Aquatic Toxicity, 96 hr Acute (Bioassay)		Container Qty.	Comments/Container Type
995929	7/5/11	15:20	Sludge	x		1	4 oz /Glass
						1	Containers Total

evel III QC

<u>Ty</u>	pe of Service:		Sample Conditions:						
X Normal (TAT)	🗌 RUSH (5 day TAT)	Received on Ice?	Yes/No	Sealed? Yes/ <u>No</u>					
URGENT (24-48 hr. TAT)	Results needed by:	Special S	hipment/Handling or Sto	rage Requirements:					

Relinquished by:	Luda Shabunina	Luda Shabunina	TLI	07/06/11 1	4:30
	Signature	Printed Name	Company	Date T	ime
Received by:	Allhaz	, Joe Le Mar /	ATC	2711 C	955
	Signature	Printed Name	Company	Date T	ime
	00- (Solid)CH2M Hill/07/06/11 9:30 AM/0		TI L Dhanas/	714) 730-6239 • Fax (714) 730	6462

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

August 1, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-316 PROJECT, SLUDGE MONITORING, TLI NO.: 995929

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-316 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 July 5, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

The reported result (Non-detect) for Total Beryllium is from a 100x dilution by SW 6020, although the reporting limit exceeds the contract required detection limit. At lower dilutions, the internal standards were failing due to possible matrix interference.

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.

4.- Mona Nassimi Manager, Analytical Services

Wiehuel

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

Laboratory No.: 995929

Collected: July 5, 2011

Received: July 5, 2011

Date: August 1, 2011

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

ANALYST LIST

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

#1420 FRAMKLIN AVENUE - TUSTIN, CALFORNIA & 2780-7008 1420 FRAMKLIN AVENUE - TUSTIN, CALFORNIA & 2780-7008 [714] 730-6239 - FAX [714] 730-6428 - www.tusesdai.com Laboratory No.: 9959329 Date Received: July 5, 2011 SM 2540 B % Moisture 51.8	This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.
Analytical Results Summary Provide Nitrate as N mg/kg mg/kg mg/k	ition of apparently identic ed and upon the conditic
EPA 300.0 Fluoride 224.7 224.7	ve of the quality or cond int to whom it is address
SW 7195 Hexavaler Chromiun 34.7	s not necessarily indicati exclusive use of the clie ratories.
Laborator, Inc. Jour Testins ulting Engineers, Inc. Id Ave. Suite 1000 CA 94612 CA 94612 Utfy pock Project 1.DM 1.DM 1.DM 1.DM 1.DM 1.DM 1.DM 1.520 Sludge-WDR-316 1.5:20 Porting limit porting limit porting limit I Figures' rule has been applied to all results. In Mil have three (3) significant figures. It o 0.01pm will have three (3) significant figures.	ples, investigated and is ad and accepted for the , tion from Truesdail Labo
FRUESDAIL LABORATORIES, IN Excellence in Independent Testinio Client: E2 Consulting Engineers, Inc. 155 Grand Ave. Suite 1000 Oakland, CA 94612 Attention: Shawn Duffy Ject Name: PG&E Topock Project PO. No.: 408401.01.DM PO. No.: 408401.01.DM PO. No.: 408401.01.DM PO. No.: 408401.01.DM Ject Name: PG&E Topock Project Topict No.: 408401.01.DM PO. No.: 408401.01.DM PO. No.: 408401.01.DM PO. No.: 408401.01.DM PO. No.: 408401.01.DM P. No. Detected (below reporting limit) Sample I.D. Sample I.D. Sample I.D. See SC-Sludge-WDR-316 15:20 See Science True has been appled to all results may aver the (3) significant figures. Cuality Control data will avery have three (3) significant figures. Cuality Control data will avery have three (3) significant figures.	nly to the sample, or sam ss, this report is submitte ut prior written authoriza:
TRUESDAIL LAB. EXCELLENCE IN INDEPENDENT TES 155 Grand Ave. 5 Oakland, CA 946. 5 0akland, CA 946. 5 Attention: Shawn Duffy 155 Grand Ave. 5 Project Name: PG&E Topock Pr Project No.: 408401.01.DM P.O. No.: 408401.01.DM P.O. No.: 408401.01.DM P.O. No.: 408401.01.01.DM P.O. No.: 408401.01.DM P.O. No.: 408401.01.01.DM <td< td=""><td></td></td<>	

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

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

T-4-1 MI-4-5 A

Laboratory No.: 995929 Date Received: July 5, 2011

Analytical Results Summary

WETALS A	INALYSIS:	lotal Metal Analyses	as Requested									
Lab I.D.	Sample ID	Date of Analysis: Time Coll.		Antimony SW 6010B 07/12/11 mg/kg	Arsenic SW 6010B 07/12/11 mg/kg	Barium SW 6010B 07/12/11 mg/kg	Beryllium SW 6020 07/14/11 mg/kg	Cadmium SW 6010B 07/12/11 mg/kg	Chromium SW 6010B 07/12/11 mg/kg	Cobalt SW 6010B 07/12/11 mg/kg	Copper SW 6010B 07/12/11 mg/kg	Lead SW 6010B 07/12/11 mg/kg
995929	SC-Sludge-V	VDR-316 15:20		34.1	ND	70.2	ND	ND	4900	7.48	55.2	8.53
Lab I.D.	Sample ID	Date of Analysis: Time Coll.	Manganese SW 6010B 07/12/11 mg/kg	Mercury SW 6020 07/15/11 mg/kg	Molybdenum SW 6010B 07/12/11 mg/kg	Nickel SW 6010B 07/12/11 mg/kg	Selenium SW 6010B 07/12/11 mg/kg	Silver SW 6010B 07/12/11 mg/kg	Thallium SW 6010B 07/12/11 mg/kg	Vanadium SW 6010B 07/12/11 mg/kg	Zinc SW 6010B 07/12/11 mg/kg	
995929	SC-Sludge-V	VDR-316 15:20	358	0.125	9.75	20.7	ND	ND	ND	125	54.4	

NOTES:

METALS ANALVER.

ND: Not detected, or below limit of detection

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Laboratory No.: 995929

Collected: July 5, 2011

Received: July 5, 2011

Prep/ Analyzed: July 19, 2011

Analytical Batch: 07CrH11J

Date: August 1, 2011

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: 07CrH11J

Investigation:

Hexavalent Chromium by IC Using Method SW 7199

REPORT

Analytical Results Hexavalent Chromium

<u>TLI I.D.</u>	Field I.D.	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	DF	RL	<u>Results</u>
995929	SC-Sludge-WDR-31	6 15:20	12:39	mg/kg	5.00	4.15	34.7

					<u> </u>		- <u>5</u> u	mmar	У						
	QC STI			natory mber	Sampl Concentra			plicate entration	F	Relative Percent ifference		ceptance limits		QC Within Control	
	Duplic	ate	99:	5929	34.7		;	34.2		1.47%	-	< 20%	+	Yes	
QC Std I.D.	Lab Number	Conc.of unspiked sample	d Dilu	tion Factor	SDIKE		MS nount			Theoretical Conc. of MS% spiked Recovery		,	Acceptance limits	QC Within Control	
MS	995929	34.7		10.0	16.6		166	203	+	sample 201		101%		75-125%	Yes
IMS	995929	34.7		50.0	36.1	1	803	1660	╋	1837		0.2%		75-125%	Yes
PDMS	995929	34.7		25.0	13.3	3	332	385	┢	367		106%		85-115%	Yes
		QC St	d I.D.	1	sured ntration		eoretica centratio		- 1	Acceptan Limits	ice	QC Wit Contro		1	1
		Bia	nk	N	ID		<0.400	****	-	< 0.400		Yes			
		MRC	CS	2.	03		2.00	102%	6	90% - 110	7%	Yes		1	
		MRC	/S#1	2.	02		2.00	1019	I	90% - 110		Yes			
		MRC	/S#2	2.	00		2.00	100%		90% - 110		Yes			
		LC	S	1.	94		2.00	97.19		80% - 120		Yes			

OA/OC Summary

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

Analytical Services

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

012

EXCELLENCE IN INDEPENDENT TESTING



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

Investigation:

Total Solids by SM 2540 B

Analytical Results % Moisture

<u>TLI I.D.</u>	Field I.D.	Sample Time	Units	<u>Results</u>
995929	SC-Sludge-WDR-316	15:20	%	51.8

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	995929	51.8	53.4	3.05%	<u><</u> 20%	Yes

10-

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

> Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Laboratory No.: 995929

Collected: July 5, 2011

Received: July 5, 2011

Prep/ Analyzed: July 7, 2011 Analytical Batch: 07SOLID11A

Date: August 1, 2011

Mona Nassimi, Manager Analytical Services

013

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

REPORT

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 P.O. No.: 408401.01.DM

Laboratory No.: 995929

Date: August 1, 2011 Collected: July 5, 2011 Received: July 5, 2011 Prep/ Analyzed: July 6, 2011 Analytical Batch: 07AN11C

Investigation:

Fluoride by Ion Chromatography using EPA 300.0

Analytical Results Fluoride

<u>TLI I.D.</u>	Field I.D.	Sample Time	<u>Run Time</u>	<u>Units</u>	DF	RL	<u>Results</u>
995929	SC-Sludge-WDR-316	15:20	14:24	mg/kg	1.00	4.15	24.7

QA/QC Summary

			abora Numt	007		Concentration			Relative Percent Difference	cent Acceptan		QC Within Control	
(9959	35	ND				0.00%		< 20%	Yes	
QC Std I.D.	Lab Number	Conc.of unspiked sample	1	ution Ictor	Added Spike Conc.	[_	Measured MS Conc. of nount spiked sample		Theoretical Conc. of spiked sample	MS% Recovery		Acceptance limits	QC Within Control
MS	995935	0.00	1	.00	2.00	2	2.00	2.14	2,00	<u> </u>	107%	85-115%	- Voo
MSD	995935	0.00	1	.00	2.00	2	2.00	2.16	2,00	<u> </u>	108%	85-115%	Yes Yes
		QC Sto	I I.D.	ł _	asured		eoretical	Percen	t Accepta	100	QC With	in	

QC Std I.D.	Concentration	Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500		<0.500	Yes
MRCCS	4.10	4.00	103%	90% - 110%	Yes
MRCVS#1	3.13	3.00	104%	90% - 110%	Yes
MRCVS#2	3.13	3.00	104%	90% - 110%	Yes
MRCVS#3	3.13	3.00	104%	90% - 110%	Yes
LCS	4.09	4.00	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor,

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

 Mona Nassimi, Manager Analytical Services



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REPORT

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 P.O. No.: 408401.01.DM

Laboratory No.: 995929

Date: August 1, 2011 Collected: July 5, 2011 Received: July 5, 2011 Prep/ Analyzed: July 6, 2011 Analytical Batch: 07AN11C

Investigation: Nitrate as N by Ion Chromatography using EPA 300.0

Analytical Results Nitrate as N

<u>TLI I.D.</u>	Field I.D.	Sample Time	<u>Run Time</u>	<u>Units</u>	DF	<u>RL</u>	<u>Results</u>
995929	SC-Sludge-WDR-316	15:20	14:24	mg/kg	1.00	8.31	ND

QA/QC Summary

Dupilo	ate	995935	ND		ND	Percent Difference 0.00%	limits <u><</u> 20%	Control	
Lab umber	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Conc. of spiked	Conc. of spiked	MS% Recovery	Acceptance limits	QC Within Control
95935	0.00	1.00	2.00	2.00	2.22		111%	85,115%	Yes
95935	0.00	1.00	2.00	2.00	2.22	2.00	111%	85-115%	Yes
9	Lab Imber 15935	Lab Imber Conc.of unspiked sample	Lab umberConc.of unspiked sampleDilution Factor59350.001.0059350.001.00	Lab ImberConc.of unspiked sampleDilution FactorAdded Spike Conc.59350.001.002.00	Lab ImberConc.of unspiked sampleDilution FactorAdded Spike Conc.MS Amount59350.001.002.002.0059350.001.002.002.00	Lab ImberConc.of unspiked sampleDilution FactorAdded Spike Conc.MSMeasured Conc. of Amount159350.001.002.002.002.2259350.001.002.002.002.22	Lab ImberConc.of unspiked sampleDilution FactorAdded Spike Conc.MSMeasured Conc. of Spiked sampleTheoretical Conc. of spiked sample159350.001.002.002.002.222.0059350.001.002.002.002.222.00	Lab imberConc.of unspiked sampleDilution FactorAdded Spike Conc.MSMeasured Conc. of AmountTheoretical Conc. of spiked sampleMS% Recovery sample59350.001.002.002.002.222.00111%	Lab ImberConc.of unspiked sampleDilution FactorAdded Spike Conc.MS AmountMeasured Conc. of spiked sampleTheoretical Conc. of spiked sampleAcceptance limits159350.001.002.002.002.222.00111%85-115%59350.001.002.002.002.222.00111%85-115%

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500		<0.500	Yes
MRCCS	4.00	4.00	100%	90% - 110%	Yes
MRCVS#1	2.99	3.00	99.6%	90% - 110%	Yes
MRCVS#2	2.99	3.00	99.8%	90% - 110%	Yes
MRCVS#3	2.99	3.00	99.6%	90% - 110%	Yes
LCS	4.00	4.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Analytical Services



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Laboratory No.: 995929

Received: July 5, 2011

Analyzed: See Below

Reported: August 1, 2011 Collected: July 5, 2011

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

Attention: Shawn Duffy

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

Investigation: Total Metal Analyses as Requested

Analytical Results

SAMPLE ID:	SC-Sludge-WDR-316	Time Col	lected:	15:20		LAB [): 995929	
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	SW 6010B	34.1	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Arsenic	SW 6010B	ND	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Barium	SW 6010B	70.2	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Beryllium	SW 6020	ND	100	mg/kg	10.3	071411B	07/14/11	18:21
Cadmium	SW 6010B	ND	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Chromium	SW 6010B	4900	10.0	mg/kg	10.3	071211A-Th	07/12/11	
Cobalt	SW 6010B	7.48	2,00	mg/kg	2.06	071211A-Th	07/12/11	16:28
Copper	SW 6010B	55.2	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Lead	SW 6010B	8.53	2.00	ma/ka	2.06	071211A-Th	07/12/11	16:01
Manganese	SW 6010B	358	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Mercury	SW 6020	0.125	5.00	mg/kg	0.103	071511A	07/15/11	16:01
Molybdenum	SW 6010B	9.75	2.00	mg/kg	2.06	071211A-Th	07/12/11	15:04
Nickel	SW 6010B	20.7	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Selenium	SW 6010B	ND	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Silver	SW 6010B	ND	2.00	mg/kg	2.06	071211A-Th	er en en en en en en de la ser an	16:01
Thallium	SW 6010B	ND	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Vanadium	SW 6010B	125	2.00	mg/kg	2.06	071211A-Th	07/12/11	16:01
Zinc	SW 6010B	54.4	2.00	mg/kg	2.06	071211A-Th	07/12/11 07/12/11	16:01 16:01

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

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016

EXCELLENCE IN INDEPENDENT TESTING

Client: E2 Consulting Engineers, Inc. 155 Grand Ave. Suite 1000 Oakland, CA 94612 Attention: Shawn Duffy Samples: One (1) Soil Sample Project Name: PG&E Topock Project Project No.: 408401.01.DM P.O. No.: 408401.01.DM

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Laboratory No.: 995929 Reported: August 1, 2011 Collected: July 5, 2011 Received: July 5, 2011

Quality Control/Quality Assurance Report

			DIGES	TED BLANK		MRCCS				MRCVS			
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Antimony	SW 6010B	071211A-Th	mg/kg	ND	2.00	4.82	5.00	96,3%	90-110%	4.84	5.00	96.8%	90-110%
Arsenic	SW 6010B	071211A-Th	mg/kg	ND	0.500	4.73	5.00	94.6%	90-110%	4.76	5.00	95.3%	90-110%
Barium	SW 6010B	071211A-Th	mg/kg	ND	1.00	5.02	5.00	100%	90-110%	5.08	5.00	102%	90-110%
Beryllium	SW 6020	071411B	mg/kg	ND	1.00	0.0484	0.0500	96.9%	90-110%	0.0493	0.0500	98.6%	90-110%
Cadmium	SW 6010B	071211A-Th	mg/kg	ND	0.500	4.85	5.00	97.0%	90-110%	4,74	5.00	94.8%	90-110%
Chromium	SW 6010B	071211A-Th	mg/kg	ND	1.00	5.06	5.00	101%	90-110%	5.03	5.00	101%	90-110%
Cobalt	SW 6010B	071211A-Th	mg/kg	ND	1.00	4.81	5.00	96.3%	90-110%	4.81	5.00	96.3%	90-110%
Copper	SW 6010B	071211A-Th	mg/kg	ND	1.00	5.02	5.00	100%	90-110%	5.02	5.00	100%	90-110%
Lead	SW 6010B	071211A-Th	mg/kg	ND	1.00	4.58	5.00	91.7%	90-110%	4.56	5.00	91.3%	90-110%
Manganese	SW 6010B	071211A-Th	mg/kg	ND	1.00	5.02	5.00	100%	90-110%	4.95	5.00	99.0%	90-110%
Mercury	SW 6020	071511A	mg/kg	ND	0.100	0.00196	0.00200	97.9%	90-110%	0.00198	0.00200	98.9%	90-110%
Molybdenum	SW 6010B	071211A-Th	mg/kg	ND	1.00	4.72	5.00	94,4%	90-110%	4.76	5.00	95,2%	90-110%
Nickel	SW 6010B	071211A-Th	mg/kg	ND	1.00	4.84	5.00	96.8%	90-110%	4.92	5.00	98.3%	90-110%
Selenium	SW 6010B	071211A-Th	mg/kg	ND	1.00	4.89	5.00	97.7%	90-110%	4.92	5.00	98.3%	90-110%
Silver	SW 6010B	071211A-Th	mg/kg	ND	1.00	4.96	5.00	99.2%	90-110%	4.77	5.00	95.4%	
Thallium	SW 6010B	071211A-Th	mg/kg	ND	2.00	5.00	5.00	100%	90-110%	5.00	5.00		90-110%
Vanadium	SW 6010B	071211A-Th	mg/kg	ND	1.00	4.81	5.00	96.2%	90-110%	4.71		100%	90-110%
Zinc	SW 6010B	071211A-Th	mg/kg	ND	2.00	4.98	5.00	99.6%	90-110%	5.01	5.00 5.00	94.2% 100%	90-110% 90-110%

Report Continued

			INTERFERE	NCE CHECK	STANDARD	AB	
Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits	
Arsenic	SW 6010B	mg/kg	1.84	2.00	92.2%	80-120%	
Cadmium	SW 6010B	mg/kg	1.93	2.00	96.4%	80~120%	
Chromium	SW 6010B	mg/kg	2.04	2.00	102%	80-120%	
Cobalt	SW 6010B	mg/kg	1.92	2.00	96,2%	80-120%	
Copper	SW 6010B	mg/kg	2.06	2.00	103%	80-120%	
Manganese	SW 6010B	mg/kg	2.05	2.00	102%	80-120%	
Mercury	SW 6020	mg/kg	0.00192	0.00200	95.8%	80-120%	
Nickel	SW 6010B	mg/kg	1.93	2.00	96.7%		
Silver	SW 6010B	mg/kg	2.00	2.00		80-120%	
Zinc	SW 6010B	mg/kg	2.00	2.00	100%	80-120%	

			LABORATO	RY CONTRO	L SAMPLES		SAMPLE DUPL	CATES			
Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Antimony	SW 6010B	mg/kg	98.0	100	98.0%	85-115%	995929	34.1	33.4	1.97%	≤20
Arsenic	SW 6010B	mg/kg	95.3	100	95.3%	85-115%	995929	ND	ND	0.00%	<u>≤20</u>
Barium	SW 6010B	mg/kg	99.8	100	99.8%	85-115%	995929	70.2	69.8	0.56%	⊴ <u>20</u> ≲20
Beryllium	SW 6020	mg/kg	90.6	100	90.6%	85-115%	995929	ND	ND	0.00%	_ <u></u>
Cadmium	SW 6010B	mg/kg	90.8	100	90.8%	85-115%	995929	ND	ND	0.00%	<u></u>
Chromium	SW 6010B	mg/kg	101	100	101%	85-115%	995929	4900	4890	0.20%	<u>≤20</u>
Cobalt	SW 6010B	mg/kg	93.2	100	93.2%	85-115%	995929	7,48	7.48	0.03%	≤20 ≤20
Copper	SW 6010B	mg/kg	99.8	100	99.8%	85-115%	995929	55.2	54,4	1.52%	<u>≤20</u>
Lead	SW 6010B	mg/kg	88.5	100	88.5%	85-115%	995929	8.53	8.77	2.66%	<u>≤20</u>
Manganese	SW 6010B	mg/kg	99.0	100	99.0%	85-115%	995929	358	355	0.82%	≤20
Mercury	SW 6020	mg/kg	5.33	5.00	107%	85-115%	995929	0.125	0.125	0.41%	
Molybdenum	SW 6010B	mg/kg	98.2	100	98.2%	85-115%	995929	9.75	9.76	0.09%	≤20
Nickei	SW 6010B	mg/kg	95.8	100	95.8%	85-115%	995929	20.7	20.5	1.08%	≤20
Selenium	SW 6010B	mg/kg	92.2	100	92.2%	85-115%	995929	ND	ND	0.00%	≤20
Silver	SW 6010B	mg/kg	85.9	100	85.9%	85-115%	995929	ND	ND	0.00%	≤20
hallium	SW 6010B	mg/kg	98.0	100	98.0%	85-115%	995929	ND	ND	0.00%	≤20
vanadium	SW 6010B	mg/kg	90.6	100	90.6%	85-115%	995929	125	125	0.00%	≤20
änc	SW 6010B	mg/kg	93.2	100	93.2%	85-115%	995929	54.4	53.3	2.20%	<u>≤20</u> ≤20

Report Continued

MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	%	Accuracy Control
995929	Antimony	SW 6010B	mg/kg	34.1	2.00	206	412			Rec.	Limits %
995929	Arsenic	SW 6010B	mg/kg	0.00	2.00	206	412	446	508	115%	75-125%
995929	Barium	SW 6010B	mg/kg	70.2	2.00		····· ····	412	500	122%	75-125%
995929	Beryllium		mg/kg	0.00		206	412	482	515	108%	75-125%
995929	Cadmium	SW 6010B	mg/kg	0.00	200	1.02	204	204	181	89.0%	75-125%
995929	Chromium	SW 60108			2.00	206	412	412	453	110%	75-125%
995929	Cobalt	SW 6010B	mg/kg	4900	10.0	206	2058	6958	6591	82.2%	75-125%
995929	Copper	SW 60108	mg/kg	7.48	2.00	206	412	419	449	107%	75-125%
995929	Lead		mg/kg	55.2	2.00	206	412	467	496	107%	75-125%
995929	Manganese	SW 6010B	mg/kg	8.53	2.00	206	412	420	399	94.8%	75-125%
995929	Mercury	SW 6010B	mg/kg	358	2.00	206	412	769	766	99.2%	75-125%
995929	Molybdenum	SW 6020	mg/kg	0.125	5.00	0.205	1.03	1.15	0.903	75.7%	75-125%
995929	a server de la constant de la const	SW 6010B	mg/kg	9.75	2.00	206	412	421	503	120%	75-125%
• * • • • • • • • • • •	Nickel	SW 6010B	mg/kg	20.7	2.00	206	412	432	473	110%	75-125%
995929	Selenium	SW 6010B	mg/kg	0.00	2.00	206	412	412	424	103%	75-125%
995929	Silver	SW 6010B	mg/kg	0.00	2.00	206	412	412	351		
995929	Thallium	SW 6010B	mg/kg	0.00	2.00	206	412	412	384	85.3%	75-125%
995929	Vanadium	SW 6010B	mg/kg	125	2.00	206	412			93.2%	75-125%
995929	Zinc	SW 6010B	mg/kg	54,4	2.00	206	412	537	542	101%	75-125%
				······································	2.00	200	4 Z	466	560	123%	75-125%

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

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

en Mona Nassimi, Manager 40-Analytical Services

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

Date Calculated: 8/1/2011

	Sample Result Wet Weight mg/kg	Dilution Factor	% Moisture %	Sample Result Dry* Weight mg/kg	Reported Value mg/kg	Reporting Limit Wet Weight mg/kg	Reporting Limit Dry Weight mg/kg
Fluoride	11.894		51.8	24,6994	24.7	2.00	4.15
Nitrate as N	ND		51.8	ND	ND	4.00	4.10 8.31
Hexavalent Chromium	16,7232		51.8	34,7278	34.7	2.00	4 45
Hexavalent Chromium - Dup	16,4790	·····	51.8	34.2208	34.7		4.15
Hexavalent Chromium - MS	97.8648		51.8	203.229	203	2.00 4.00	4.15
Hexavalent Chromium - IMS	798.822		51.8	1658.855	1660	4,00	8.31 41.5
Hexavalent Chromium - PDMS	185.6300		51.8	385.484	385	10.0	20.8
Antimony	16.42	2.00	51.8	34.0982	34,1	0.991	2.06
Arsenic	ND	2.00	51.8	ND		0.991	the second secon
Barium	33,80	2.00	51.8	70,1900	70.2	0.991	2.06
Beryllium	0.2498	100	51.8	0.5187	ND	4.955	2.00
Cadmium	0.954	2.00	51.8	1,9811	ND	0.991	2.06
Chromium	2358	10.0	51.8	4896.69	4900	4.955	2.00
Cobalt	3.602	2.00	51.8	7.4800	7.48	0.991	2.06
Copper	26.60	2.00	51.8	55.2383	55.2	0.991	2.00
ead	4.110	2.00	51.8	8.5349	8.53	0.991	2.00
Manganese	172.3	2.00	51.8	357,8029	358	0.991	2.00
Mercury	0.06040	5.00	51.8	0,12543	0.125	0.0494	0.103
Molybdenum	4.697	2.00	51.8	9.7539	9.75	0,991	2.06
Nickel	9.968	2.00	51.8	20.6998	20.7	0.991	2.00
Selenium	ND	2.00	51.8	ND	ND	0.991	2.06
Silver	ND	2.00	51.8	ND	ND	0.991	2.06
Thallium	ND	2.00	51.8	ND	ND	0.991	2.06
/anadium	60.27	2.00	51.8	125.158	125	0.991	2.06
Zinc	26.22	2.00	51.8	54.4492	54.4	0.991	2.06

Dry Weight Calculations

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

where: Sample_{ww} = Sample result in wet weight

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TOTAL SOLIDS BY SM 2540 B

07/07/11 Date of Analysis:

Analytical Batch:	
Oven Temp, °C:	105

Lab No.	Dish Number	Weight of dish, g	Wt of wet sample, g	Wt of wet sample+ dish, 9	Wt of dried residue+dish,g	Wt of dried residue, g	% Total Solids	% Moisture
995929	1	1.3103	2.0108	3.3211	2.2786	0.9683	48.155	51.845
995929D	2	1.3217	2.095	3.4167	2.2969	0.9752	46.549	53.451
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	Relati	ve Percent Difference	
Sample ID	Sample	Sample Dup	RPD
995929	51.845	53.451	3.1

% Total Solids =

<u>(A-B)*100</u> 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



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Reviewer Name

Reviewer Signature

14201 Franklin A	IORATORIES, INC. Wenue, Tustin, CA 927 FAX: (714) 730-6462 om	780-7008		CHAI	[IM	3plar	nt-W[DR-31	16]		95	92	9				ouni 7/05/) TIME		Days	OF <u>1</u>
COMPANY CH2M F PROJECT NAME PG&E T	IILL / E2 opock IM3					/	/	Metals () 24 (includes Mc.	Ling	/ /	77	/	/	7	7	/			$\overline{7}$	col	MENTS
PHONE530)-229-3303	FAX 530	-339-3303		/	/ /	/ /	clude		' /			/ /	/ ,	/ ,	/	/				
	nd Ave Ste 1000				/ 2	, /	/ {) ج								/	/	UNBER OF CONTAINERS	/		
	l, CA 94612	_			/ <u>x</u> /				1		' /		/	/	/	/	/	NA NA			
P.O. NUMBER 408401.	01.DM					96h.	10B)	_	(B)			/ /	/	/ /	/ /	/					
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SAMPLE I.D.	DATE	TIME	DESCRIPTION	4. 10	Bioasses (300.0) F, NO3	Met	/දී	Met	(8010B) Mn	_ /				/							
SC-Sludge-WDR-316	07/05/11	1570	Sludge	X	×	X	х	х								UY/	All	6			
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Signature (Received) Ludia	Printed Name	Fual	Company, Company,	, ,	77			Date Time		STA .	22180										
Signature (Relinquished)	Printed Name		Company/ Agency	1				Date Time				1									
Signature (Received)	Printed Name		Company/ Agency	1				Date Time]									

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Sample Integrity & Analysis Discrepancy Form

Cli	ent: <u>E2</u> .	Lab #995_92
) aí	e Delivered:07/05/11 Time: <u>22:3</u> 0 By: □Mail &	Field Service DCiler
1.	Was a Chain of Custody received and signed?	Ø(Yes □No □N/A
<u>}</u>	Does Customer require an acknowledgement of the COC?	UYes DNo QN/A
	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?	QYes QNo QINA
	Were all requested analyses understood and acceptable?	ØYes ⊡No ⊡N/A
	Were samples received in a chilled condition? Temperature (if yes)? <u>3. 6°C</u>	Ģ(Yes ⊡No ⊡N/A
	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	Qa(Yes ⊡No ⊡N/A
	Were sample custody seals intact?	⊡Yes ⊡No gʻiN/A
	Does the number of samples received agree with COC?	Yes INO IN/A
	Did sample labels correspond with the client ID's?	QYes DNo DNA
r	Did sample labels indicate proper preservation? Preserved (if yes) by: DTruesdall DClient	□Yes □No QN/A
	Were samples pH checked? pH =	UYes UNO DANA
	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	
•	Have Project due dates been checked and accepted? Turn Around Time (TAT): D RUSH Ø Std	Ø Yes □No □N/A
	Sample Matrix: Liquid Drinking Water Ground	Water DWaste Water
	Comments:	<u> </u>
	Sample Check-In completed by Truesdal! Log-In/Receiving: _	Luda Histi

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

July 29, 2011

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-316 PROJECT, GROUNDWATER MONITORING,

TLI NO.: 995931

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-316 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 July 5, 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.

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

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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: Three (3) Groundwaters Project Name: PG&E Topock Project Project No.: 408401.01.DM

Laboratory No.: 995931 Date: July 26, 2011 Collected: July 5, 2011 Received: July 5, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 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	Sonya Bersudsky

				_		14201 FI (714) 7	RANKLIN AVENUE 30-6239 · FAX (7	14201 FRANKLIN AVENUE - TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 - FAX (714) 730-6462 - www.truesdail.com	4iA 92780-700 w.truesdail.com
Clien	Client: E2 Consulting Engineers, Inc. 155 Grand Ave. Suite 1000 Oakland, CA 94612	ers, Inc. 1000				Lat	Laboratory No.: 995931 Date Received: July 5, 2011	995931 July 5, 2011	
Attentio	Attention: Shawn Duffy								
Project Nam Project No P.O. No	Project Name: PG&E Topock Project Project No.: 408401.01.DM P.O. No.: 408401.01.DM								
		Ā	nalytica	<u>lytical Results Summary</u>	ts Sun	<u>ımary</u>			
Lab Sample ID	Field (D	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995931-001	SC-700B-WDR-316	E120.1	NONE	7/5/2011	15:00	EC	7090	umhos/cm	2.00
995931-001	SC-700B-WDR-316	E200.7	NONE	7/5/2011	15:00	BORON	1010	ng/L	200
995931-001	SC-700B-WDR-316	E200.7	NONE	7/5/2011	15:00	iron	QN	ug/L	20.0
995931-001	SC-700B-WDR-316	E200.8	NONE	7/5/2011	15:00	Aluminum	QN	ng/L	50.0
995931-001	SC-700B-WDR-316	E200.8	NONE	7/5/2011	15:00	Antimony	QN	ug/L	10.0
995931-001	SC-700B-WDR-316	E200.8	NONE	7/5/2011	15:00	Arsenic	QN	ug/L	1.0
995931-001	SC-700B-WDR-316	E200.8	NONE	7/5/2011	15:00	Barium	Q	ng/L	10.0
995931-001 001004 004	SC-/00B-WDR-316	E200.8	NONE	7/5/2011	15:00	Chromium	Q	ng/L	1.0
995931-001	SC-/00B-WDR-316	E200.8	NONE	7/5/2011	15:00	Copper	Q	ng/L	5.0
995931-001	SC-/00B-WDR-316	E200.8	NONE	7/5/2011	15:00	Lead	Q	ng/L	10.0
895951-UU1	SC-/UUB-WDR-316	E200.8	NONE	7/5/2011	15:00	Manganese	2.0	ng/L	1.0
990931-001 005024 004	SC-/UUB-WUR-316	E200.8	NONE	7/5/2011	15:00	Molybdenum	18.2	ng/L	10.0
993931-001 005021 001	SC-/UUB-WUK-316	E200.8	NONE	7/5/2011	15:00	Nickel	Q	ng/L	10.0
				1102/6//	15:00	Zinc	Q	ng/L	10.0
		E218.0		//5/2011	15:00	Chromium, hexavalent	QN	ng/L	0.20
990901-001	SC-/UUB-WUK-316	E300	NONE	7/5/2011	15:00	Fluoride	1.89	mg/L	0.500
995931-001	SC-/00B-WDR-316	E300	NONE	7/5/2011	15:00	Nitrate as N	2.73	mg/L	1.00
995931-001	SC-700B-WDR-316	E300	NONE	7/5/2011	15:00	Sulfate	494	mg/L	12.5
995931-001	SC-700B-WDR-316	SM2130B	NONE	7/5/2011	15:00	Turbidity	QN	NTU	0,100
995931-001	SC-700B-WDR-316	SM2540C	NONE	7/5/2011	15:00	Total Dissolved Solids	4180	mg/L	125
995931-001	SC-700B-WDR-316	SM4500NH3D	NONE	7/5/2011	15:00	Ammonia-N	QN	mg/L	0.500
100-128688	SC-700B-WDR-316	SM4500NO2B	NONE	7/5/2011	15:00	Nitrite as N	QN	mg/L	0.0050

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TRUESDAIL LABORATORIES, INC.

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.

Report Continued

l ah Samula ID		Analysis Mothod	Extraction	Sample	Sample	Dermotor	#0		Ō
			Meriloa	חמופ	AUII	rarariteter	Result	OUTES	אר
995931-002	SC-100B-WDR-316	E120.1		7/5/2011	15:00	EC	7840	umhos/cm	2.00
995931-002	SC-100B-WDR-316	E200.7	NONE	7/5/2011	15:00	BORON	1040	ng/L	200
995931-002	SC-100B-WDR-316	E200.7		7/5/2011	15:00	Iron	QN	ng/L	20.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Aluminum	QN	ng/L	50.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Antimony	QN	ug/L	10.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Arsenic	3.4	ng/L	1.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Barium	26.0	ng/L	10.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Chromium	810	ng/L	1.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Copper	QN	ng/L	5.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Lead	QN	ug/L	10.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Manganese	9.5	ng/L	1.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Molybdenum	20.9	ng/L	10.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Nickel	QN	ng/L	10.0
995931-002	SC-100B-WDR-316	E200.8		7/5/2011	15:00	Zinc	QN	ng/L	10.0
995931-002	SC-100B-WDR-316	E218.6	_	7/5/2011	15:00	Chromium, hexavalent	852	ng/L	21.0
995931-002	SC-100B-WDR-316	E300		7/5/2011	15:00	Fluoride	2.68	mg/L	0.500
995931-002	SC-100B-WDR-316	E300		7/5/2011	15:00	Nitrate as N	3.04	mg/L	1.00
995931-002	SC-100B-WDR-316	E300		7/5/2011	15:00	Sulfate	562	mg/L	12.5
995931-002	SC-100B-WDR-316	SM2130B		7/5/2011	15:00	Turbidity	0.107	NTU	0.100
995931-002	SC-100B-WDR-316	SM2540C		7/5/2011	15:00	Total Dissolved Solids	4720	mg/L	125
995931-002	SC-100B-WDR-316	SM4500NH3D		7/5/2011	15:00	Ammonia-N	QN	mg/L	0.500
995931-002	SC-100B-WDR-316	SM4500NO2B		7/5/2011	15:00	Nitrite as N	QN	mg/L	0.0050

Report Continued

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
995931-003	SC-701-WDR-316	E120.1	NONE	7/5/2011	15:00	EC	42400	umhos/cm	2.00
995931-003	SC-701-WDR-316	E200.8		7/5/2011	15:00	Antimony	QN	ug/L	10.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011	_	Arsenic	QN	ug/L	2.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Barium	77.0	ng/L	10.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Beryllium	QN	ng/L	10.0
995931-003	SC-701-WDR-316	E200.8	NONE	7/5/2011	15:00	Cadmium	QN	ng/L	3.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Chromium	4.9	ug/Ľ	2.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Cobalt	QN	ug/L	5.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Copper	QN	ug/L	5.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Lead	Q	ug/L	10.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Manganese	23.9	ug/L	2.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Mercury	QN	ug/L	2.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Molybdenum	130	ng/L	10.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Nickel	11.1	ug/L	10.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Selenium	22.2	ua/L	10.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Silver	QN	ug/L	5.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Thalium	Q	ng/L	2.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Vanadium	Q	ug/L	10.0
995931-003	SC-701-WDR-316	E200.8		7/5/2011		Zinc	Q	ng/L	10.0
995931-003	SC-701-WDR-316	E218.6		7/5/2011		Chromium, hexavalent	QN	ug/L	2.1
995931-003	SC-701-WDR-316	E300		7/5/2011		Fluoride	15.5	mg/L	1.00
995931-003	SC-701-WDR-316	SM2540C		7/5/2011		Total Dissolved Solids	30100	mg/L	833

ND: Non Detected (below reporting fimit) mg/L: Mitligrams per liter. Note: The following "Significant Figures" rule has been applied to all results: Results below 0.01ppm will have two (2) significant figures. Result above or equal to 0.01ppm will have three (3) significant figures. Quality Control data will always have three (3) significant figures.

EXCELLENCE IN INDEPENDENT TESTING

Project Number: 408401.01.DM

Established 1931

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REPORT

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

Printed 7/26/2011

Laboratory No. 995931

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 408401.01.DM

Samples Received on 7/5/2011 10:30:00 PM

Field ID				Lab ID	Coll	ected	Matrix	<i>.</i>
SC-700B-WDR-316				995931-001		·····		
SC-100B-WDR-316				995931-001		2011 15:00 2011 15:00	Wate	
SC-701-WDR-316				995931-003		2011 15:00	Wate Wate	
					0.,00,	2011 10.00	vvale	I
Anions By I.C EPA 300.0				Batch 07AN11C				
Parameter	erek bistorioù	Unit		Analyzed	DF	MDL	RL	Result
995931-001 Fluoride		mg/L	(07/06/2011 11:48	5.00	0.0250	0.500	1.89
Nitrate as Nitrogen		mg/L	I	07/06/2011 11:48	5.00	0.0550	1.00	2.73
Sulfate		mg/L	(07/06/2011 16:00	25.0	0.500	12.5	494.
995931-002 Fluoride		mg/L	(07/06/2011 11:59	5.00	0,0250	0.500	2.68
Nitrate as Nitrogen		mg/L	(07/06/2011 11:59	5.00	0.0550	1.00	3.04
Sulfate		mg/L	(07/06/2011 16:11	25.0	0.500	12.5	562.
Method Blank				· · · · · · · · · · · · · · · · · · ·				
Parameter	Unit	DF	Resi	ult				
Fluoride m	ng/L	1.00	ND					
Sulfate m	ng/L	1.00	ND					
Nitrate as Nitrogen m	ng/L	1.00	ND					
Duplicate							Lab ID = 9	95935-001
Parameter t	Unit	DF	Resu	ult Expected	R	PD	Acceptan	ce Range
Fluoride m	ig/L	1.00	ND	0.00	1	0	0 - 20	
Sulfate m	ng/L	1.00	ND	0.00	I	0	0 - 20	
Nitrate as Nitrogen m	ng/L	1.00	ND	0.00	1	0	0 - 20	

Report Continued

Client: E2 Consulting Eng	jineers, Inc.		Project Name: Project Number:	PG&E Topock Pro 408401.01.DM	pject	Page 2 of 38 Printed 7/26/2011
Lab Control Sample						
Parameter Fluoride Sulfate Nitrate as Nitrogen	Unit mg/L mg/L mg/L	DF 1.00 1.00 1.00	20.3	Expected 4.00 20.0 4.00	Recovery 102. 101. 100.	Acceptance Range 90 - 110 90 - 110 90 - 110
Matrix Spike	3			1.00	100.	Lab ID = 995935-001
Parameter Fluoride Sulfate Nitrate as Nitrogen Matrix Spike Duplicate	Unit mg/L mg/L mg/L	DF 1.00 1.00 1.00	1.93	Expected/Added 2.00(2.00) 2.00(2.00) 2.00(2.00)	Recovery 107. 96.4 111.	Acceptance Range 85 - 115 85 - 115 85 - 115 Lab ID = 995935-001
Parameter Fluoride Sulfate Nitrate as Nitrogen MRCCS - Secondary	Unit mg/L mg/L mg/L	DF 1.00 1.00 1.00	Result 2.16 1.93 2.22	Expected/Added 2.00(2.00) 2.00(2.00) 2.00(2.00)	Recovery 108. 96.4 111.	Acceptance Range 85 - 115 85 - 115 85 - 115
Parameter Fluoride Sulfate Nitrate as Nitrogen MRCVS - Primary	Unit mg/L mg/L mg/L	DF 1.00 1.00 1.00	Result 4.10 20.3 4.00	Expected 4.00 20.0 4.00	Recovery 102. 102. 100.	Acceptance Range 90 - 110 90 - 110 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.13	Expected 3.00	Recovery 104.	Acceptance Range 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.13	Expected 3.00	Recovery 104.	Acceptance Range 90 - 110
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 3.13	Expected 3.00	Recovery 104.	Acceptance Range 90 - 110
Parameter Sulfate MRCVS - Primary	Unit mg/L	DF 1.00	Result 15.1	Expected 15.0	Recovery 101.	Acceptance Range 90 - 110
Parameter Sulfate	Unit mg/L	DF 1.00	Result 15.1	Expected 15.0	Recovery 101.	Acceptance Range 90 - 110

Report Continued

Client: E2 Consulting En	gineers, Inc		oject Name: oject Numbe	PG&E Topock Pr r: 408401.01.DM	roject	Page 3 of 38 Printed 7/26/2011
MRCVS - Primary						
Parameter Sulfate Nitrate as Nitrogen MRCVS - Prímary	Unit mg/L mg/L	DF 1.00 1.00	Result 15.1 2.99	Expected 15.0 3.00	Recovery 101. 99.6	Acceptance Range 90 - 110 90 - 110
Parameter Nitrate as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 2.99	Expected 3.00	Recovery 99.6	Acceptance Range 90 - 110
Parameter Nitrate as Nitrogen	Unit mg/L	DF 1.00	Result 2.99	Expected 3.00	Recovery 99.8	Acceptance Range 90 - 110
Anions By I.C EPA 300 Parameter	.0	Unit		07AN11E yzed D	F MDL	RL Result
995931-003 Fluoride		mg/L	07/08	/2011 12:46 10	0.0 0.0500	1.00 15.5
Method Blank						
Parameter Fluoride Duplicate	Unit mg/L	DF 1.00	Result ND			Lab ID = 005034.000
Parameter Fluoride Lab Control Sample	Unit mg/L	DF 10.0	Result 15.2	Expected 15.5	RPD 2.26	Lab ID = 995931-003 Acceptance Range 0 - 20
Parameter Fluoride Matrix Spike	Unit mg/L	DF 1.00	Result 4.09	Expected 4.00	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 995931-003
Parameter Fluoride MRCCS - Secondary	Unit mg/L	DF 10.0	Result 35.0	Expected/Addec 35.5(20.0)	Recovery 97.5	Acceptance Range 85 - 115
Parameter Fluoride MRCVS - Primary	Unit mg/L	DF 1.00	Result 4.10	Expected 4.00	Recovery 102.	Acceptance Range 90 - 110
Parameter Fluoride	Unit mg/L	DF 1.00	Result 3.14	Expected 3.00	Recovery 104.	Acceptance Range 90 - 110

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Nitrite SM 4500-NO2 B			Batch	07NO211A				
Parameter		Unit	Anal	yzed	DF	MDL	RL	Result
995931-001 Nitrite as Nitrogen		mg/L	07/06	/2011 12:01	1.00	0.000200	0.0050	ND
995931-002 Nitrite as Nitrogen		mg/L	07/06	/2011 12:02	1.00	0.000200	0.0050	ND
Method Blank								
Parameter	Unit	DF	Result					
Nitrite as Nitrogen	mg/L	1.00	ND					
Duplicate							Lab ID = 9	95931-002
Parameter	Unit	DF	Result	Expected	F	RPD	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	ND	0.00		0	0 - 20	-
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	lecovery	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0390	0.0400		97.5	90 - 110	-
Matrix Spike							Lab ID = 9	95931-002
Parameter	Unit	DF	Result	Expected/Add	ed R	lecovery	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0211	0.0200(0.0200))	106.	85 - 115	-
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	lecovery	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0185	0.0200		92.5	90 - 110	0
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	lecovery	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0187	0.0200		93.5	90 - 110	5

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 Client: E2 Consulting Engineers, Inc.
 Project Name:
 PG&E Topock Project
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 Project Number:
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 Specific Conductivity - EPA 120.1
 Batch 07EC11B
 7/7/2011

Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
995931-001 Specific Conduct	ivity	umhos/	cm 07/07	/2011	1.00	0.0380	2.00	7090
995931-002 Specific Conduct	ivity	umhos/	cm 07/07	/2011	1.00	0.0380	2.00	7840
995931-003 Specific Conduct	ivity	umhos/	cm 07/07	/2011	1.00 0.0380		2.00	42400
Method Blank								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	995931-003
Parameter Specific Conductivity Lab Control Sample	Unit umhoร	DF 1.00	Result 42300	Expected 42400	F	(PD 0.236	Accepta 0 - 10	ince Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 709	Expected 706	F	Recovery 100.	Accepta 90 - 110	ince Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 708	Expected 706	F	Recovery 100.	Accepta 90 - 110	ince Range)
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 980.	Expected 998	F	Recovery 98.2	Accepta 90 - 110	ince Range

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01,DM

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Chrome VI by EPA 218.6 Parameter	5	Unit		07CrH11B	DF	MDL	RL	Result
995931-001 Chromium, Hexa	avalent	ug/L		7/2011 09:30	1.05	0.0210		
995931-002 Chromium, Hexa		ug/L ug/L		7/2011 09:30	1.05	2.20	0.20 21.0	ND 852.
995931-003 Chromium, Hexa		ug/L		7/2011 12:20	10.5	0.220	21.0	852. ND
Method Blank				72011 12.20	10.0	0.220	Ζ.Ι	
Parameter	Unit	DF	Result					
Chromium, Hexavalent	ug/L	1.00	ND					
Duplicate	Ũ						Lab ID =	995934-002
Parameter	Unit	DF	Result	Expected		RPD		nce Range
Chromium, Hexavalent	ug/L	1.05	0.979	0.977		0.204	0 - 20	noe Runge
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.00	5.04	5.00		101.	90 - 110	-
Matrix Spike							Lab ID =	995931-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	5.25	5.30	5.44(5.25)		97.5	90 - 110	-
Matrix Spike							Lab ID =	995931-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range
Chromium, Hexavalent	ug/L	1.06	1.26	1.21(1.06)		105.	90 - 110	
Matrix Spike							Lab ID = 1	995931-002
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	-	nce Range
Chromium, Hexavalent	ug/L	105	1930	1900(1050)		102.	90 - 110	
Matrix Spike							Lab ID = 9	995931-003
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	-	nce Range
Chromium, Hexavalent	ug/L	10.5	12.5	11.7(10.5)		108.	90 - 110	
Matrix Spike								995931-003
Parameter Chromium Hovevalant	Unit	DF	Result	Expected/Add	ded	_		nce Range
Chromium, Hexavalent Matrix Spike	ug/L	5.25	6.36	6.06(5.25)		106.	90 - 110	
		55						995931-003
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result ND	Expected/Add	ded	Recovery		nce Range
Matrix Spike	uy/L	1,00	NU	1.06(1.06)			90 - 110	
Parameter	1.1	DE	D ''	-		_		95934-001
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 6.97	Expected/Add 6.90(5.30)	ded	Recovery		nce Range
Statement, storardione	uy/L	1.00	0.97	0.90(0.00)		101.	90 - 110	

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Parameter		Unit	Ana	lyzed	Analyzed DF		RL	Result
995931-001 Boron		ug/L	07/13	/2011 12:04	1.00	5.00	200.	1010
Iron		ug/L	07/13	/2011 12:04	1.00	1.34	20.0	ND
995931-002 Boron		ug/L	07/13	/2011 12:22	1.00	5.00	200.	1040
Iron		ug/L	07/13	/2011 12:22	00.1	1.34	20.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Iron	ug/L	1.00	ND					
Boron	ug/L	1.00	ND					
Duplicate							Lab ID =	995931-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ance Range
Iron	ug/L	1.00	ND	0.00		0	0 - 20	0
Boron	ug/L	1.00	974.	1010		3.62	0 - 20	
Lab Control Sample)							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Iron	ug/L	1.00	5660	5000		113,	85 - 11	5
Boron	ug/L	1.00	5130	5000		102.	85 - 11	5
Matrix Spike							Lab ID =	995931-001
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accepta	ance Range
Iron	ug/L	1.00	1870	2000(2000)		93.4	75 - 12	5
Boron	ug/L	1.00	2990	3010(2000)		98.9	75 - 12	5
MRCCS - Secondar	ſy							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Iron	ug/L	1.00	5250	5000		105.	95 - 10	ō
Boron	ug/L	1.00	5080	5000		102,	95 - 10	5
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Iron	ug/L	1.00	4970	5000		99.4	90 - 110)
Boron	ug/L	1.00	4720	5000		94.3	90 - 110	C
Interference Check	Standard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Iron	ug/L	1.00	2150	2000		108.	80 - 120) -

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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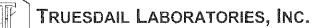
- 그는 것 같은 것 같은 것	EPA 200.8, To	tal		Batch 071011A				
Parameter			Unit	Analyzed	DF	MDL	RL	Result
995931-001	Aluminum		ug/L	07/10/2011 15:43	5.00	6.02	50.0	ND
	Antimony		ug/L	07/10/2011 15:43	5.00	0.120	10.0	ND
	Arsenic		ug/L	07/10/2011 15:43	5.00	0.285	1.0	ND
	Barium		ug/L	07/10/2011 15:43	5.00	0.200	10.0	ND
	Chromium		ug/L	07/10/2011 15:43	5.00	0.110	1.0	ND
	Copper		ug/L	07/10/2011 15:43	5.00	0.125	5.0	NÐ
	Lead		ug/L	07/10/2011 15:43	5.00	0.110	10.0	ND
	Manganese		ug/L	07/10/2011 15:43	5.00	0.980	1.0	2.0
	Molybdenum		ug/L	07/10/2011 15:43	5.00	0.270	10.0	18.2
	Nickel		ug/L	07/10/2011 15:43	5.00	0.0750	10.0	ND
	Zinc		ug/L	07/10/2011 15:43	5.00	1.26	10.0	ND
995931-002	Aluminum		ug/L	07/10/2011 16:09	5.00	6.02	50.0	ND
	Antimony		ug/L	07/10/2011 16:09	5.00	0.120	10.0	ND
	Arsenic		ug/L	07/10/2011 16:09	5.00	0.285	1.0	3.4
	Copper		ug/L	07/10/2011 16:09	5.00	0.125	5.0	ND
	Lead		ug/L	07/10/2011 16:09	5.00	0.110	10.0	ND
	Manganese		ug/L	07/10/2011 16:09	5.00	0.980	1.0	9.5
	Molybdenum		ug/L	07/10/2011 16:09	5.00	0.270	10.0	20.9
	Nickel		ug/L	07/10/2011 16:09	5.00	0.0750	10.0	ND
	Zinc		ug/L	07/10/2011 16:09	5.00	1.26	10.0	ND
Meth	nod Blank						<u></u>	
Parameter	^	Unit	DF	Result				
Aluminum		ug/L	1.00	ND				
Arsenic		ug/L	1.00	ND				
Barium		ug/L	1.00	ND				
Chromium	1	ug/L	1.00	ND				
Nickel		ug/L	1.00	ND				
Zinc		ug/L	1.00	ND				
Antimony		ug/L	1.00	ND				
Copper		ug/L	1.00	ND				
Lead		ug/L	1.00	ND				
Manganes		ug/L	1.00	ND				
Molybdenu	m	ug/L	1.00	ND				

Report Continued

Client: E2 Consulting Eng	gineers, Inc		Project Name: Project Number:	PG&E Topock F 408401.01.DM	Project	Page 12 of 38 Printed 7/26/2011
Duplicate						Lab ID = 995931-001
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	5.00	ND	0.00	0	0 - 20
Arsenic	ug/L	5.00	ND	0.00	0	0 - 20
Barium	ug/L	5.00	10.0	9.76	2.43	0 - 20
Chromium	ug/L	5.00	ND	0.00	0	0 - 20
Nickel	ug/L	5.00	ND	0.00	0	0 - 20
Zinc	ug/L	5.00	ND	0.00	0	0 - 20
Antimony	ug/L	5.00	ND	0.00	0	0 - 20
Copper	ug/L	5.00	ND	0.00	0	0 - 20
Lead	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	2.02	2.05	1.42	0 ~ 20
Molybdenum	ug/L	5.00	18.3	18.2	0.602	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	49.6	50.0	99.2	85 - 115
Arsenic	ug/L	1.00	50.0	50.0	100.	85 - 115
Barium	ug/L	1.00	50.4	50.0	101.	85 - 115
Chromium	ug/L	1.00	49.9	50.0	99.8	85 - 115
Nickel	ug/L	1.00	49.6	50.0	99.2	85 - 115
Zinc	ug/L	1.00	47,8	50.0	95.6	85 - 115
Antimony	ug/L	1.00	47.9	50.0	95.7	85 - 115
Copper	ug/L	1.00	50.0	50.0	100.	85 - 115
Lead	ug/L	1.00	49.1	50.0	98.3	85 - 115
Manganese	ug/L	1.00	50.6	50.0	101.	85 - 115
Molybdenum	ug/L	1.00	49.6	50.0	99.2	85 - 115

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Client: E2 Consulting Engineers, Inc.		-	ject Name: ject Number:	PG&E Topock Pro 408401.01.DM	ject	Page 13 of 38 Printed 7/26/2011
Matrix Spike						Lab ID = 995931-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	5.00	231.	250.(250.)	92.5	75 - 125
Arsenic	ug/L	5.00	243.	250.(250.)	97.1	75 - 125
Barium	ug/L	5.00	244.	260.(250.)	93.7	75 - 125
Chromium	ug/L	5.00	247.	250.(250.)	98.7	75 - 125
Nickel	ug/L	5.00	230.	250.(250.)	91.9	75 - 125
Zinc	ug/L	5.00	202.	250.(250.)	80.7	75 - 125
Antimony	ug/L	5.00	218.	250.(250.)	87.0	75 - 125
Copper	ug/L	5.00	228.	250.(250.)	91.0	75 - 125
Lead	ug/L	5.00	217	250.(250.)	86.8	75 - 125
Manganese	ug/L	5.00	248.	252.(250.)	98.5	75 - 125
Molybdenum	ug/L	5.00	261.	268.(250.)	97.0	75 - 125
Matrix Spike Duplicate						Lab ID = 995931-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	5.00	231.	250.(250.)	92.3	75 - 125
Arsenic	ug/L	5.00	244.	250.(250.)	97.8	75 - 125
Barium	ug/L	5.00	244.	260.(250.)	93.9	75 - 125
Chromium	ug/L	5.00	247.	250.(250.)	98.6	75 - 125
Nickel	ug/L	5.00	228.	250.(250.)	91.3	75 - 125
Zinc	ug/L	5.00	202.	250.(250.)	80.8	75 - 125
Antimony	ug/L	5.00	220.	250.(250.)	87.8	75 - 125
Copper	ug/L	5.00	227.	250.(250.)	90.7	75 - 125
Lead	ug/L	5.00	216.	250.(250.)	86.5	75 - 125
Manganese	ug/L	5.00	246.	252.(250.)	97.8	75 - 125
Molybdenum	ug/L	5.00	260.	268.(250.)	96.9	75 - 125



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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Parameter		Unit	Analyzed	DF	MDL	RL	Result
995931-002 Barium		ug/L	07/11/2011 17:25	5.00	0.200	10.0	26.0
Chromit	ım	ug/L	07/11/2011 17:25	5.00	0.100	1.0	810.
995931-003 Arsenic		ug/L	07/11/2011 17:44	10.0	0.570	2.0	ND
Barium		ug/L	07/11/2011 17:44	10.0	0.400	10.0	77.0
Berylliur	n	ug/L	07/11/2011 17:51	50.0	1.80	10.0	ND
Cadmiu	m	ug/L	07/11/2011 17:44	10.0	0.940	3.0	ND
Chromit	ım	ug/L	07/11/2011 17:44	10.0	0.200	2.0	4.9
Cobalt		ug/L	07/11/2011 17:44	10.0	0.970	5.0	ND
Copper		ug/L	07/11/2011 17:44	10.0	0.250	5.0	ND
Lead		ug/L	07/11/2011 17:44	10.0	0.220	10.0	ND
Mangar	ese	ug/L	07/11/2011 17:44	10.0	1.96	2.0	23.9
Molybde	enum	ug/L	07/11/2011 17:44	10.0	0.540	10.0	130.
Nickel		ug/L	07/11/2011 17:44	10.0	0.150	10.0	11.1
Seleniu	n	ug/L	07/11/2011 17:44	10.0	0.680	10.0	22.2
Thalliun	ı	ug/L	07/11/2011 17:44	10.0	0.250	2.0	ND
Vanadiu	Im	ug/L	07/11/2011 17:44	10.0	0.740	10.0	ND
Zinc		ug/L	07/11/2011 17:44	10.0	2.52	10.0	ND
Method Blan	<	······	······································				
Parameter	Unit	DF	Result				
Arsenic	ug/L	1.00	ND				
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				
Nickel	ug/L	1.00	ND				
Selenium	ug/L	1.00	ND				
Zinc	ug/L	1.00	ND				
Copper	ug/L	1.00	ND				
Lead	ug/L	1.00	ND				
Thallium	ug/L	1.00	ND				
Vanadium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Molybdenum	ug/L	1.00	ND				

Report Continued

Client: E2 Consulting Eng	ineers, Inc		oject Name: oject Number	PG&E Topock F : 408401.01.DM	Project	Page 20 of 38 Printed 7/26/2011
Duplicate						Lab ID = 995930-001
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	3.66	3.69	0.871	0 - 20
Barium	ug/L	5.00	13.6	13.8	1.24	0 - 20
Beryllium	ug/L	5.00	ND	0.00	0	0 - 20
Cadmium	ug/L	5.00	ND	0.00	0	0 - 20
Cobalt	ug/L	5.00	ND	0.00	0	0 - 20
Chromium	ug/L	5.00	7.57	7.64	0.947	0 - 20
Nickel	ug/L	5.00	ND	0.00	0	0 - 20
Selenium	ug/L	5.00	ND	0.00	0	0 - 20
Zinc	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
Thallium	ug/L	5.00	ND	0.00	0	0 - 20
Vanadium	ug/L	5.00	ND	8.02	0	0 - 20
Manganese	ug/L	5.00	32.7	32.6	0.184	0 - 20
Molybdenum	ug/L	5.00	18.7	18.6	0.643	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.6	50.0	99.1	85 - 115
Barium	ug/L	1.00	49.8	50.0	99.6	85 - 115
Beryllium	ug/L	1.00	46.4	50.0	92.9	85 - 115
Cadmium	ug/L	1.00	50.0	50.0	99.9	85 - 115
Cobalt	ug/L	1.00	50.6	50.0	10 1 .	85 - 115
Chromium	ug/L	1.00	49.7	50.0	99.3	85 - 115
Nickel	ug/L	1.00	49.3	50.0	98.7	85 - 115
Selenium	ug/L	1.00	49.4	50.0	98.8	85 - 115
Zinc	ug/L	1.00	48.4	50.0	96.7	85 - 115
Copper	ug/L	1.00	49.8	50.0	99.7	85 - 115
Lead	ug/L	1.00	48.2	50.0	96.4	85 - 115
Thallium	ug/L	1.00	50.9	50.0	102.	85 - 115
Vanadium	ug/L	1.00	49.0	50.0	98.0	85 - 115
Manganese	ug/L	1.00	50.8	50.0	102.	85 - 115
Molybdenum	ug/L	1.00	49,8	50.0	99.6	85 - 115

Report Continued

Client: E2 Consulting Engineers, Inc.			oject Name: oject Number	PG&E Topock Pro :: 408401.01.DM	ject	Page 21 of 38 Printed 7/26/2011	
Matrix Spike						Lab ID = 995930-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range	
Arsenic	ug/L	5.00	248.	254.(250.)	97,9	75 - 125	
Barium	ug/L	5.00	249.	264.(250.)	94.2	75 - 125	
Beryllium	ug/L	5.00	234	250.(250.)	93.6	75 - 125	
Cadmium	ug/L	5.00	219	250.(250.)	87.6	75 - 125	
Cobalt	ug/L	5.00	240.	250.(250.)	96.2	75 - 125	
Chromium	ug/L	5.00	248.	258.(250.)	95.9	75 - 125	
Nickel	ug/L	5.00	222.	250.(250.)	88.8	75 - 125	
Selenium	ug/L	5.00	234.	250.(250.)	93.4	75 - 125	
Zinc	ug/L	5.00	214.	250.(250.)	85.7	75 - 125	
Copper	ug/L	5.00	222.	250.(250.)	88.6	75 - 125	
Lead	ug/L	5,00	222.	250.(250.)	88.6	75 - 125	
Thallium	ug/L	5.00	233.	250.(250.)	93.4	75 - 125	
Vanadium	ug/L	5,00	256	258.(250.)	99.2	75 - 125	
Manganese	ug/L	5.00	284	283.(250.)	100.	75 - 125	
Molybdenum	ug/L	5.00	265.	269.(250.)	98.7	75 - 125	
Matrix Spike Duplicate						Lab ID = 995930-001	
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range	
Arsenic	ug/L	5.00	247.	254.(250.)	97.5	75 - 125	
Barium	ug/L	5.00	249.	264.(250.)	94.1	75 - 125	
Beryllium	ug/L	5.00	236.	250.(250.)	94.2	75 - 125	
Cadmium	ug/L	5.00	217.	250.(250.)	87.0	75 - 125	
Cobalt	ug/L	5.00	238.	250.(250.)	95.1	75 - 125	
Chromium	ug/L	5.00	247.	258.(250.)	95.9	75 - 125	
Nickel	ug/L	5.00	223.	250.(250.)	89.2	75 - 125	
Selenium	ug/L	5.00	232.	250.(250.)	93.0	75 - 125	
Zinc	ug/L	5.00	212.	250.(250.)	84,9	75 - 125	
Copper	ug/L	5,00	223	250.(250.)	89.2	75 - 125	
Lead	ug/L	5.00	221.	250.(250.)	88.4	75 - 125	
Thallium	ug/L	5.00	234.	250.(250.)	93.4	75 - 125	
Vanadium	ug/L	5.00	255.	258.(250.)	98.8	75 - 125	
Manganese	ug/L	5.00	281.	283.(250.)	99.3	75 - 125	
Molybdenum	ug/L	5.00	264.	269.(250.)	98.1	75 - 125	

Report Continued

Interference Check Standard AB Parameter Lead Unit DF Result Expected Recovery Acceptance R Lead Unit Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance R Thallium ug/L 1.00 ND 0.00 Interference Check Standard AB	ange
Lead ug/L 1.00 ND 0.00 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance R Thallium ug/L 1.00 ND 0.00	ange
Lead ug/L 1.00 ND 0.00 Interference Check Standard AB Parameter Unit DF Result Expected Recovery Acceptance R Thallium ug/L 1.00 ND 0.00	ange
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Thallium ug/L 1.00 ND 0.00	Ū
Thallium ug/L 1.00 ND 0.00	Ū
Interference Check Standard AB	ange
	ange
Parameter Unit DF Result Expected Recovery Acceptance R	U
Thallium ug/L 1.00 ND 0.00	
Vanadium ug/L 1.00 ND 0.00	
Interference Check Standard AB	
Parameter Unit DF Result Expected Recovery Acceptance Recovery	ange
Vanadium ug/L 1.00 ND 0.00	0 -
Manganese ug/L 1.00 48.6 50.0 97.2 80~120	
Interference Check Standard AB	
Parameter Unit DF Result Expected Recovery Acceptance Ra	ange
Manganese ug/L 1.00 48.4 50.0 96.7 80 - 120	
Molybdenum ug/L 1.00 ND 0.00	
Interference Check Standard AB	
Parameter Unit DF Result Expected Recovery Acceptance Ra	ange
Molybdenum ug/L 1.00 ND 0.00	··• J -
Serial Dilution Lab ID = 995931	-002
Parameter Unit DF Result Expected RPD Acceptance Ra	ange
Barium ug/L 25.0 25.2 26.0 3.08 0 - 10	5
Chromium ug/L 25.0 781. 810. 3.66 0 - 10	
Serial Dilution Lab ID = 995931	-003
Parameter Unit DF Result Expected RPD Acceptance Ra	ande
Molybdenum ug/L 50.0 122. 130. 6.43 0 - 10	

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Parameter		Unit	Ana	lyzed E	PF MD	L RL	Result
995931-003 Antimony		ug/L	07/12	2/2011 16:57 10	0.0 0.240	10.0	ND
Mercury		ug/L	07/12	2/2011 16:57 10	0.0 0.400	2.0	ND
Method Blank				· · · · · · · · · · · · · · · · · · ·		10	
Parameter	Unit	DF	Result				
Mercury	ug/L	1.00	ND				
Antimony	ug/L	1.00	ND				
Duplicate						Lab ID = 9	995931-003
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Mercury	ug/L	10.0	ND	0.00	0	0 - 20	0
Antimony	ug/L	10.0	ND	0.00	0	0 - 20	
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Mercury	ug/L	1.00	1.98	2.00	98.8	85 - 1 1 5	
Antimony	ug/L	1.00	47.2	50.0	94.3	85 - 1 1 5	
Matrix Spike						Lab ID = 9	995931-003
Parameter	Unit	DF	Result	Expected/Addec	Recovery	Accepta	nce Range
Mercury	ug/L	10.0	15.5	20.0(20.0)	77.6	75 - 125	_
Antimony	ug/L	10.0	408.	500.(500.)	81.5	75 - 125	
Matrix Spike Duplicate						Lab ID = 9	995931-003
Parameter	Unit	DF	Result	Expected/Addec	i Recovery	Accepta	nce Range
Mercury	ug/L	10.0	15.5	20.0(20.0)	77.3	75 - 125	Ũ
Antimony	ug/L	10.0	402.	500.(500.)	80.5	75 - 125	
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Acceptar	nce Range
Mercury	ug/L	1.00	1.99	2.00	99.5	90 - 110	Ū
Antimony	ug/L	1.00	46.0	50.0	91.9	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Acceptar	nce Range
Mercury	ug/L	1.00	2.02	2.00	101.	90 - 110	3-
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Acceptar	nce Range
Mercury	ug/L	1.00	1.99	2.00	99.6	90 - 110	

Report Continued

 Client:
 E2 Consulting Engineers, Inc.
 Project Name:
 PG&E Topock Project
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 Project Number:
 408401.01.DM
 Printed 7/26/2011

Parameter		Unit	Ana	lyzed C	F MDL	RL	Result
995931-003 Silver		ug/L	07/19	/2011 12:19 10).0 0.350	5.0	ND
Method Blank							
Parameter	Unit	DF	Result				
Silver	ug/L	1.00	ND				
Duplicate						Lab ID =	995931-003
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Silver	ug/L	10,0	ND	0.00	0	0 - 20	
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silver	ug/L	1.00	49.0	50.0	98.0	85 - 115	
Matrix Spike						Lab ID =	995931-003
Parameter	Unit	DF	Result	Expected/Addec	Recovery	Accepta	nce Range
Silver	ug/L	10.0	387.	500.(500.)	77.5	75 - 125	
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silver	ug/L	1.00	50.0	50.0	100.	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silver	ug/L	1.00	49.7	50.0	99.4	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silver	ug/L	1.00	48.9	50.0	97.9	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silver	ug/L	1.00	48.8	50.0	97.6	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silver	ug/L	1.00	49.0	50.0	98.1	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Silver	ug/L	1.00	51.0	50.0	102.	90 - 110	-

Report Continued

Client: E2 Consulting En	gineers, Ind		oject Name: oject Numbe	PG&E Topoc r: 408401.01.E		F Printed 7	Page 36 of 38 7/26/2011
Interference Check St	andard A						
Parameter Silver Interference Check St	Unit ug/L andard A	DF 1.00	Result ND	Expected 0.00	Recovery	Accepta	ance Range
Parameter Silver Interference Check St	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Accepta	ance Range
Parameter Silver Interference Check St	Unit ug/L andard AB	DF 1.00	Result 54.0	Expected 50.0	Recovery 108.	Accepta 80 - 120	ance Range)
Parameter Silver	Unit ug/L	DF 1.00	Result 51.0	Expected 50.0	Recovery 102.	Accepta 80 - 120	ance Range
Total Dissolved Solids b Parameter	y SM 2540) C Unit		07TDS11B lyzed	DF MD	7/7/2011 L RL	Result
995931-001 Total Dissolved S	Solids	mg/L	07/07	/2011	1.00 0.434	125	4180
995931-002 Total Dissolved S	Solids	mg/L	07/07	/2011	1.00 0.434	125	4720
995931-003 Total Dissolved S	Solids	mg/L	07/07	/2011	1.00 0.434	833.	30100
Method Blank							
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND				
Duplicate						Lab ID =	995933-004
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 411	Expected 401	RPD 2.46	Accepta 0 - 5	ance Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 516	Expected 500.	Recovery 103.	Accepta 90 - 110	ance Range

Report Continued

Client: E2 Consulting Eng	ineers, In		oject Name: oject Numbe	PG&E Topock er: 408401.01.DM	-	ct	Pa Printed 7/2	age 37 of 3 26/2011
Ammonia Nitrogen by SM Parameter	4500-NH	I3D Unit		07NH3-E11A lyzed	DF	MDL	7/6/2011 RL	Result
995931-001 Ammonia as N		mg/L	07/06	5/2011 ·	1.00	0.00200	0.500	ND
995931-002 Ammonia as N		mg/L	07/06	5/2011 ·	1.00	0.00200	0.500	ND
Method Blank								
Parameter Ammonia as N	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID = 9	95931-001
Parameter Ammonia as N Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.323	F	RPD 0	Acceptar 0 - 20	nce Range
Parameter	Linit		Desuit		-			_
Ammonia as N	Unit mg/L	DF 1.00	Result 10.6	Expected 10.0	F	Recovery 106.	Acceptar 90 - 110	nce Range
Lab Control Sample Du	-	1.00	10.0	10.0		100.	30 - 110	
Parameter	Unit	DF	Result	Expected	5	Recovery	Accontar	nce Range
Ammonia as N	mg/L	1.00	10.7	10.0	•	107.	90 - 110	ice italiye
Matrix Spike	Ŧ							95931-001
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Acceptar	ice Range
Ammonia as N	mg/L	1.00	5.61	6.32(6.00)		88.1	75 - 125	iee range
Matrix Spike Duplicate							Lab ID = 9	95931-001
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Acceptar	ice Range
Ammonia as N	mg/L	1.00	5.82	6.32(6.00)		91.6	75 - 125	Ŭ
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	lecovery	Acceptar	ice Range
Ammonia as N	mg/L	1.00	6.54	6.00		109.	90 - 110	5
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Я	Recovery	Acceptar	ice Range
Ammonia as N	mg/L	1.00	5.46	6.00		91.0	90 - 110	-

Report Continued

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 38 of 38 Project Number: 408401.01.DM Printed 7/26/2011 Turbidity by SM 2130 B Batch 07TUC11D 7/6/2011 Parameter Unit Analyzed DF MDL RL Result 995931-001 Turbidity NTU 07/06/2011 1.00 0.0140 0.100 ND 995931-002 Turbidity NTU 07/06/2011 1.00 0.0140 0.100 0.107 Method Blank Unit DF

Parameter	Unit	DF	Result			
Turbidity	NTU	1.00	ND			
Duplicate						Lab ID = 995931-002
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0,108	0.107	0.930	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.68	8.00	96.0	90 - 110
Lab Control Sample I	Duplicate					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.53	8.00	94.1	90 - 110

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi
 Manager, Analytical Services

E2 Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch:	07TDS11B
Date Calculated:	7/11/11

Laboratory 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	67.2310	67.2312	67.231	0.0002	No	0.0000	0.0	25.0	ND	1
995930-1	20	49.7176	49.7799	49.7799	0.0000	No	0.0623	3115.0	125.0	3115.0	1
995930-2	20	48.1850	48,2859	48.2855	0.0004	No	0,1005	5025.0	125.0	5025.0	1
995931-1	20	50.3837	50.4676	50.4674	0.0002	No	0.0837	4185.0	125.0	4185.0	1
995931-2	20	49.4166	49.5113	49.5109	0.0004	No	0.0943	4715.0	125.0	4715.0	1
995931-3	3	47.6197	47.7105	47,7101	0.0004	No	0.0904	30133.3	833.3	30133.3	1
995933-1	100	73.1413	73.2054	73.2054	0.0000	No	0.0641	641.0	25.0	641.0	1
995933-2	100	65.9571	65.9885 [.]	65.9885	0.0000	No	0.0314	314.0	25.0	314.0	1
995933-3	100	68.1785	68.2209	68.2205	0.0004	No	0.0420	420.0	25.0	420.0	1
995933-4	100	73.8279	73.8681	73.8680	0.0001	No	0.0401	401.0	25.0	401.0	1
995933-5	100	72.4704	72.5196	72.5192	0.0004	No	0.0488	488.0	25.0	488.0	1
995933-4D	100	76.2040	76.2455	76.2451	0,0004	No	0.0411	411.0	25.0	411.0	1
LCS	100	109.0957	109.1474	109.1473	0.0001	No	0.0516	516.0	25.0	516.0	1
995967	50	51.2503	51.3125	51,3123	0.0002	No	0.0620	1240.0	50.0	1240.0	11
995936-1	50	68.9039	68.9565	68.9564	0.0001	No	0.0525	1050.0	50.0	1050.0	1
995936-2	100	75.7664	75.8199	75.8196	0.0003	No	0.0532	532.0	25.0	532.0	1
995936-3	100	65.6296	65.6863	65.6863	0.0000	No	0.0567	567.0	25.0	567.0	1
995936-4	100	74,7140	74.7701	74.7698	0.0003	No	0.0558	558.0	25.0	558.0	1
995970-1	100	110.4365	110.4765	110.4761	0.0004	No	0.0396	396.0	25.0	396.0	1
995970-2	100	51.5077	51.5525	51.5523	0.0002	No	0.0446	446.0	25.0	446.0	1
995970-3	100	111.3748	111.41	111.41	0.0000	No	0.0352	352.0	25.0	352.0	1
995970-4	50	51.1304	51.2042	51,204	0.0002	No	0.0736	1472.0	50.0	1472.0	1
995970-5	100	108.6921	108.7288	108.7287	0.0001	No	0.0366	366.0	25.0	366.0	1
LCSD	100				0,0000	No	0.0000	0.0	25.0	ND	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: 07TDS11B

Date Calculated: 7/11/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measu <i>r</i> ed TDS / Cak TDS <1.3
995930-1	5140	0.61	3341	0.93
995930-2	8460	0.59	5499	0.91
995931-1	7090	0.59	4608.5	0.91
995931-2	7840	0.60	5096	0.93
995931-3	42400	0.71	27560	1.09
995933-1	999	0.64	649.35	0.99
995933-2	566	0.55	367.9	0.85
995933-3	706	0.59	458.9	0.92
995933-4	665	0.60	432.25	0.93
995933-5	862	0.57	560.3	0.87
995933-4D	665	0.62	432.25	0.95
LCS				
995967	1810	0.69	1176.5	1.05
995936-1	1807	0.58	1174.55	0.89
995936-2	969	0.55	629.85	0.84
995936-3	937	0.61	609.05	0.93
995936-4	843	0.66	547.95	1,02
995970-1	681	0.58	442.65	0,89
995970-2	723	0.62	469.95	0.95
995970-3	587	; 0.60	381.55	0.92
995970-4	2110	0.70	1371,5	1.07
995970-5	594	0.62	386.1	0.95

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		SDAIL LABORATO Franklin Avenue, 1		780-7008		CHA	IN O	F Cl	JSTO	DDY	RE	COR	D											
	(714)7	30-6239 FAX: (714 truesdail.com		100-1000			[IM3F	Plant	-WD	R-31	6]	99	75	93	8/				DUND 7/05/1	TIME		Days E <u>1</u>	OF 1
	COMPANY	CH2M HILL /E2	2			I		7	7	27	7	7		7	7	7	7	7	7			77		
	PROJECT NAME	PG&E Topock	IM3						1	5.5		/	mo		/	/	/		/		//	'/	СОМ	MENTS
	PHONE	530-229-33	303	FAX 530	-339-3303		/		200.8	$\left \right $	/ ,	/ ,	ist B	/		/ os	' 	/ /	/	/ /				
	AODRESS	155 Grand Ave	Ste 1000					8 8 8	<u>`</u>		/			$\langle $	NO3	5/		ş /		/	E S	/		
		Oakland, CA 94	4612					تر ¹ / ¹	₹/	/	/		×/~	/	1 Li	/	1	@						
	P.O. NUMBER	408401.01.DM	4	1) لغ	3/2 [ⁱ	/ ,	ر ارت	//		200	6.	00	୍ଦି/	202	/ š	/		ð S			
	SAMPLERS (SIGNA		nii //		D)		Title 20.	EC (130 List 130	108/01)	Turb (2)	() () () () () () () () () () () () () (metal,	Anions (4500-NH3) See List Below		TOC (531.5	Total Moi		(820V-00ct)			DER OF CONTAINERS			
	SAMPLE I.D.		DATE	TIME	DESCRIPTION	1/8	Jule 1		/ຊິ			/¥	4/	/ 4	/2/	⁷ ofa	/ ð		/					
_ 1	SC-700B-W	/DR-316	07/05/11	1500		X		х	Х	х	х	х		х			Х			4			7	
-2	SC-100B-W	/DR-316	07/05/11	1500		Х		Х	Х	х	Х	Х		Х			Х			4		}	' <i>j</i> ∕/=	6
-3	SC-701-WI	DR-316	07/05/11	1570		х	Х	х	х				х			x				4		J	7 200	0.7, 200.8
							. C	100 2	'nΥ	10	C	nn	di	ic	ns									
	Δ	LERT				ru.						1.6.		<u>_</u>										
		/el III (hot			4 (50(•01		A	110	G	IC(12	TOTAL	NUMBER	OF CON	TAINERS
		, and the second s	XV.												-									
		<u> </u>		CUSTO	DY SIGNATUR		ECO	RD											SA	MPLE	CONDIT			
	Signature (Relinquished)	of Will	² Printed ³ Name	ONTH	Company	01	M	/		Tim		6:0	- (1 'ð	,	RE	CÉIV	ED	co	OL	G-	WAR	м 🗖	3.6 0	<u>C °F</u>
	Signature (Received)	by Davi	Printed Name	Kat	Company Agency	7		۲.	<u> </u>	Dat Tim	θ	7 <u>5</u>	-11	3	cu	STO	DY SE	ALED)	YES		NO [a/	
	Signature (Relinquished)	alay Day	Printed	Rat	Company/ Agency	Ť	- 2		L	Dat Tim		-5	- 11	/ २ ट	SPEC	IAL RE	QUIR	EMENT	TS:			·		
$\frac{1}{2}$	Signature (Received)	lela	Printed Name	habu	Company/ contreagency		ti	5		Dat Tim	$e^{\prime}\mathcal{H}$	stic	2213	20		e mei , Ni,			le: C	r, Al,	Sb, As,	Ba, B,	Cu, Pb	, Mn,
ဖ	Signature (Relinquished)		Printed Name		Company/ Agency	1				Dat Tim						, , , ,	, 2							
	Signature (Received)		Printed Name		Company/ Agency					Date Tim														

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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
orlada	995930-1	7.0	5,00	9.5	10:15	SB
07/ac/u	995931-1	7.9	5.00	9.5	10-20	s-B
<u> </u>	-2	1 · · ·		1	10:25	(
*	+ -3		×.	V	10:30	J.
c7/06/4	995932-1	9.5	N/A	NA	N/A	SB
	-2				1	4
	-3					
	- Y					
	-5		1			
	4-6		4		E .	T
07/06/U	995933-1	9.5	NA	A/A	NA	SB
	-8	<u> </u>	· · · ·	(f		1
	-3					
	-4					
	-5					
V	8-6		4	4	1	
106/11	995934-1	9.5	NA	NA	NA	SB
(1 2	1	(;		i
	-3			, i	_	
	-5					
	-6					
	-7					
_	ar -8	V	4	4	4	1
17/07/1K	995968-1	9.5	N/A	NA	NA	sB
	1 72	i	1	1		
	-3					
	-4					+
	~5					
	-6		· ·			
*	\$ -7	ă.		¥	t	1

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

120

Turbidity/pH Check

		ju	rbidity/pH (SHECK		Adverter
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
995876(5)	4	12	6/30/11	12	У	
M5890	21	52	10/30/11	\$K-	NO NO	rs@1345pm
9958917 (1-3)	4	>2	4	\checkmark	¥.	J Z Pr
495929	Solid		07 (06/ 11	MM	Yes	TTZC
9959 32 [1-6]	e 1	22	1	r r	11	-
995933 (1-51	1				1 1	
995934 1-81		d/	5	1/		
(95930(1-2)	21	72	7/6/11	ES	No	yu with am
995931(1-3)	21	72	J.	V	L	4
795967	c1	62	77711	M.M.	Yes	
005968 11-101	1	Γ	1	Í	773-	
99596911-81					<u>+</u>	
99597011-61	1		+		<u> </u>	
99597111-31	1/			1	· · · · · · · · · · · · · · · · · · ·	
995936 (1-4)	4	->2-	7/7/11	FF-	Nð	VRS@ 230 pm
995939	<u> </u>	>2			4	yes@230pm
995960 (1-	3) 21		T T			¥
995979	21	12			X	NECO ODD
495990/1-12	the second se	21	7/8/11	M.M		4850 229pm
995991 (1.4)		-4	× 0/11	<i>p</i> 1. <i>p</i> 1	Yes	,
995999 (1-71						
995992 (1-10)						
	21		-7/11/11	KK	1.1	6 3.0
196012 1 496008/1-61	<i>c1</i>	42	7/11/11	MM	No	N/0
495008/1-6/	2/	62	711/11	M.M.	yes	
996009 11-61						
<u>996010 1-57</u> 995980		<u> </u>	N /u /u	MM		
	Solid	~	7/11/11		Jes_	<u> </u>
<u>995962</u>	Ζι	22	<u>¬/n/"</u>	ES	NTU	N.;
967		<u> </u>	· · · · · · · · · · · · · · · · · · ·	<i> </i>	l	<u> </u>
965 982 983				-		
482		 				
<u> </u>			<u> </u>			
967						
946003						ļ
204						L
00 5	·····		↓_ _ /		/	
196053 [1-7]	<u> </u>	<u> </u>	<u> </u>			
496055 (FF)	21	<i>C</i> 2	7/13/4	MM	Yes	
916026(1-6) 996026(1-6) 996051 996052(1-7)	<u> </u>	22 72 22	7131	ES	Yes NO	
996051	٢1	72	<u> </u>	<u> </u>	Ĭ	YES A MINDAN
996052(1-7)	21	L2	1			
946021(124)	21	72		1		you will wood
996045(1-3)		<u>v</u>	ŀ			V
946059-4		22	1	L	1	
996001		Î	ĺ		1	~
062		Į Į		1		
673(7, V, a) mar + 27	\checkmark	72		L	V	01 ~ (1.50
336+27-	e1	<u> </u>				
h.n 11.	·····		****	· · · · · · · · · · · · · · · · · · ·		
206+22- N.M. 2/15	1					12

Hinkley

Sample Integrity & Analysis Discrepancy Form

Cli	ent: <u>E2</u>	Lab #_ <u>995_93</u>
Da	te Delivered:07/05/11 Time: <u>42:30</u> By: □Mail ØF	Field Service DCilent
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 GNA
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?	YYes INO IN/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>؟ في °C</u>	ØYes ⊡No ⊡N/A
7.	Were samples received Intact (i.e. broken bottles, leaks, air bubbles, etc)?	ØYes ⊡No ⊡N/A
5.	Were sample custody seals intact?	□Yes □No ØNA
7 .	Does the number of samples received agree with COC?	ØYes □No. □N/A
I O.	Did sample labels correspond with the client ID's?	ØYes □No □N/A
1.	Did sample labels indicate proper preservation? Preserved (if yes) by: DTruesdall DClient	CiYes INO DINA
2.	Were samples pH checked? $pH = \underline{Sel C}$. O , C .	ØYes □No □N/A
3.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	[™] AYes □No □N/A
4.	Have Project due dates been checked and accepted? Turn Around Time (TAT): RUSH A Std	ØYes □No □N/A
5.	Sample Matrix: Liquid Drinking Water Ground W	
6.	Comments:	<u> </u>
7.	Sample Check-In completed by Truesdal! Log-In/Receiving:	Luda Kuabi



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EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

July 26, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-317 PROJECT, GROUNDWATER MONITORING, TLI NO.: 996051

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-317 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 July 12, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-317 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

 Mona Nassimi Manager, Analytical Services

flidue 1 A

Michael Ngo Quality Assurance/Quality Control Officer

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Laboratory No.: 996051

Received: July 12, 2011

Date: July 26, 2011 Collected: July 12, 2011

Client: E2 Consulting Engineers, Inc. 155 Grand Ave. Suite 1000 Oakland, CA 94612 Attention: Shawn Duffy Sample: One (1) Groundwater Sample Project Name: PG&E Topock Project Project No.: 408401.01.DM

ANALYST LIST

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

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Laboratory No.: 996051 Date Received: July 12, 2011

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

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

Analytical Results Summary

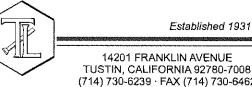
Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
996051-001 996051-001 996051-001 996051-001 996051-001	SC-700B-WDR-317 SC-700B-WDR-317 SC-700B-WDR-317 SC-700B-WDR-317 SC-700B-WDR-317 SC-700B-WDR-317	E200.8 E218.6 SM2130B	NONE NONE LABFLT NONE NONE	7/12/2011 7/12/2011 7/12/2011 7/12/2011 7/12/2011 7/12/2011	14:00 14:00 14:00 14:00 14:00 14:00 14:00	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids	7210 ND ND ND ND 4280	umhos/cm ug/L ug/L ug/L NTU mg/L	2.00 1.0 1.0 0.20 0.100 125

ND: Non Datected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING



REPORT

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

Printed 7/26/2011

Page 1 of 8

Laboratory No. 996051

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612

Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 408401,01.DM Project Number: 408401.01.DM

Samples Received on 7/12/2011 10:00:00 PM

Field ID				Lab ID	Co	llected	Matr	ix
SC-700B-WDR-317				996051-001		07/12/2011 14:00		er
Specific Conductivity - E	PA 120.1		Batc	h 07EC11C			7/13/201	ter state
Parameter	ng nikadi kalenda kakelerin k	Unit	Ana	alyzed	DF	MDL	RL	Result
996051-001 Specific Conducti	ivity	umhos	/cm 07/1	3/2011	1.00	0.0380	2,00	7210
Method Blank								
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND					996051-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7220	Expected 7210	F	RPD 0.139		ance Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 715	Expected 706	F	Recovery 101.	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 712	Expected 706	F	Recovery 101.	Accepta 90 - 110	ance Range)
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 985	Expected 998	F	Recovery 98.7	Accepta 90 - 110	ance Range)

Report Continued

Client: E2 Consulting Engineers, Inc.Project Name:PG&E Topock ProjectPage 2 of 8Project Number: 408401.01.DMPrinted 7/26/2011

Chrome VI by EPA 218.6		1994 Alianta ang ang ang ang ang ang ang ang ang an	Batch	07CrH11G		n engel		
Parameter	tylik er er er steretstar -	Unit	Ana	lyzed [)F	MDL	RL	Result
996051-001 Chromium, Hexa	valent	ug/L	07/13	/2011 11:44 1	05 0.	0210	0.20	ND
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent Duplicate	ug/L	1.00	ND				Lab ID =	996028-002
Parameter	Unit	DF	Result	Expected	RPD		Accepta	ance Range
Chromium, Hexavalent Lab Control Sample	ug/L	1.05	2.24	2.24	0.0	446	0 - 20	
Parameter	Unit	DF	Result	Expected	Reco	very	Accepta	ance Range
Chromium, Hexavalent Matrix Spike	ug/L	1.00	5.08	5.00	102	2.	90 - 110 Lab ID =) 995971-001
Parameter	Unit	DF	Result	Expected/Adde	d Reco	overy	Accepta	ance Range
Chromium, Hexavalent	ug/L	1.06	9,89	9.90(5.30)	99.	-	90 - 110	_
Matrix Spike	_						Lab ID =	996028-001
Parameter	Unit	DF	Result	Expected/Adde		overy		ance Range
Chromium, Hexavalent	ug/L	1,06	1.06	1.06(1.06)	100	D.	90 - 11	
Matrix Spike							Lab ID =	996028-002
Parameter	Unit	DF	Result	Expected/Adde		overy	•	ance Range
Chromium, Hexavalent	ug/L	1.06	7.47	7.54(5.30)	98.	.7	90 - 11	
Matrix Spike							Lab ID =	996028-003
Parameter	Unit	DF	Result	Expected/Adde		overy		ance Range
Chromium, Hexavalent	ug/L	1.06	6.77	6.88(5.30)	97.	.9	90 - 11	
Matrix Spike							Lab ID =	996028-004
Parameter	Unit	DF	Result	Expected/Adde		оvегу	-	ance Range
Chromium, Hexavalent	ug/L	1.06	18.1	18.2(10.6)	99	.8	90 - 11	
Matrix Spike							Lab ID =	996028-005
Parameter	Unit	DF	Result	Expected/Adde		overy	•	ance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98	.4	90 - 11	
Matrix Spike							Lab ID =	= 996051-001
Parameter	Unit	DF	Result	Expected/Adde	ed Reco	overy	Accept	ance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.06(1.06)	10	5.	90 - 11	0

Report Continued

Client: E2 Consulting Eng		oject Name: oject Number	iject	Page 3 of 8 Printed 7/26/2011		
Matrix Spike						Lab ID = 996051-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.17	Expected/Added 5.25(5.25)	Recovery 98.5	Acceptance Range 90 - 110 Lab ID = 996053-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.11	Expected/Added 1.06(1.06)	Recovery 105	Acceptance Range 90 - 110 Lab ID = 996053-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.02	Expected/Added 7.96(5.30)	Recovery 101.	Acceptance Range 90 - 110 Lab ID = 996053-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 6.40	Expected/Added 6.41(5.30)	Recovery 99.9	Acceptance Range 90 - 110 Lab ID = 996053-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.10	Expected/Added 1.06(1.06)	Recovery 103.	Acceptance Range 90 - 110 Lab ID = 996053-005
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 7.89	Expected/Added 7.97(5.30)	Recovery 98.5	Acceptance Range 90 - 110 Lab ID = 996053-006
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.58	Expected/Added 1.60(1.06)	Recovery 98.3	Acceptance Range 90 - 110 Lab ID = 996053-007
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.10	Expected/Added 1.06(1.06)	Recovery 104.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.87	Expected 5.00	Recovery 97.5	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 10.2	Expected 10.0	Recovery 102.	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.1	Expected 10.0	Recovery 101.	Acceptance Range 95 - 105

Chromium

ug/L

1.00

Report Continued

Client: E2 Consulting Engi	neers, In		oject Name: oject Numbe	PG&E Topock r: 408401.01.DN	-	ect		Page 5 of 8 7/26/2011
Metals by EPA 200.8, Tota	ilen son den Bernarden den			071811B			a literation	e en <u>e</u> en deg
Parameter		Unit		lyzed	DF	MDL	RL	Result
996051-001 Chromium		ug/L		/2011 20:45	5.00	0.110	1.0	ND
Manganese		ug/L	07/18	/2011 20:45	5.00	0.980	1.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	996051-001
Parameter	Unit	DF	Result	Expected		RPD	Accept	ance Range
Chromium	ug/L	5.00	ND	0.00		0	0 - 20	
Manganese	ug/L	5.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium	ug/L	1.00	49.5	50.0		99.1	85 - 11	5
Manganese	ug/L	1.00	49.3	50.0		98.6	85 - 11	5
Matrix Spike							Lab ID =	996051-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accept	ance Range
Chromium	ug/L	5.00	237.	250.(250.)		94.9	75 - 12	-
Manganese	ug/L	5.00	233	250.(250.)		93.2	75 - 12	5
Matrix Spike Duplicate							Lab ID =	996051-001
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accept	ance Range
Chromium	ug/L	5.00	238.	250.(250.)		95.4	75 - 12	+
Manganese	ug/L	5.00	232.	250.(250.)		92.8	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium	ug/L	1.00	48.3	50.0		96.6	90 - 11	-
Manganese	ug/L	1.00	48.6	50.0		97.2	90 - 11	0
MRCVS - Primary	_							
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range
Chromium	ug/L	1.00	47.6	50.0		95.2	90 - 11	_
MRCVS - Primary	5					·		
Parameter	Unit	DF	Result	Expected		Recovery	Accort	ance Range
	Unit		Result	Linheolea		Necovery		ance Nange

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.

50.0

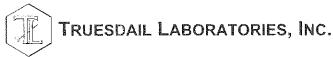
95.3

47.6

90 - 110

Report Continued

Client: E2 Consulting Eng	Client: E2 Consulting Engineers, Inc.			Project Name: PG&E Topock Project Project Number: 408401.01.DM				Page 7 of 8 Printed 7/26/2011	
Interference Check Sta	andard AB								
Parameter Manganese Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result 47.6	Expected 50.0	I	Recovery 95.3	Acceptar 80 - 120	nce Range	
Parameter Manganese	Unit ug/L	DF 1.00	Result 47.6	Expected 50.0	{	Recovery 95.2	Acceptar 80 - 120	nce Range	
Total Dissolved Solids b	y SM 2540	C	Batch	07TDS11D			7/13/2011		
Parameter	konstruction de la com	Unit	Ana	lyzed	DF	MDL	RL	Result	
996051-001 Total Dissolved S	olids	mg/L	07/13	/2011	1.00	0.434	125	4280	
Method Blank									
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID = 9	996073-005	
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 375	Expected 381	ļ	RPD 1.59		nce Range	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 516	Expected 500.		Recovery 103.	Accepta 90 - 110	nce Range	
Turbidity by SM 2130 B Parameter		Unit	Batch 07TUC11F Analyzed		DF	MDL	7/13/2011 RL	Result	
996051-001 Turbidity		NTU	07/13	/2011	1.00	0.0140	0.100	ND	
Method Blank									
Parameter	Unit	DF	Result						
Turbidity Duplicate	NTU	1.00	ND				Lab ID = 9	996051-001	
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0.00	ł	RPD 0	Accepta 0 - 20	nce Range	
Parameter Turbidity Lab Control Sample D	Unit NTU uplicate	DF 1.00	Result 7.97	Expected 8.00	ł	Recovery 99.6	Accepta 90 - 110	nce Range	
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.02	Expected 8.00		Recovery 100.	Accepta 90 - 110	nce Range	



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM Page 8 of 8 Printed 7/26/2011

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

L - Mona Nassimi

 Mona Nassimi Manager, Analytical Services

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Total Dissolved Solids by SM 2540 C

Calculations

Batch:	07TDS11D
Date Calculated:	7/15/11

Laboratory 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	111.6481	111.6504	111.6500	0.0004	No	0.0019	19.0	25.0	ND	1
996027-1	20	51,1694	51.2445	51.2445	0.0000	No	0.0751	3755.0	125.0	3755.0	1
996027-2	50	47.0671	47.1505	47.1505	0.0000	No	0.0834	1668.0	50.0	1668.0	1
996028-1	100	110.3730	110.4002	110.4	0.0002	No	0.0270	270.0	25.0	270.0	1
996028-2	100	105.6360	105.6983	105.6982	0.0001	No	0.0622	622.0	25.0	622.0	1
996028-3	100	109.3963	109.4485	109.4482	0.0003	No	0.0519	519.0	25.0	519.0	1
996028-4	50	76.5308	76.6	76.5996	0.0004	No	0.0688	1376.0	50.0	1376.0	1
996051	20	49.8336	49.9195	49.9192	0.0003	No	0.0856	4280.0	125.0	4280.0	1
996073-5	100	72.8258	72.864	72.8639	0.0001	No	0.0381	381,0	25.0	381.0	1
996021-2	200	111.2912	111.309	111.3089	0.0001	No	0.0177	88.5	12.5	88.5	1
996021-4	100	111.1902	111.2169	111.2165	0.0004	No	0.0263	263.0	25.0	263.0	1
996073-5D	100	72.9657	73.0036	73.0032	0.0004	No	0.0375	375.0	25.0	375.0	1
LCS	100	110.7125	110.7641	110.7641	0.0000	No	0.0516	516.0	25.0	516.0	1
996099	50	50.9467	51.0072	51.0068	0.0004	No	0.0601	1202.0	50.0	1202.0	1
									,		
LCSD											1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit. ND = not detected (below the reporting limit)

st Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

TDS/EC CHECK

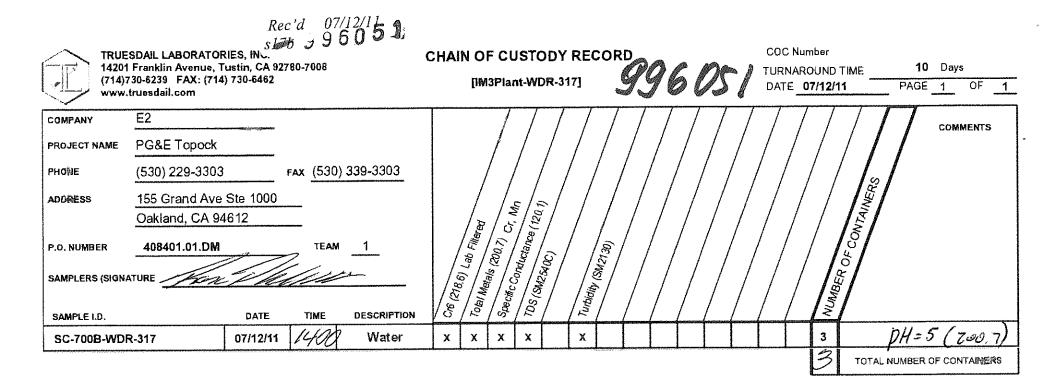
Batch: 07TDS11D

Date Calculated: 7/15/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
996027-1	4900	0.77	3185	1.18
996027-2	2370	0.70	1540.5	1.08
996028-1	453	0.60	294.45	0.92
996028-2	972	0.64	631.8	0.98
996028-3	837	0.62	544.05	0,95
996028-4	1988	0.69	1292.2	1.06
996051	7210	0.59	4686.5	0.91
996073-5	638	0.60	414.7	0.92
996021-2	172	0.51	111.8	0.79
996021-4	489	0.54	317.85	0.83
996073-5D	638	0.59	414.7	0.90
LCS				}
996099	1752	0.69	1138.8	1.06
······································			1	
			1	<u> </u>
			-	
		1		ļ

B.H

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For Sample Conditions See Form Attached

	CH	AIN OF CUSTODY SK	SAMPLE CONDITIONS			
and the second	Signature (Relinquished)	Printed Name Mon FHERE	Company/ Agency	Date/ 7-12-11 Time 1415	RECEIVED COOL 🗹 WARM 🗖 4.2° 🗲	
	Signature (Received) Rala Davi	Printed Rafal	Company/ T.L.T	Date/ 7-12-1/ Time 14:15	CUSTODY SEALED YES 🔲 NO 🗍	
	Signature	Printed Rafael	Company/ Agency T. L. T	Date/ 1-12-17	SPECIAL REQUIREMENTS:	
2	Signature (Received) Luda	Printed Habyming	Company/ TLD	Date/ Time #12/11 22:0	0	
	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 Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Institute In
Or of of a	996009-5	9.5	N/A	<u> </u>		Initials
	J-6	J		N/A	N/A	28
otosla	996010-1	9.5	N/A	N/A	<u>¥</u>	
		1	N/H	~//	- NS/A	<u>SB</u>
<u> </u>	-2					
	-4					
	-5	- L	14			
07/12/11	996026-1	9.5	N/A	N/A	N/A	SIB
1	-2				N/H	
	-3					
	-4					
	-5					
¥	4-6	1		J.		
ozholu	996027 -1	9.5	N/A	NA	N/A	SB
Ţ	1 -2	J		L	1	
07/12/11	996028-1	9.5	NA	N/A	NA	SB
	, -2	i i	1	,	· · · · · · · · · · · · · · · · · · ·	1
	-3					
	~~ Y .			ŕ		
	5 5	~	Ŧ	L	5	1
07/13/11	996051	7.0	5.00	9.5	9:25	SB
07/13/1	996052-1	9,5	NA	NV/A	NA	SB
	1 72	_				Î
	-3					
						•
	-5					
	-6					
•	<u>v</u> -7	*	Ų	\	Â	
07/13h1	996053-1	9,5	NA	N/A	NA	SB
	1-2					
v l	6-3	4	<u>+</u>	<u>+</u>		

Turbidity/pH Check

			rbidity/pH (Adjusted to
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	pH<2 (Y/N)
995876(5)	4	12	6/30/11	ha	<u> </u>	
M5890	21	52	63911	\$K-	NI0	15 @ 1345 pm
<u>9958917 (1-3)</u>	£	>2		<u>↓</u>	Y	' <u> </u>
495929 0050291	Solid	22	07 (06/11	MM	Yes	TTZC
<u>9959 32 [1-6]</u> 9959 33 (1-51		<u> </u>	┼──┦────	├ <i> </i>	·····	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		<u>├</u>				
995934 (1-81 (95920(1-2)	1			<u> </u>		
995931(1-3)	21	72	7/4/11	ES	Alo	yun Irin a.m
045967	<u>c1</u>	62	74711	M.M	+	V
105968 (1-101	1	1	77/11	m.p.	Yes	
29506011-81					<u>+</u>	
19597011-61			+ + +	<u> </u>	<u>├</u>	
19597111-31	J/		17		<u> </u>	
995936 (1-4)	V	$\rightarrow 2$	7/7/11	KK-	No .	VRS@ 2300m
995939	4	>2				YPS@ 230pm
	3 41	-2				
995979	121	12				1660 010
4759901-12		21	7/8/11	M.M	Yes	yese 22pm
995991 (1.4)		- <u> </u>			- 103-	······································
995999 (1-71			-		-	
995993 (1-10)	V		·		<u> </u>	
196012	21	42	7/11/11	KK-	Not	No
495008/1-61	e 1	62	7111/11	MM	yes	
996009 11-61	1		<u><u><u> </u></u></u>		1-1	
996010 11-51	1				<u> ,</u>	
995980	Solid	~	7/11/11	MM	Jes	
995962	ZI	42	7/11/11	ES	NU	N,
967	1			1	, <u>, , , , , , , , , , , , , , , , , , </u>	1
41.4 .						
965 965 982 983			· · · · ·	-		
462						
983			j			
457						
996007						
00 Y						
00.5					/	
19605311-71	Į	J.	V	V		
19605311-71	41	<i>C</i> 2	7/13/4	MM	Yes	
996026(1-6) 996026(1-6) 996052(1-7) 996052(1-7) 996021(124)	21	<u>22</u> 72	7/13/4	ΕS	Yes No	
996051	٢١	72	1	1	ř	YES a 11:WAA
996052/1-7	21	62				
996021(124)	61	72	k]		ips allivoa
99664777-51		Ĵ.	ŀ			iges a micon
994059-4		22	1	l	1	
446061		1				
062		, l				
673(7,8,3)	V	72	V			GM CV 11.00
673(7,8,3) 306+27 K.M. 7(15	<1	< 2	115			
			• t			

Hinkley

Million FormBlack de

Sample Integrity & Analysis Discrepancy Form

Dat	'e Delivered: <u>0</u> 7/ <u>/</u> 2/11 Time: <u>_22/0</u> 0 By: □Mail ⊠F	Field Service	Clien t
1.	Was a Chain of Custody received and signed?	ĎiYes □No	
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	μ μ
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	G (N/A
5.	Were all requested analyses understood and acceptable?	ØYes □No	ÓN/A
6.	Were samples received in a chilled condition? Temperature (if yes)? ^{1. Lo} C	ÅQYes ⊒No	
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	kấiYes ⊑iNo	DN/A
1	Were sample custody seals intact?	□Yes □No	RÍN/A
).	Does the number of samples received agree with COC?	ØYes □No	
0.	Did sample labels correspond with the client ID's?	⊠Yes □No	
1.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdall □Client	□Yes □No	⊠N/A
2.	Were samples pH checked? pH = <u>See</u> C. C.	QîYes ⊡No	ON/A
3.	Were all analyses within holding time at time of receipt If not, notify Project Manager.	Ø(Yes □No	
4.	Have Project due dates been checked and accepted? Turn Around Time (TAT): CRUSH Std	XIYes DNo	DN/A
5.	Sample Matrix: Liquid Drinking Water Ground		e Water
	□Studge □Soil □Wipe □Paint □Solid 🖄	Other <u>Wate</u>	R
5,	Comments:		$-\rho$
7.	Sample Check-In completed by Truesdall Log-In/Receiving:	li dia.	11.

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

August 1, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-318 PROJECT, GROUNDWATER MONITORING, TLI NO.: 996207

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-318 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 July 19, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-318 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi Manager, Analytical Services

Hidrad

Michael Ngo Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING

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

Client: E2 Consulting Engineers, Inc. 155 Grand Ave. Suite 1000 Oakland, CA 94612 Attention: Shawn Duffy Sample: One (1) Groundwater Sample Project Name: PG&E Topock Project Project No.: 408401.01.DM

Laboratory No.: 996207 Date: August 1, 2011 Collected: July 19, 2011 Received: July 19, 2011

ANALYST LIST

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

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

Laboratory No.: 996207 Date Received: July 19, 2011

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

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

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
996207-001	SC-700B-WDR-318		NONE	7/19/2011	14:30	EC	7220	umhos/cm	2.00
996207-001			NONE	7/19/2011	14:30	Chromium	ND	ug/L	1.0
996207-001	SC-700B-WDR-318	E200.8	NONE	7/19/2011	14:30	Manganese	1.6	ug/L	1.0
996207-001	SC-700B-WDR-318	E218.6	LABFLT	7/19/2011	14:30	Chromium, hexavalent	ND	ug/L	0.20
996207-001	SC-700B-WDR-318	SM2130B	NONE	7/19/2011	14:30	Turbidity	ND	NTU	0.100
996207-001	SC-700B-WDR-318	SM2540C	NONE	7/19/2011	14:30	Total Dissolved Solids	4270	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

REPORT

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

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM Project Number: 408401.01.DM Laboratory No. 996207 Page 1 of 6 Printed 8/1/2011

Samples Received on 7/19/2011 9:30:00 PM

Field ID					Lab ID	Col	lected	Matr	ix
SC-700B-WDR-318					996207-001	07/19	/2011 14:30	Wat	er
Specific Conductivity - I	EPA 120.1			Batch	07EC11D			7/20/2011	ł
Parameter	· .	Unit		Ana	lyzed	DF	MDL	RL	Result
996207-001 Specific Conduc	tivity	umhos	/cm	07/20)/2011	1.00	0.0380	2.00	7220
Method Blank		·							
Parameter Specific Conductivity	Unit umhos	DF 1.00	Res ND						
Duplicate								Lab ID =	996207-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Res 72		Expected 7220	F	RPD 0.138	Accepta 0 - 10	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhoะ	DF 1.00	Res 71		Expected 706	F	Recovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhoร	DF 1.00	Res 71		Expected 706	F	Recovery 101.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Res 99		Expected 998	F	Recovery 99.6	Accepta 90 - 110	ince Range

Report Continued

Client: E2 Consulting Engineers, Inc.	Project Name:	PG&E Topock Project	Page 2 of 6
	Project Number	: 408401.01.DM	Printed 8/1/2011

Chrome VI by EPA 218.6	5		Batch	07CrH11K				
Parameter		Unit	Ana	lyzed D)F	MDL	RL	Result
996207-001 Chromium, Hex	avalent	ug/L	07/20/2011 10:18		05	0.0210	0.20	ND
Method Blank						************		
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				lah ID =	996121-006
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 52.5	Result 624.	Expected 615		PD 1.43		ince Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.15	Expected 5.00		ecovery 103.	90 - 110	nce Range) 996207-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.25	Expected/Addeo 5.25(5.25)		ecovery 100.	90 - 110	ince Range) 996207-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.14	Expected/Addec 1.16(1.06)		ecovery 98.1	Accepta 90 - 110	ince Range)
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.90	Expected 5.00		ecovery 98.0	Accepta 90 - 110	ince Range)
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 9.58	Expected 10.0		ecovery 95.8	Accepta 95 - 108	ince Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.99	Expected 10.0		ecovery 99.9	Accepta 95 - 105	ince Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

Page 3 of 6 Printed 8/1/2011

Metals by EPA 200.8, Tot	tal	•.	Batch	072511A			111	
Parameter	. · · ·	Unit	Analyzed		DF	MDL	RL	Result
996207-001 Chromium		ug/L	07/25/2011 13:41		5.00	0.110	1.0	ND
Manganese		ug/L	07/25	5/2011 13:41 5	5.00	0.980	1.0	1.6
Method Blank								
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	996207-001
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ince Range
Chromium	ug/L	5.00	ND	0.00		0	0 - 20	
Manganese	ug/L	5.00	1.63	1.58		3.24	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ince Range
Chromium	ug/L	1.00	53.3	50.0		106.	85 - 115	-
Manganese	ug/L	1.00	52.9	50.0		106.	85 - 115	5
Matrix Spike							Lab ID =	996207-001
Parameter	Unit	DF	Result	Expected/Adde	ed	Recovery	Accepta	ince Range
Chromium	ug/L	5.00	239.	250.(250.)		95.6	75 - 128	5
Manganese	ug/L	5.00	241	252.(250.)		95.8	752 - 12	25
Matrix Spike Duplicate	e e e e e e e e e e e e e e e e e e e						Lab ID =	996207-001
Parameter	Unit	DF	Result	Expected/Adde	ed	Recovery	Accepta	ince Range
Chromium	ug/L	5.00	254	250.(250.)		102.	75 - 128	5
Manganese	ug/L	5.00	264.	252.(250.)		105.	75 - 128	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	52.5	50.0		105.	90 - 110) –
Manganese	ug/L	1.00	52.5	50.0		105.	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	50.1	50.0		100.	90 - 110	-
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ance Range
Chromium	ug/L	1.00	50.6	50.0		101.	90 - 110)

Report Continued

Client: E2 Consulting Engineers, Inc.	Project Name:	PG&E Topock Project	Page 5 of 6
	Project Number:	408401.01.DM	Printed 8/1/2011

Total Dissolved Solids I	by SM 254	D C	Batch	07TDS11F		7/21/2011			
Parameter		Unit	Anal	yzed	DF	MDL	RL	Result	
996207-001 Total Dissolved	Solids	mg/L	07/21/2011		1.00	0.434	125	4270	
Method Blank									
Parameter	Unit	DF	Result						
Total Dissolved Solids	mg/L	1.00	ND						
Duplicate							Lab ID = !	996207-001	
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	nce Range	
Total Dissolved Solids	mg/L	1.00	4380	4270		2.54	0 - 5		
Lab Control Sample									
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range	
Total Dissolved Solids	mg/L	1.00	502	500.		100.	90 - 110		
Turbidity by SM 2130 B	·		Batch	07TUC11K			7/20/2011		
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
996207-001 Turbidity		NTU	07/20	/2011	1.00	0.0140	0.100	ND	
Method Blank									
Parameter	Unit	DF	Result						
Turbidity	NTU	1.00	ND						
Duplicate							Lab ID =	996207-001	
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	nce Range	
Turbidity	NTU	1.00	ND	0.00		0	0 - 20		
Lab Control Sample									
Parameter	Unit	DF	Result	Expected	R	lecovery	Accepta	nce Range	
Turbidity	NTU	1.00	7.51	8.00		93.9	90 - 110	I	
Lab Control Sample	Duplicate								
Parameter	Unit	DF	Result	Expected	F	Recovery	-	nce Range	
Turbidity	NTU	1.00	7.58	8.00		94.8	90 - 110)	



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

Page 6 of 6 Printed 8/1/2011

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

/ Mona Nassimi Manager, Analytical Services

EZ Condon

Total Dissolved Solids by SM 2540 C

Calculations

	·····
Batch:	07TDS11F
Date Calculated:	7/26/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	70.9009	70.9013	70.9009	0.0004	No	0.0000	0.0	25.0	ND	1
996207	20	75.3070	75.3924	75.3924	0.0000	No	0.0854	4270.0	125.0	4270.0	1
996220	376	112.8382	112,8405	112,8405	0,0000	No	0.0023	6.1	6.6	ND	1
996250	50	47.9647	48.01	48.0097	0.0003	No	0.0450	900.0	50.0	900.0	1
996254-1	100	74,7592	74.7846	74.7842	0.0004	No	0.0250	250.0	25.0	250.0	1
996254-2	100	73.5465	73.5773	73.5773	0.0000	No	0.0308	308.0	25.0	308.0	1
996254-3	100	68.1084	68.1381	68.1379	0.0002	No	0.0295	295.0	25.0	295.0	1
996255-1	50	76.5176	76.5859	76.5855	0.0004	No	0.0679	1358.0	50.0	1358.0	1
996255-2	50	71.3297	71.4034	71.403	0.0004	No	0.0733	1466.0	50.0	1466.0	1
996255-3	50	68.8903	68.9632	68.9629	0.0003	No	0.0726	1452.0	50.0	1452.0	1
996255-4	50	67.4071	67.4771	67.4771	0.0000	No	0.0700	1400.0	50.0	1400.0	1
996207D	20	50.7034	50,7910	50.7910	0.0000	No	0.0876	4380.0	125.0	4380.0	1
LCS	100	112.9002	112.9504	112.9504	0.0000	No	0.0502	502.0	25.0	502.0	1
996255-5	50	75.1391	75.1814	75.1812	0.0002	No	0,0421	842.0	50.0	842.0	1
LCSD]	1			1

Calculation as follows:

د

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

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)

yst Printed Name An

Analyst Signature

Reviewer Printed Name

Reviewer Signature

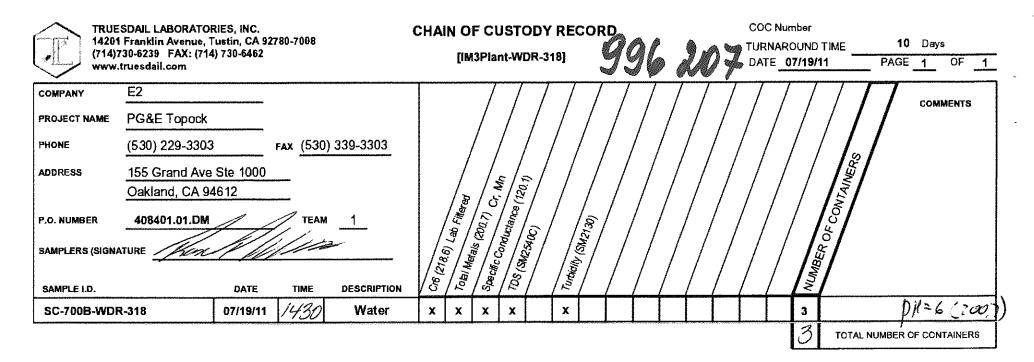
Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 07TDS11F Date Calculated: 7/26/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3	
996207	7220	0.59	4693	0.91	
996220	9.17	ND	5.9605	ND	
996250	1609	0.56	1045.85	0.86	
996254-1	409	0.61	265.85	0.94	
996254-2	485	0.64	315.25	0.98	
996254-3	467	0.63	303.55	0,97	
996255-1	2030	0.67	1319.5	1,03	
996255-2	2170	0.68	1410.5	1.04	
996255-3	2170	0.67	1410.5	1.03	
996255-4	2060	0.68	1339	1.05	
996207D	7220	0,61	4693	0.93	
LCS					
996255-5	1270	0.66	825.5	1.02	
			l		
		: 		<u></u>	
			1		
				······································	





Rec'd 07/19/11 speb 996207.



	Сн	AIN OF CUSTODY SIG	GNATURE RECORD		SAMPLE CONDITIONS				
	Signature (Relinquished)	Printed Name HON THELPS	Company/ Agency	Date/ フー/ター// Time /530	RECEIVED COOL D WARM D 4.6°C°F				
	Signature (Received) and au	Printed Rafa	Company/T-h T	Date/フー/ター // Time / て・こわ	CUSTODY SEALED YES 🗖 NO 🗹				
	Signature 211	Printed Rates	Company/ Agency	Date/7_19-11	SPECIAL REQUIREMENTS:				
	Signature (Received)	Printed Name Leveren	Company/ TLJ Agency TLJ	Date/ Time #19/11 21:30	- Comple Conditions				
J.	Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	For Salliple Oditated				
	Signature (Received)	Printed Name	Company/ Agency	Date/ Time	For Sample Conditions See Form Attached				

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
07/13/11	996053-4	9.5	N/A	NA	ns/A	SB
Ì	-5	1	(1
	-6					
	1 -7	4	· · ·	<u> </u>		¢,
07/14/4	996097 -1	9.5	A/4	N/A	w/A	SB
<u> </u>	-2					
	-3					
	4					
<u> </u>	-5		-			
*	+ -6	4		· •	<u> </u>	ł
07/14/11	996098 -)	9.5	NA.	N/A	N/A	SB
	2		· · ·			<u> </u>
	-3					
	1 -4	4	*	-ye		
07/14/11	996099	9.5	-NA-	NA	N/A	SB
07/14/11	996100-1	9.5		_N/A_	N/A	SB
	1 -2	· · · ·	<u>+</u>			<u> </u>
07/14/11	996101-1	9.5	NA	-N/A	NA	SB
arlinda	J -2					_¥
07/15/11	996121 - 1	9.5	N/4	<u> </u>	N/A	SB
1	-2					
·	-3					
	- 4					
	-5 10 -6			·		
w listu	the second s	9.5		4	*	*
07/15/11	996122	9.5	N/A	NA	N/A	<u>sB</u>
07/15/11	996123-1	J.2	N/A	N/A	NA	SB
	-2			<u>·</u>		
	-4					
07/20/11	996207	70	E no	05		*
Marin	TUNUT	7.0	5.00	9.5	9:30	SB

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

036

Turbidity/pH Check

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Turbidity/pH Check												
Sample Number	Turbidity	рH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)						
700583 (1-8) <1	<u> 2</u> 2	7/13/11	MG	N.							
700 585 (1-6)		62	7/(3/11	14	No							
700601 (1-4)	<١	<2	7/13/11	<u>14</u>	No							
70060Z(1-4)	21	42	7/13/11	Juh	IN0	······						
99610 (1-2)	41	22	7141	FS	NO							
			/[[4][/	<u> </u>								
996101(1-2)				[11.0.							
996077 (1-6/	<i>e</i> 1	<u> 22</u>	7/14/4	Mich	Yes.							
996058 11-4/		· · · · · · · · · · · · · · · · · · ·	 		<u> </u>							
796059	L.K.			V	<u> </u>							
946122	21	22	2/15/4	Min	Yes							
996123(1-4)	1	22	1 1	l'								
	71	22				—						
196 118 ' 196 12 F	1	I										
996128				1		_						
	41	22	TIRIU	E(No	•						
G96121(1-6)		29	7/11/11	M.M	Yez							
6996000 11 T	<u>e</u> [72	T _m 1		ND	2:30 pm						
496202(1-3)				<u>ES</u> ES								
- 146 207,	<u>L1</u>	72	7/21/1		NO	(jis a) 10:00						
996255 JE	₹_∠!	22	7122111	MM	yes_							
996254 1 ···	A	-2	V		$+ \vee -$							
096298	21	22			ļ[
996284		1				· · · · · · · · · · · · · · · · · · ·						
996282												
396283			J	V								
996027(1-2)	<1	۲۲ ک	11 /11/5	FS	Yes							
906331/1-71	1 21	22	7127114	MM	Yes	And the second sec						
996 333	71	22	1 1 1									
996318												
	Solid	~~~		- Ki		141 A 1210 000						
996332	41	72	7/27/11	<u> </u>	NŬ	yu din pan						
996,725(1-3)	L. V.	V			1/ 1/ 10							
99634811-2		2	7128/11	M.M.	Yes	01 () (1) 2-						
99634911-11	1 < 1	72				XesQ 11:30						
44636114	<u>c/ < 1</u>	2	7/29/11	M.M	yes.	<u>/</u>						
06636211-F	1 2											
096 36 3 11-3	3)											
0796364/1-8,1												
9963653-10	/											
99636611-9		++										
	4											
99636J	<u> </u>	V				· · · · · · · · · · · · · · · · · · ·						
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Truesdail Laboratories, Inc.

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Sample Integrity & Analysis Discrepancy Form

		Lab #796207
Dat	e Delivered: 0 <u>4/9</u> /11 Time: <u>2/30</u> By: □Mail &Fi	ield Service DClient
f.	Was a Chain of Custody received and signed?	∕ÓYes ⊡No ⊡N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No KĺN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No pl/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?	XYes INO IN/A
6.	Were samples received In a chilled condition? Temperature (if yes)? ⁴ : 6 ° C	∕¢Yes ⊡No ⊡N/A
7.	Were samples received Intact (i.e. broken bottles, leaks, air bubbles, etc)?	DIYES DNO DNA
8 .	Were sample custody seals intact?	PYES ONO RINA
9 .	Does the number of samples received agree with cocel 11	
10.	Did sample labels correspond with the client ID's?	A Yes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: DTruesdall DClient	□Yes □No ØN/A
12.	Were samples pH checked? $pH = \underline{Sel C} \cdot \omega \cdot C$	¤Yes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): RUSH (A) Std	□Yes □No □N/A
15.	Sample Matrix: Liquid Drinking Water Ground Water Solid Wipe Solid	1111
16.	Comments:	
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	2. Hubuur

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

August 3, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-319 PROJECT, GROUNDWATER MONITORING, TLI NO.: 996332

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-319 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 July 26, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-319 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

 Mona Nassimi Manager, Analytical Services

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Michael Ngo Quality Assurance/Quality Control Officer

EXCELLENCE IN INDEPENDENT TESTING

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

Client: E2 Consulting Engineers, Inc. 155 Grand Ave. Suite 1000 Oakland, CA 94612 Attention: Shawn Duffy Sample: One (1) Groundwater Sample Project Name: PG&E Topock Project Project No.: 408401.01.DM

Laboratory No.: 996332 Date: August 3, 2011 Collected: July 26, 2011 Received: July 26, 2011

ANALYST LIST

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

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Laboratory No.: 996332 Date Received: July 26, 2011

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

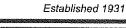
		Analysis	Extraction		Sample			11-:40	
Lab Sample ID	Field ID	Method	Method	Sample Date	Time	Parameter	Result	Units	RL
996332-001	SC-700B-WDR-319	E120.1	NONE	7/26/2011	14:05	EC	7410	umhos/cm	2.00
996332-001	SC-700B-WDR-319	E200.8	NONE	7/26/2011	14:05	Chromium	ND	ug/L	1.0
996332-001	SC-700B-WDR-319	E200.8	NONE	7/26/2011	14:05	Manganese	ND	ug/L	1.0
996332-001	SC-700B-WDR-319	E218.6	LABFLT	7/26/2011	14:05	Chromium, hexavalent	ND	ug/L	0.20
996332-001	SC-700B-WDR-319	SM2130B	NONE	7/26/2011	14:05	Turbidity	ND	NTU	0.100
996332-001	SC-700B-WDR-319	SM2540C	NONE	7/26/2011	14:05	Total Dissolved Solids	4380	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING



Page 1 of 7

REPORT

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

Printed 8/3/2011

Laboratory No. 996332

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612

Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 408401.01.DM Project Number: 408401.01.DM

Samples Received on 7/26/2011 9:30:00 PM

Field ID				Lab ID	Co	llected	Matri	x
SC-700B-WDR-319				996332-001	07/26	/2011 14:05	Wate	er
Specific Conductivity - I	EPA 120.1	Batch 07EC11F			· .			
Parameter	king in seta kan katoka na	Unit	Ana	lyzed	DF	MDL	RL	Result
996332-001 Specific Conduc	tivity	umhos/	cm 07/27	//2011	1.00	0.0380	2.00	7410
Method Blank								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	996332-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7400	Expected 7410	F	RPD 0.135	Accepta 0 - 10	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 705	Expected 706	F	Recovery 99.8	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 702	Expected 706	I	Recovery 99.4	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 972	Expected 998	F	Recovery 97.4	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

Page 2 of 7 Printed 8/3/2011

Chrome VI by EPA 218.6			Batch	07CrH11M					
Parameter	·	Unit	Ana	lyzed	DF	MDL	RL	Result	
996332-001 Chromium, Hexa	avalent	ug/L	07/27	/2011 09:17	1.05	0.0210	0.20	ND	
Method Blank									
Parameter	Unit	DF	Result						
Chromium, Hexavalent	ug/L	1.00	ND						
Duplicate							Lab ID =	996331-001	
Parameter	Unit	DF	Result	Expected		RPD	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.05	2.50	2.53		1.23	0 - 20	--	
Lab Control Sample									
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.00	5.20	5.00		104	90 - 110		
Matrix Spike	-						Lab ID =	996331-00 ⁻	
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.06	8.07	7.83(5.30)		104.	90 - 110	Ŷ	
Matrix Spike	0						Lab ID =	996331-002	
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.06	6.47	6.36(5.30)		102.	90 - 110	-	
Matrix Spike							Lab ID =	996331-000	
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.06	1.83	1.79(1.06)		104.	90 - 110	-	
Matrix Spike							Lab ID =	996331-004	
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.06	9.59	9.39(5.30)		104.	90 - 110		
Matrix Spike							Lab ID =	996331-005	
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.06	7.14	6.88(5.30)		105.	90 - 110	-	
Matrix Spike							Lab ID =	996331-006	
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.06	1.46	1.50(1.06)		96.2	90 - 110	-	
Matrix Spike	-						Lab ID =	996331-007	
Parameter	Unit	DF	Result	Expected/Ad	ded	Recovery	Accepta	nce Range	
Chromium, Hexavalent	ug/L	1.06	1.40	1.38(1.06)		102.	90 - 110	-	

Report Continued

Client: E2 Consulting Eng	jineers, Inc		oject Name: oject Number	nject	Page 3 of 7 Printed 8/3/2011	
Matrix Spike						Lab ID = 996331-008
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.14	Expected/Added 1.06(1.06)	Recovery 108.	Acceptance Range 90 - 110 Lab ID = 996332-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.56	Expected/Added 5.25(5.25)	Recovery 106.	Acceptance Range 90 - 110 Lab ID = 996332-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.09	Expected/Added 1.06(1.06)	Recovery 103.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 5.16	Expected 5.00	Recovery 103.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.5	Expected 10.0	Recovery 105.	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 10.1	Expected 10.0	Recovery 101.	Acceptance Range 95 - 105

Report Continued

Client: E2 Consulting E	ngineers, In		Project Name: PG&E Topock Project Project Number: 408401.01.DM					Page 4 of 7 Printed 8/3/2011		
Metals by EPA 200.8, To	otal		Batch	072811A						
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result		
996332-001 Chromium		ug/L	07/28	/2011 16:04	5.00	0.110	1.0	ND		
Manganese		ug/L	07/28	/2011 16:04	5.00	0.980	1.0	ND		
Method Blank								·····		
Parameter	Unit	DF	Result							
Chromium	ug/L	1.00	ND							
Manganese	ug/L	1.00	ND							
Duplicate							Lab ID =	996332-001		
Parameter	Unit	DF	Result	Expected		RPD	Accepta	ince Range		
Chromium	ug/L	5.00	ND	0.00		0	0 - 20	Ū		
Manganese	ug/L	5.00	ND	0.00		0	0 - 20			
Lab Control Sample										
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ince Range		
Chromium	ug/L	1.00	51.8	50.0		104.	85 - 115	5		
Manganese	ug/L	1.00	52.2	50.0		104.	85 - 115	5		
Matrix Spike							Lab ID =	996332-001		
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	Accepta	ince Range		
Chromium	ug/L	5.00	217.	250.(250.)		86.9	75 - 125	5		
Manganese	ug/L	5.00	228.	250.(250.)		91.2	75 - 125	j		
Matrix Spike Duplica	te						Lab ID =	996332-001		
Parameter	Unit	DF	Result	Expected/Add	ded	Recovery	Accepta	ince Range		
Chromium	ug/L	5.00	227.	250.(250.)		90.8	75 - 125	ō		
Manganese	ug/L	5.00	228.	250.(250.)		91. 1	75 - 125	ò		
MRCCS - Secondary	,									
Parameter	Unit	DF	Result	Expected	I	Recovery	Accepta	ince Range		
Chromium	ug/L	1.00	51.5	50.0		103.	90 - 110			
Manganese	ug/L	1.00	52.0	50.0		104	90 - 110)		
MRCVS - Primary										
Parameter	Unit	DF	Result	Expected	I	Recovery	Accepta	ince Range		
Chromium MRCVS - Primary	ug/L	1.00	47.3	50.0		94.7	90 - 110	}		
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	ince Range		
Chromium	ug/L	1.00	47.1	50.0		94.3	90 - 110	•		

Report Continued

Client: E2 Consulting Engineers, Inc.			Project Name: PG&E Topock Project Project Number: 408401.01.DM Printed					
Interference Check Sta	andard AB							
Parameter Manganese Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result 50.1	Expected 50.0	F	Recovery 100.	Acceptance Range 80 - 120	
Parameter Manganese	Unit ug/L	DF 1.00	Result 49.0	Expected 50.0	Recovery 98.0		Acceptance Rang 80 - 120	
Total Dissolved Solids b	y SM 2540) C	Batch	07TDS11G			7/28/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
996332-001 Total Dissolved S	olids	mg/L	07/28	/2011	1,00	0.400	125	4380
Method Blank	·							
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID = 9	96332-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4460	Expected 4380	RPD 1.92		Acceptance Range 0 - 5	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 475	Expected 500.	F	Recovery 95.0	Acceptance Range 90 - 110	
Turbidity by SM 2130 B			Batch	07TUC110			7/27/2011	
Parameter		Unit	Anai	lyzed	DF	MDL	RL	Result
996332-001 Turbidity		NTU	07/27	/2011	1.00	0.0140	0.100	ND
Method Blank							· · · · · · · · · · · · · · · · · · ·	
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID = 9	96332-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result ND	Expected 0.00	RPD 0		Acceptance Range 0 - 20	
Parameter Turbidity Lab Control Sample Di	Unit NTU uplicate	DF 1.00	Result 7.70	Expected 8.00	F	Recovery 96.2		ice Range
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.83	Expected 8.00	F	Recovery 97.9	Acceptar 90 - 110	ice Range



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

Page 7 of 7 Printed 8/3/2011

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

- Mona Nassimi Manager, Analytical Services

E2 Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch:	07TDS11G
Date Calculated:	7/29/11

Laboratory 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	65.9287	65.9288	65.9287	0.0001	No	0.0000	0.0	25.0	ND	1
996303-2	200	110.7976	110.8158	110.8154	0.0004	No	0.0178	89.0	12.5	89.0	1
996303-4	100	67.6332	67.6605	67.6603	0.0002	No	0.0271	271.0	25.0	271.0	1
996331-1	100	69.7549	69.7847	69.7847	0.0000	No	0.0298	298.0	25,0	298.0	1
996331-2	50	68.4075	68.4607	68.4603	0.0004	No	0.0528	1056.0	50.0	1056.0	1
996331-3	100	68.2054	68.2338	68.2334	0.0004	No	0.0280	280.0	25.0	280.0	1
996331-4	100	68.2228	68.2566	68.2562	0.0004	No	0.0334	334.0	25.0	334.0	1
996331-5	100	67.7771	67.8139	67.8136	0.0003	No	0.0365	365.0	25.0	365.0	1
996331-6	100	73,6065	73.6483	73.648	0.0003	No	0.0415	415.0	25.0	415.0	1
996331-7	100	68.1720	68.232	68.2319	0.0001	No	0.0599	599.0	25.0	599.0	1
996332	20	49.2778	49.3654	49.3653	0.0001	No	0.0875	4375.0	125.0	4375.0	1
996332D	20	51.1883	51.2776	51.2776	0.0000	No	0.0893	4465.0	125,0	4465.0	1
LCS	100	121.7195	121.7671	121.767	0.0001	No	0.0475	475.0	25.0	475.0	1
996347	100	69.4910	69.5589	69.5586	0.0003	No	0.0676	676.0	25.0	676.0	1
996348-1	50	69.2337	69.285	69.2848	0.0002	No	0.0511	1022.0	50.0	1022.0	1
996348-2	50	74.5500	74.626	74.626	0.0000	No	0.0760	1520.0	50.0	1520.0	1
LCSD											1

Calculation as follows:

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

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)

yst Printed Name

Signature Analyst

Reviewer Printed Name

Reviewer Signature

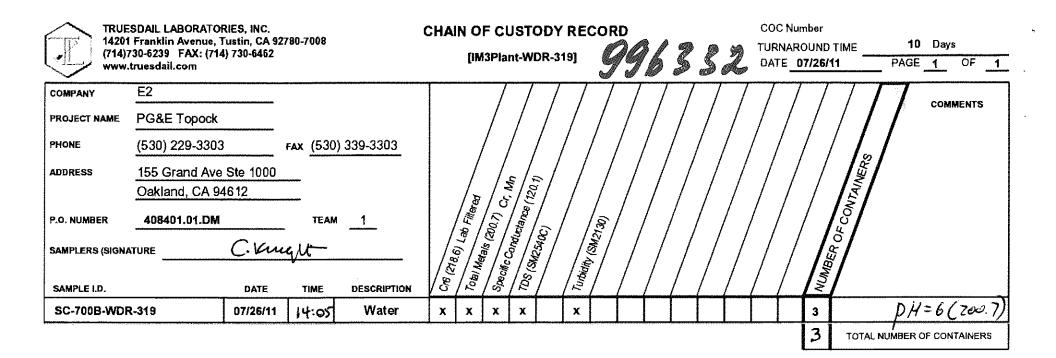
TDS/EC CHECK

Batch: 07TDS11G Date Calculated: 7/29/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calo TDS <1.3
996303-2	147	0.61	95.55	0.93
996303-4	493	0.55	320.45	0.85
996331-1	501	0.59	325.65	0.92
996331-2	1640	0.64	1066	0.99
996331-3	479	0.58	311.35	0.90
996331-4	558	0.60	362.7	0.92
996331-5	591	0.62	384.15	0.95
996331-6	700	0.59	455	0.91
996331-7	990	0.61	643.5	0.93
996332	7400	0.59	4810	0.91
996332D	7400	0.60	4810	0.93
LCS				
996347	1092	0.62	709.8	0.95
996348-1	1709	0.60	1110.85	0.92
996348-2	2270	0.67	1475.5	1.03
·····				



1./





For Sample Conditions See Form Attached

	-	CHAIN OF CUSTODY SI	GNATURE RECORD		SAMPLE CONDITIONS
	Signature (Relinquished)	Printed C.Knight	Company/ Agency CH2m HUL	Date/ 7-26-// Time 15:15	RECEIVED COOL MARM D 4.7 C
	Signature (Received) & Annona	Frinted Rafal	Company/ Agency F.L7	Date/ 7-16-// Time 15:15	CUSTODY SEALED YES 🗖 NO 🗹
	Signature (Relinquished)	Printed Rafal	Agency T- h-	Date/ 7-26-4 Time 21:38	SPECIAL REQUIREMENTS:
D	Signature (Received) Ludia	Printed Junkeuer	Company/ Agency	Date/ Time #/26/11 21:3c	P
	Signature (Relinquished)	Printød Name	Company/ Agency	Date/ Time	
	Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials	
07/22/11			NA	N/A	N/A	SB	
	-2		<u> </u>			{	
	-2						
4	4-4	7	+		Y	J.	
07/22/11	996255-1	9.5	N/A	N/A	N/A	SB	
<u>· </u>	-2					t	
	-3						
	-4						
tr.	-5	<u> </u>	<u> </u>	4	7		
07/27/11	996331 - 1	9.5	N/A	NA	NA	SB	
	1-2		`\			(
	-3						
	-4						
	-5						
	-6						
	-7					1	
4	v ~8	7	*	4	J.	Ţ	
97/27/11	996332	7.0	5.00	9.5	9:15	sB	
					· · · · · · · · · · · · · · · · · · ·		
		••••••••••••••••••••••••••••••••••••••					

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

Turbidity/pH Check

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Turbidity/pH Check										
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	700583 (1-8)) <1	<i>2</i> 2	7/13/11	MG	N.					
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	700 585 (1-6)	۲١	. 22	7/(3/1(<i>h</i> 4	No					
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	996484 1-4				\downarrow						

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Sample Integrity & Analysis Discrepancy Form

Cli	ent: <u>E &</u>	Lab # <u>9963</u> 3.
Dat	te Delivered: <u>07,126</u> /11	ileld Service
1.	Was a Chain of Custody received and signed?	¢Yes ⊒No ⊒N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ¢N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No ¤/N/A
1.	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?	Q ⁽ Yes ⊡No ⊡N/A
}.	Were samples received in a chilled condition? Temperature (if yes)? <u>4. PC</u>	,ÆYes ⊡No ⊡N/A
•	Were samples received Intact (I.e. broken bottles, leaks, air bubbles, etc)?	ØYes ⊡No ⊡N/A
	Were sample custody seals intact?	□Yes □No QứVA
	Does the number of samples received agree with Cock	
).	Did sample labels correspond with the client ID's?	Yes DNO DNA
۱.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdall □Client	PYes DNO DINA
•	Were samples pH checked? $pH = \frac{flc_c}{c_c} c_c$.	AYes ONO ONA
	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	A Yes ⊡No ⊡N/A
•	Have Project due dates been checked and accepted? Turn Around Time (TAT): RUSH ② Std	Yes INO IN/A
•	<u>Sample Matrix:</u> Liquid Drinking Water Ground W Sludge Soil Wipe Paint Solid A	later Waste Water Other Water
	Comments:	
	Sample Check-In completed by Truesdail Log-In/Receiving:	hidip

Analytical Bench Log Book

WDR pH Results

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

Slope Time pH Meter bН Date Analyst Name Time Date Time Date #1, #2, or #3 etc. pH meter of the (for the pH result) Result pH meter of of of Sample Name of See cover Sheet Calibrated Curve Calibrated analysis analysis sampling sampling for Serial Number 7. -54.5 1:00 7-5-11 METER#1 1505 1500 7-5-11 5C-700B 7-5-11 Notes: -54.5 100 7-5-11 1508 METER # 17-5-11 1:00 7-5-11 1500 SC-100B hotes: 1:00 1-54 7-5-11 1511 METER# 1 7-5-11 1-5-11 1500 15C-701 botes: 7-12-11 1400 7-12-11 1405 METERA 1 717-11 1:00 -53. +5C-700 B a otes: 2-19-111430 7-19-111435 METER#1 7-19-11 1:00 -55.3 Notes: ~7. C. Kney Ut -53.9 7-26-11 01:00 METER #1 7-24-11 14 11 7-26-1/ 14:05 6 SC. 700B. Sotes: Notes: Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4 40

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EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

August 18, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-320 PROJECT, GROUNDWATER MONITORING, TLI NO: 996487

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-320 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 August 2, 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.

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

lichuer

Michael Ngo Quality Assurance/Quality Control Officer

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

Client: E2 Consulting Engineers, Inc. 155 Grand Ave. Suite 1000 Oakland, CA 94612 Attention: Shawn Duffy Sample: Two (2) Groundwaters Project Name: PG&E Topock Project Project No.: 408401.01.DM

Laboratory No.: 996487 Date: August 18, 2011 Collected: August 2, 2011 Received: August 2, 2011

ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Gautam Savani
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
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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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

Laboratory No.: 996487 Date Received: August 2, 2011

Attention: Shawn Duffy

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

Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
996487-001	SC-700B-WDR-320	E120.1	NONE	8/2/2011	14:00	EC	7400	umhos/cm	2.00
996487-001	SC-700B-WDR-320	E200.7	NONE	8/2/2011	14:00	Aluminum	ND	ug/L	50.0
996487-001	SC-700B-WDR-320	E200.7	NONE	8/2/2011	14:00	BORON	988	ug/L	200
996487-001	SC-700B-WDR-320	E200.7	NONE	8/2/2011	14:00	Iron	ND	ug/L	20.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Antimony	ND	ug/L	10.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Arsenic	ND	ug/L	1.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Barium	10.2	ug/L	10.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Chromium	2.1	ug/L	1.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Copper	ND	ug/L	5.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Lead	NĎ	ug/L	10.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Manganese	3.6	ug/L	1.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Molybdenum	17.0	ug/L	10.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Nickel	ND	ug/L	10.0
996487-001	SC-700B-WDR-320	E200.8	NONE	8/2/2011	14:00	Zinc	ND	ug/L	10.0
996487-001	SC-700B-WDR-320	E218.6	LABFLT	8/2/2011	14:00	Chromium, hexavalent	1.5	ug/L	1.0
996487-001	SC-700B-WDR-320	E300	NONE	8/2/2011	14:00	Fluoride	2.42	mg/L	0.500
996487-001	SC-700B-WDR-320	E300	NONE	8/2/2011	14:00	Nitrate as N	3.94	mg/L	1.00
996487-001	SC-700B-WDR-320	E300	NONE	8/2/2011	14:00	Sulfate	469	mg/L	12.5
996487-001	SC-700B-WDR-320	SM2130B	NONE	8/2/2011	14:00	Turbidity	ND	NŤU	0.100
996487-001	SC-700B-WDR-320	SM2540C	NONE	8/2/2011	14:00	Total Dissolved Solids	4360	mg/L	125
996487-001	SC-700B-WDR-320	SM4500NH3D	NONE	8/2/2011	14:00	Ammonia-N	1.58	mg/L	0.500
996487-001	SC-700B-WDR-320	SM4500NO2B	NONE	8/2/2011	14:00	Nitrite as N	ND	mg/L	0.0050

Report Continued

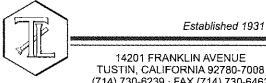
	F 1. 1 1 1 F	Analysis	Extraction	Sample	Sample	_			
Lab Sample ID	Field ID	Method	Method	Date	Time	Parameter	Result	Units	RL
996487-002	SC-100B-WDR-320	E120.1	NONE	8/2/2011	14:00	EC	7800	umhos/cm	2.00
996487-002	SC-100B-WDR-320	E200.7	NONE	8/2/2011	14:00	Aluminum	ND	ug/L	50.0
996487-002	SC-100B-WDR-320	E200.7	NONE	8/2/2011	14:00	BORON	1000	ug/L	200
996487-002	SC-100B-WDR-320	E200.7	LABFLT	8/2/2011	14:00	Iron	ND	ug/L	10.0
996487-002	SC-100B-WDR-320	E200.7	NONE	8/2/2011	14:00	Iron	ND	ug/L	20.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Antimony	ND	ug/L	10.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/201 1	14:00	Arsenic	3.5	ug/L	1.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Barium	26.5	ug/L	10.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Chromium	877	ug/L	1.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Copper	ND	ug/L	5.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Lead	ND	ug/L	10.0
996487-002	SC-100B-WDR-320	E200.8	LABFLT	8/2/2011	14:00	Manganese	9.2	ug/L	1.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Manganese	8.6	ug/L	1.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Molybdenum	24.7	ug/L	10.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Nickel	ND	ug/L	10.0
996487-002	SC-100B-WDR-320	E200.8	NONE	8/2/2011	14:00	Zinc	ND	uğ/L	10.0
996487-002	SC-100B-WDR-320	E218.6	LABFLT	8/2/2011	14:00	Chromium, hexavalent	887	ug/L	21.0
996487-002	SC-100B-WDR-320	E300	NONE	8/2/2011	14:00	Fluoride	2.68	mg/L	0.500
996487-002	SC-100B-WDR-320	E300	NONE	8/2/2011	14:00	Nitrate as N	3.09	mg/L	1.00
996487-002	SC-100B-WDR-320	E300	NONE	8/2/2011	14:00	Sulfate	533	mg/L	12.5
996487-002	SC-100B-WDR-320	SM2130B	NONE	8/2/2011	14:00	Turbidity	ND	NŤU	0.100
996487-002	SC-100B-WDR-320	SM2320B	NONE	8/2/2011	14:00	Alkalinity	136	mg/L	5.00
996487-002	SC-100B-WDR-320	SM2320B	NONE	8/2/2011	14:00	Bicarbonate	136	mg/L	5.00
996487-002	SC-100B-WDR-320	SM2320B	NONE	8/2/2011	14:00	Carbonate	ND	mg/L	5.00
996487-002	SC-100B-WDR-320	SM2540C	NONE	8/2/2011	14:00	Total Dissolved Solids	4590	mg/L	125
996487-002	SC-100B-WDR-320	SM4500NH3D	NONE	8/2/2011	14:00	Ammonia-N	ND	mg/L	0.500
996487-002	SC-100B-WDR-320	SM4500NO2B	NONE	8/2/2011	14:00	Nitrite as N	ND	mg/L	0.0050
996487-002	SC-100B-WDR-320	SM4500-PBE	NONE	8/2/2011	14:00	Total Phosphorous-P	ND	mg/L	0.0200
996487-002	SC-100B-WDR-320	SM4500SI	NONE	8/2/2011	14:00	Soluble Silica	21.6	mg/L	1.00
996487-002	SC-100B-WDR-320	SM5310C	NONE	8/2/2011	14:00	Total Organic Carbon	0.529	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.

EXCELLENCE IN INDEPENDENT TESTING



REPORT

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

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Laboratory No. 996487

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612

Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 408401.01.DM Project Number: 408401.01.DM

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

Field ID				Lab ID	Co	llected	Matr	ix
SC-700B-WDR-320				996487-001	08/02	2/2011 14:00	Wat	er
SC-100B-WDR-320				996487-002	08/02	2/2011 14:00	Wat	er
Anions By I.C EPA 300.	D		Batch	08AN11D				
Parameter	n a na anta mini (na j	Unit	Ana	lyzed	DF	MDL	RL	Result
996487-001 Nitrate as Nitroger	1	mg/L	08/03	3/2011 14:55	5.00	0.0550	1.00	3.94
996487-002 Nitrate as Nitroger	1	mg/L	08/03	8/2011 15:05	5.00	0.0550	1.00	3.09
Method Blank								
Parameter	Unit	DF	Result					
Nitrate as Nitrogen	mg/L	1.00	ND					
Duplicate							Lab ID =	996474-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Nitrate as Nitrogen	mg/L	1.00	ND	0.00		0	0 - 20	5
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00		100.0	90 - 110	0
Matrix Spike							Lab ID =	996474-001
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accepta	nce Range
Nitrate as Nitrogen	mg/L	1.00	2.00	2.00(2.00)		100.	85 - 115	-
Matrix Spike Duplicate							Lab ID =	996474-001
Parameter	Unit	DF	Result	Expected/Add	ed F	Recovery	Accepta	nce Range
Nitrate as Nitrogen	mg/L	1.00	1.99	2.00(2.00)		99.4	85 - 115	-
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00		99.9	90 - 110	•

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Anions By I.C EPA 300	.0		Batch	08AN11E				
Parameter	alan da san sa sa sa	Unit	Ana	lyzed	DF	MDL	RL	Result
996487-001 Fluoride		rng/L	08/03	3/2011 16:26 5	.00	0.0250	0.500	2.42
Sulfate		mg/L	08/03	3/2011 16:47 2	5.0	0.500	12.5	469.
996487-002 Fluoride		mg/L	08/03	8/2011 16:37 5	.00	0.0250	0.500	2.68
Sulfate		mg/L	08/03	3/2011 16:58 2	5.0	0.500	12.5	533.
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 = I	996474-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Sulfate	mg/L	25.0	102.	100.		1.73	0 - 20	
Duplicate							Lab ID = 996483-	
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Nitrate as Nitrogen	mg/L	5.00	14.9	15.8		5.99	0 - 20	
Duplicate							Lab ID = !	996495-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Fluoride	mg/L	1.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Fluoride	mg/L	1.00	4.14	4.00		104.	90 - 110	•
Sulfate	mg/L	1.00	20.0	20.0		100.0	90 - 110	
Nitrate as Nitrogen	mg/L	1.00	4.03	4.00		101.	90 - 110	
Matrix Spike							Lab ID = 9	996474-002
Parameter	Unit	DF	Result	Expected/Adde	d F	Recovery	Accepta	nce Range
Sulfate	mg/L	25.0	200.	200.(100.)		100.	85 - 115	-
Matrix Spike							Lab ID = 9	996483-001
Parameter	Unit	DF	Result	Expected/Adde	d R	lecovery	Accepta	nce Range
Nitrate as Nitrogen	mg/L	5.00	34.3	35.8(20.0)	-	92.6	85 - 115	0
Matrix Spike								996495-001
Parameter	Unit	DF	Result	Expected/Adde	d R	lecovery	Accepta	nce Range
Fluoride	mg/L	1.00	2.00	2.00(2.00)		99.8	85 - 115	-

Report Continued

Client: E2 Consulting Engineers, Inc.

TRUESDAIL LABORATORIES, INC.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Nitrite SM 4500-NO2 B			Batch	08NO211B				
Parameter	in e han state basis	Unit	Anal	yzed	DF	MDL	RL	Result
996487-001 Nitrite as Nitrogen		mg/L	08/04	/2011 11:13 1	.00	0.000360	0.0050	ND
996487-002 Nitrite as Nitrogen		mg/L	08/04	/2011 11:14 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	96487-001		
Parameter	Unit	DF	Result Expected RPD		Acceptar	nce Range		
Nitrite as Nitrogen	mg/L	1.00	ND	0.00		0	0 - 20	-
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Acceptance Range	
Nitrite as Nitrogen	mg/L	1.00	0.0380	0.0400		95.0	90 - 110	-
Matrix Spike							Lab ID = 9	96487-001
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Acceptar	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	F	Recovery	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0191	0.0200		95.5	90 - 110	Ŭ
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0191	0.0200		95.5	90 - 110	Ū
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Acceptar	ice Range
Nitrite as Nitrogen	mg/L	1.00	0.0191	0.0200		95.5	90 - 110	Ū

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Alkalinity by SM 2320E			Batch	08ALK11A		n an	8/5/2011	
Parameter	an a shekarar na shekarar she Shekarar shekarar she	Unit	Ana	llyzed	DF	MDL	RL	Result
996487-002 Alkalinity as Ca	aCO3	mg/L	08/05	5/2011 ·	1.00	1.68	5.00	136
Bicarbonate (C	Calculated)	mg/L	08/05	5/2011 ·	1.00	0.153	5.00	136
Carbonate (Ca	alculated)	mg/L	08/05	5/2011 ·	1.00	0.153	5.00	ND
Method Blank								
Parameter	Unit	DF	Result					
Alkalinity as CaCO3	mg/L	1.00	ND					
Duplicate							Lab ID =	996438-020
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ance Range
Alkalinity as CaCO3	mg/L	1.00	83.0	84.0		1.20	0 - 20	
Lab Control Sample)							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Alkalinity as CaCO3	mg/L	1.00	100.	100.		100.	90 - 110) –
Lab Control Sample	Duplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Alkalinity as CaCO3	mg/L	1.00	102	100.		102	90 - 110) –
Matrix Spike							Lab ID =	996487-002
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accepta	ance Range
Alkalinity as CaCO3	mg/L	1.00	244	236(100.)		108	75 - 128	5

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Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 7 of 29 Project Number: 408401.01.DM Printed 8/18/2011

Specific Conductivity - E	PA 120.1		Batc	h 08EC11B		a tea Santa ang santa br>Santa ang santa ang s	8/5/2011	
Parameter		Unit	An	alyzed	DF	MDL	RL	Result
996487-001 Specific Conduct	ivity	umhos/	/cm 08/0	5/2011	1.00	0.0380	2.00	7400
996487-002 Specific Conduct	tivity	umhos/	/cm 08/0	5/2011	1.00	0.0380	2.00	7800
Method Blank								
Parameter	Unit	DF	Result					
Specific Conductivity	umhos	1.00	ND					
Duplicate							Lab ID =	996487-002
Parameter	Unit	DF	Result	Expected	ected RPD		Acceptance Ran	
Specific Conductivity	umhos	1.00	7800	7800		0.00		
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Acceptance Range	
Specific Conductivity	umhos	1.00	703	706		99.6	90 - 110	D
Lab Control Sample D	uplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Specific Conductivity	umhos	1.00	705	706		99.8	90 - 110	ר כ
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Specific Conductivity	umhos	1.00	705	706		99.8	90 - 110	ว
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Specific Conductivity	umhos	1.00	983	998		98.5	90 - 11	-

Report Continued

Client: E2 Consulting Engineers, Inc.

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Project Name: PG&E Topock Project Project Number: 408401.01.DM Page 8 of 29 Printed 8/18/2011

Parameter	anders verster er fokktielet.	Unit	Anal	lyzed	DF	MDL	RL	Result
996487-001 Chromium, Hexa	valent	ug/L	08/08	/2011 10:09	5.25	0.136	1.0	1.5
996487-002 Chromium, Hexa	avalent	ug/L	08/08	/2011 09:38	105	2.73	21.0	887.
Method Blank						M W Z		
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result ND					000407 000
Duplicate								996487-002
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 105	Result 885.	Expected 887		RPD 0.171	0 - 20	ance Range 996573-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 5.25	Result 24.9	Expected 24.9		RPD 0.190	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.02	Expected 5.00		Recovery 100.	90 - 110	ance Range) 996486-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 19.6	Expected/A 19.6(10.6)	dded	Recovery 100.	90 - 110	ance Range) 996487-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 6.69	Expected/A 6.73(5.25)	dded	Recovery 99.3	90 - 110	ance Range) 996487-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 105	Result 1930	Expected/A 1940(1050)		Recovery 99.0	90 - 11	ance Range) 996517-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.14	Expected/A 1.14(1.06)	dded	Recovery 99.7	90 - 11	ance Range) 996517-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.16	Expected/A 1.14(1.06)	dded	Recovery 102.	90 - 11	ance Range 0 996517-003
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.59	Expected/A 1.65(1.06)	dded	Recovery 94.4	Accepta 90 - 11	ance Range D

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Metals by EPA 200.7, Tota	al			080511A-Th				방법 문문.
Parameter		Unit	Ana	lyzed I	<u>DF</u>	MDL	RL	Result
996487-001 Aluminum		ug/L	08/05	/2011 12:09 1	.00	2.83	50.0	ND
Boron		ug/L	08/05	/2011 12:09 1	.00	1.50	200.	988.
Iron		ug/L	08/05	/2011 12:09 1	.00	1.34	20.0	ND
996487-002 Aluminum		ug/L	08/05	/2011 12:26 1	.00	2.83	50.0	ND
Boron		ug/L	08/05	/2011 12:26 1	.00	1.50	200.	1000
Iron		ug/L	08/05	/2011 12:26 1	.00	1.34	20.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Aluminum	ug/L	1.00	ND					
Iron	ug/L	1.00	ND					
Boron	ug/L	1.00	ND					
Duplicate							Lab ID =	996487-00
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ince Rang
Aluminum	ug/L	1.00	ND	0.00		0	0 - 20	
Iron	ug/L	1.00	ND	0.00		0	0 - 20	
Boron	ug/L	1.00	978.	978. 988 0.976		0 - 20		
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Rang
Aluminum	ug/L	1.00	4850	5000		97.0	85 - 115	
Iron	ug/L	1.00	5040	5000		101.	85 - 115	5
Boron	ug/L	1.00	5060	5000		101.	85 - 118	5
Matrix Spike							Lab ID =	996487-00
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accepta	ance Rang
Aluminum	ug/L	1.00	2400	2000(2000)		120.	75 - 12	5
Iron	ug/L	1.00	1900	2000(2000)		94.8	75 - 12	5
Boron	ug/L	1.00	2940	2990(2000)		97.6	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Rang
Aluminum	ug/L	1.00	4880	5000		97.6	95 - 110)
Iron	ug/L	1.00	5140	5000		103.	95 - 110	כ
Boron	ug/L	1.00	5090	5000		102.	95 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Rang
Aluminum	ug/L	1.00	4880	5000		97.5	90 - 110)



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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그는 그는 것 같아요. 그는	EPA 200.8, To	otal		Batch 080511A		na se		
Parameter			Unit	Analyzed	DF	MDL	RL	Resul
996487-001	Antimony		ug/L	08/05/2011 14:35	5.00	0.120	10.0	ND
	Arsenic		ug/L	08/05/2011 14:35	5.00	0.285	1.0	ND
	Barium		ug/L	08/05/2011 14:35	5.00	0.200	10.0	10.2
-	Chromium		ug/L	08/05/2011 14:35	5.00	0.110	1.0	2.1
	Copper		ug/L	08/05/2011 14:35	5.00	0.125	5.0	ND
	Lead		ug/L	08/05/2011 14:35	5.00	0.110	10.0	ND
	Manganese		ug/L	08/05/2011 14:35	5.00	0.980	1.0	3.6
	Molybdenum		ug/L	08/05/2011 14:35	5.00	0.270	10.0	17.0
	Nickel		ug/L	08/05/2011 14:35	5.00	0.0750	10.0	ND
	Zinc		ug/L	08/05/2011 14:35	5.00	1.26	10.0	ND
996487-002	? Antimony		ug/L	08/05/2011 15:02	5.00	0.120	10.0	ND
	Arsenic		ug/L	08/05/2011 15:02	5.00	0.285	1.0	3.5
	Barium		ug/L	08/05/2011 15:02	5.00	0.200	10.0	26.5
	Chromium		ug/L	08/05/2011 15:02	5.00	0.110	1.0	877,
	Copper		ug/L	08/05/2011 15:02	5.00	0.125	5.0	ND
	Lead		ug/L	08/05/2011 15:02	5.00	0.110	10.0	ND
	Manganese		ug/L	08/05/2011 15:02	5.00	0.980	1.0	8.6
	Molybdenum		ug/L	08/05/2011 15:02	5.00	0.270	10.0	24.7
	Nickel		ug/L	08/05/2011 15:02	5.00	0.0750	10.0	ND
	Zinc		ug/L	08/05/2011 15:02	5.00	1.26	10.0	ND
Meth	od Blank							·
Parameter		Unit	DF	Result				
Arsenic		ug/L	1.00	ND				
Barium		ug/L	1.00	ND				
Chromium		ug/L	1.00	ND				
Nickel		ug/L	1.00	ND				
Zinc		ug/L	1.00	ND				
Antimony		ug/L	1.00	ND				
Copper		ug/L	1.00	ND				
Lead		ug/L	1.00	ND				
Manganes		ug/L	1,00	ND				
Molybdeni	lm	ug/L	1.00	ND				

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Report Continued

Client: E2 Consulting E	ngineers, Ind		roject Name: roject Numbe	PG&E Topock Pro r: 408401.01.DM	oject	Page 15 of 29 Printed 8/18/2011
Duplicate						Lab ID = 996487-001
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Arsenic	ug/L	5.00	ND	0.00	0	0 - 20
Barium	ug/L	5.00	10.3	10.2	1.36	0 - 20
Chromium	ug/L	5.00	1.94	2.07	6.43	0 - 20
Nickel	ug/L	5.00	ND	1.88	0	0 - 20
Zinc	ug/L	5.00	ND	0.00	0	0 - 20
Antimony	ug/L	5.00	ND	0.00	0	0 - 20
Copper	ug/L	5.00	ND	0.00	0	0 - 20
Lead	ug/L	5.00	ND	0.00	0	0 - 20
Manganese	ug/L	5.00	3.56	3.56	0.112	0 - 20
Molybdenum	ug/L	5.00	17.8	17.0	4.77	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.7	50.0	97.4	85 - 115
Barium	ug/L	1.00	50.6	50.0	101.	85 - 115
Chromium	ug/L	1.00	49.9	50.0	99.7	85 - 115
Nickel	ug/L	1.00	49.6	50.0	99.1	85 - 115
Zinc	ug/L	1.00	49.7	50.0	99.4	85 - 115
Antimony	ug/L	1.00	48.2	50.0	96.4	85 - 115
Copper	ug/L	1.00	49.3	50.0	98.5	85 - 115
Lead	ug/L	1.00	47.2	50.0	94.3	85 - 115
Manganese	ug/L	1.00	50.7	50.0	101.	85 - 115
Molybdenum	ug/L	1.00	49.6	50.0	99.2	85 - 115
Matrix Spike						Lab ID = 996487-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	242.	250.(250.)	97.0	75 - 125
Barium	ug/L	5,00	251.	260.(250.)	96.4	75 - 125
Chromium	ug/L	5.00	252.	252.(250.)	99.8	75 - 125
Nickel	ug/L	5.00	230.	252.(250.)	91.4	75 - 125
Zinc	ug/L	5.00	210.	250.(250.)	84.1	75 - 125
Antimony	ug/L	5.00	221.	250.(250.)	88.5	75 - 125
Copper	ug/L	5.00	224.	250.(250.)	89.8	75 - 125
Lead	ug/L	5.00	208.	250.(250.)	83.3	75 - 125
Manganese	ug/L	5.00	252.	254.(250.)	99.5	75 - 125
Molybdenum	ug/L	5.00	262.	267(250.)	97.9	75 - 125



Report Continued

Client: E2 Consulting Eng	gineers, Inc		oject Name: oject Numbe	PG&E Topock Pro r: 408401.01.DM	iject	Page 16 of 29 Printed 8/18/2011
Matrix Spike Duplicate	•					Lab ID = 996487-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	242.	250.(250.)	96.6	75 - 125
Barium	ug/L	5.00	251.	260.(250.)	96.4	75 - 125
Chromium	ug/L	5.00	252.	252.(250.)	100.	75 - 125
Nickel	ug/L	5.00	231.	252.(250.)	91.8	75 - 125
Zinc	ug/L	5.00	212.	250.(250.)	84.8	75 - 125
Antimony	ug/L	5.00	224,	250.(250.)	89.4	75 - 125
Copper	ug/L	5.00	224.	250.(250.)	89.8	75 - 125
Lead	ug/L	5.00	210.	250.(250.)	83.8	75 - 125
Manganese	ug/L	5.00	253	254.(250.)	99.8	75 - 125
Molybdenum	ug/L	5.00	264.	267(250.)	98.9	75 - 125
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.3	50.0	96.6	90 - 110
Barium	ug/L	1.00	50.8	50.0	102.	90 - 110
Chromium	ug/L	1.00	49.8	50.0	99,5	90 - 110
Nickel	ug/L	1.00	49.0	50.0	98.0	90 - 110
Zinc	ug/L	1.00	49.9	50.0	99,9	90 - 110
Antimony	ug/L	1.00	48.5	50.0	97.0	90 - 110
Copper	ug/L	1.00	48.8	50.0	97.6	90 - 110
Lead	ug/L	1.00	46.8	50.0	93.7	90 - 110
Manganese	ug/L	1.00	50.3	50.0	101.	90 - 110
Molybdenum	ug/L	1.00	50.3	50.0	100.	90 - 110
MRCVS - Primary	-					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.7	50.0	99,4	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.6	50.0	99.1	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	50.9	50.0	102.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	50.2	50.0	100.	90 - 110

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Report Continued

Client: E2 Consulting Eng	jineers, In		oject Name: oject Numbe	PG&E Topock Pro r: 408401.01.DM	oject	Page 21 of 29 Printed 8/18/2011	
Interference Check Sta	andard AB						
Parameter Molybdenum	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	·	nce Range
Serial Dilution						Lab ID = 9	96487-002
Parameter Chromium	Unit ug/L	DF 25.0	Result 833.	Expected 877	RPD 5.16	Acceptar 0 - 10	nce Range
Reactive Silica by SM450 Parameter)0-Si D	Unit		08Si11A lyzed DI	= MDL	8/8/2011 RL	Result
996487-002 Silica		mg/L	08/08	/2011 25	0 0.532	1.00	21.6
Method Blank							
Parameter Silica	Unit mg/L	DF 1.00	Result ND				
Duplicate	Ŭ					Lab ID = 9	996487-002
Parameter Silica Lab Control Sample	Unit mg/L	DF 25.0	Result 21.4	Expected 21.6	RPD 0.732	Accepta 0 - 20	nce Range
Parameter Silica Matrix Spike	Unit mg/L	DF 1.00	Result 0.215	Expected 0.220	Recovery 97.9	90 - 110	nce Range 996487-002
Parameter Silica MRCCS - Secondary	Unit mg/L	DF 25.0	Result 32.3	Expected/Added 31.6(10.0)	Recovery 107.	Accepta 75 - 125	nce Range
Parameter Silica MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.103	Expected 0.110	Recovery 93.7	Accepta 90 - 110	nce Range
Parameter Silica	Unit mg/L	DF 1.00	Result 0.400	Expected 0.400	Recovery 100.	Accepta 90 - 110	nce Range

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Report Continued

Client: E2 Consulting Engineers, Inc.	Project Name:	PG&E Topock Project	Page 22 of 29
	Project Number	: 408401.01.DM	Printed 8/18/2011

Total Dissolved Solids I	by SM 254	0 C	Batch	08TDS11F		8/9/2011			
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
996487-001 Total Dissolved	Solids	mg/L	08/09	0/2011	1.00	0.434	125	4360	
996487-002 Total Dissolved	Solids	mg/L	08/09)/2011	1.00	0.434	125	4590	
Method Blank									
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND						
Duplicate							Lab ID =	996487-002	
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4620	Expected 4590	F	RPD 0.543	Accepta 0 - 5	ance Range	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 495	Expected 500.	F	Recovery 99.0	Accepta 90 - 11	ance Range 0	



Report Continued

Client: E2 Consulting Engineers, Inc.Project Name:PG&E Topock ProjectPage 23 of 29Project Number:408401.01.DMPrinted 8/18/2011

Total Organic Carbon (T/	DOC) SM			08TOC11A	·. :		
Parameter		Unit	Ana	lyzed D	F MDL	RL	Result
996487-002 Total Organic Car	rbon	mg/L	08/03	/2011 17:50 1.0	0.0100	0.300	0.529
Method Blank							
Parameter	Unit	DF	Result				
Total Organic Carbon	mg/L	1.00	ND				
Duplicate						Lab ID =	996402-004
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	2.01	2.04	1.38	0 - 20	
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	14.2	14.8	96.1	90 - 110	1
Matrix Spike						Lab ID =	996402-004
Parameter	Unit	DF	Result	Expected/Addec	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	12.2	12.0(10.0)	101.	75 - 125	
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	7.05	7.40	95.3	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	10.3	10.0	103.	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	9.94	10.0	99.4	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Total Organic Carbon	mg/L	1.00	9.97	10.0	99.7	90 - 110)

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 408401.01.DM

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Total Phosphate, SM 450	0-PB,E		Batch	08TP11A			8/8/2011		
Parameter	an da san san da san	Unit	Ana	lyzed í	DF	MDL	RL	Result	
996487-002 Phosphate, Total	As P	mg/L	08/08	/2011 1	.00	0.00530	0.0200	ND	
Method Blank									
Parameter Phosphate, Total As P	Unit mg/L	DF 1.00	Result ND				lah ID - G	996487-002	
Parameter Unit Phosphate, Total As P mg/L Lab Control Sample		DF 1.00	Result ND	Expected 0.00	F	RPD 0		ice Range	
Parameter Phosphate, Total As P Matrix Spike	Unit mg/L	DF 1.00	Result 0.106	Expected 0.100	F	Recovery 106.	90 - 110	nce Range 196487-002	
Parameter Phosphate, Total As P MRCCS - Secondary	P mg/L 1.00 0.0763 0.0650		Expected/Adde 0.0650(0.0650)		Recovery 117.	Acceptar 75 - 125	ice Range		
Parameter Phosphate, Total As P MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0612	Expected 0.0600	F	lecovery 102	Acceptar 90 - 110	ice Range	
Parạmeter Phosphate, Total As P	Unit mg/L	DF 1.00	Result 0.0643	Expected 0.0650	ਜ	lecovery 98.9	Acceptar 90 - 110	ice Range	

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Report Continued

Client: E2 Consulting Eng	ineers, In		oject Name: oject Numbe	Page 25 of 29 Printed 8/18/2011				
Ammonia Nitrogen by SM Parameter	14500-NH	I3D Unit		08NH3-E11A	DF	MDL	8/4/2011 RL	Result
996487-001 Ammonia as N		mg/L			1.00	0.00200	0.500	1,58
996487-002 Ammonia as N		mg/L			1.00	0.00200	0.500	ND
Method Blank							0.000	
Parameter Ammonia as N Duplicate	Unit mg/L	DF 1.00	Result ND				Lab ID =	996487-001
Parameter Ammonia as N	Unit mg/L	DF 1.00	Result 1.41	Expected 1.58	F	RPD 11.6	Accepta 0 - 20	nce Range
Parameter Ammonia as N Matrix Spike	Unit mg/L	DF 1.00	Result 10.2	Expected 10.0	F	Recovery 102.	90 - 110	nce Range 996487-001
Parameter Ammonia as N MRCCS - Secondary	Unit mg/L	DF 1.00	Result 6.09	Expected/Add 7.58(6.00)	ed F	Recovery 75.2	Accepta 75 - 125	nce Range
Parameter Ammonia as N MRCVS - Primary	Unit mg/L	DF 1.00	Result 6.54	Expected 6.00	F	Recovery 109	Accepta 90 - 110	nce Range
Parameter Ammonia as N	Unit mg/L	DF 1.00	Result 6.19	Expected 6.00	F	ecovery 103.	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Eng	ineers, Inc.	•	ject Name: ject Number:	PG&E Topock 408401.01.DN		ect	P Printed 8/ Revised	age 26 of 29 (31/2011
Metals by EPA 200.8, Diss	solved		Batch	080511A				
Parameter		Unit	Analy	zed	DF	MDL	RL	Result
996487-002 Manganese		ug/L	08/05/2	2011 15:15	5.00	0.980	1.0	9.2
Method Blank			·····					
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	996486-001
Parameter	Unit	DF	Result	Expected		RPD	Accepta	nce Range
Chromium	ug/L	5.00	9.04	8.79		2.82	0 ~ 20	0
Manganese	ug/L	5.00	36.2	36.2		0.0276	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	ug/L	1.00	49.9	50.0		99.7	85 - 115	-
Manganese	ug/L	1.00 ,	50.7	50.0		101.	85 - 115	
Matrix Spike							Lab ID =	996486-001
Parameter	Unit	DF	Result	Expected/Add	led	Recovery	Accepta	nce Range
Chromium	ug/L	5.00	255	259.(250.)		98.5	75 - 125	
Manganese	ug/L	5.00	284.	286.(250.)		99.1	75 - 125	
Matrix Spike Duplicate							Lab ID = !	996486-001
Parameter	Unit	DF	Result	Expected/Add	led	Recovery	Accepta	nce Range
Chromium	ug/L	5.00	256.	259.(250.)		98.7	75 - 125	_
Manganese	ug/L	5.00	284.	286.(250.)		99.2	75 - 125	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	ug/L	1.00	49.8	50.0		99.5	90 - 110	-
Manganese	ug/L	1.00	50.3	50.0		101.	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	ug/L	1.00	50.4	50.0		101.	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Chromium	ug/L	1.00	50.0	50.0		100.	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected		Recovery	Accepta	nce Range
Manganese	ug/L	1.00	52.0	50.0		104.	90 - 110	-

Report Continued

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 28 of 29 Project Number: 408401.01.DM Printed 8/18/2011

Parameter	line en e	Unit	Δησ	lyzed DF	MDL	RL	Result
996487-002 Iron		ug/L	****	5/2011 12:38 1.0		10.0	
Method Blank		ug/L	00/03	#201112,30 1.0	0 1.34	10.0	ND
Parameter	Unit	DF	Result				
Iron	ug/L	1.00	ND				
Duplicate	-3/-					Lab ID =	996487-002
Parameter	Unit	DF	Result	Expected	RPD		nce Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20	noo r tangt
Lab Control Sample	;						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	5040	5000	101.	85 - 115	-
Matrix Spike						Lab ID =	996487-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	nce Range
Iron	ug/L	1.00	2170	2000(2000)	108.	75 - 125	Ĩ
MRCCS - Secondar	ry						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	5140	5000	103.	95 - 105	-
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	4650	5000	93.0	90 - 110	Ū
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	4850	5000	96.9	90 - 110	-
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	2010	2000	100.	80 - 120	
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	1920	2000	95.8	80 - 120	-
Interference Check	Standard AB						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Iron	ug/L	1.00	1940	2000	97.2	80 - 120	2

NTU

1.00

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Turbidity

Report Continued

Client: E2 Consulting I	Engineers, In		roject Name: roject Numbe	ct	Page 29 of 29 Printed 8/18/2011			
Interference Check	Standard AB							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Iron	n ug/L		1890	2000		94.4	80 - 120)
Turbidity by SM 2130 I	B		Batch	08TUC11D			8/3/2011	
Parameter	André Alex Aller e dés Angr	Unit	Ana	lyzed	DF	MDL	RL	Result
996487-001 Turbidity		NTU	08/03	8/2011	1.00	0.0140	0.100	ND
996487-002 Turbidity		NTU	08/03/2011		1.00	0.0140	0.100	ND
Method Blank	<u> </u>							
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID =	996487-002
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Turbidity	NTU	1.00	ND	0.00		0	0 - 20	U U
Lab Control Sample	e							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	8.03	8.00		100.	90 - 110)
Lab Control Sample	e Duplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ince Range
	• • • • •							

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

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Mona Nassimi Manager, Analytical Services

EZ Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 08TDS11F Date Calculated: 8/10/11

Laboratory 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	70.8987	70,8991	70.8990	0.0001	No	0.0003	3.0	25.0	ND	1
996474-1	100	105.6343	105.6899	105.6898	0.0001	No	0.0555	555.0	25.0	555.0	1
996474-2	100	104.2445	104.2903	104.2903	0.0000	No	0,0458	458.0	25.0	458.0	1
996484-1	100	110.7146	110.752	110.7518	0.0002	No	0.0372	372.0	25.0	372.0	1
996484-2	50	47.6200	47.7119	47.7116	0.0003	No	0.0916	1832.0	50.0	1832.0	1
996484-3	100	111.6500	111.6927	111.6923	0.0004	No	0.0423	423,0	25.0	423.0	1
996484-4	100	110.3722	110.4073	110,4073	0.0000	No	0.0351	351.0	25.0	351.0	1
996484-5	50	50.9483	51.0761	51.0761	0.0000	No	0.1278	2556.0	50.0	2556.0	1
996484-6	50	47.9671	48.0002	47.9999	0.0003	No	0.0328	656.0	50.0	656.0	1
996487-1	20	51.1311	51.2186	51.2184	0.0002	No	0.0873	4365.0	125.0	4365.0	1
996487-2	20	50.3841	50.4761	50.4759	0.0002	No	0.0918	4590.0	125.0	4590.0	1
996487-2D	20	51.1673	51.2596	51.2596	0.0000	No	0.0923	4615.0	125.0	4615.0	1
LCS	100	109.3941	109.4437	109.4436	0.0001	No	0.0495	495.0	25.0	495.0	1
996518-1	50	68.6333	68.6895	68.6895	0.0000	No	0.0562	1124.0	50.0	1124.0	1
996518-3	100	100.6856	100.7177	100.7175	0.0002	No	0.0319	319.0	25.0	319.0	1
996518-4	50	69.3472	69.3846	69.3842	0.0004	No	0.0370	740.0	50.0	740.0	1
996518-6	50	75.7679	75.8184	75.8184	0.0000	No	0.0505	1010.0	50.0	1010.0	1
996518-7	50	68.8805	68.9367	68,9363	0,0004	No	0.0558	1116.0	50.0	1116.0	1
996518-8	50	74.7032	74.7613	74.7613	0.0000	No	0.0581	1162.0	50.0	1162.0	1
996644-1	50	69.4888	69.5366	69.5362	0.0004	No	0.0474	948.0	50.0	948.0	1
996644-2	100	67.6311	67.6852	67.6851	0.0001	No	0.0540	540.0	25.0	540.0	1
996644-3	100	73.6071	73.6626	73.6622	0.0004	No	0.0551	551.0	25.0	551.0	1
996644-4	100	69.2322	69.2836	69.2835	0.0001	No	0.0513	513.0	25.0	513.0	1
LCSD											1

Calculation as follows:

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

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)

Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

* COC signed . At-

WetChem TDS_0810.xis

TDS/EC CHECK

Batch: 08TDS11F Date Calculated: 8/10/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
996474-1	970	0.57	630,5	0.88
996474-2	938	0.49	609.7	0.75
996484-1	628	0.59	408.2	0.91
996484-2	2630	0.70	1709.5	1.07
996484-3	694	0.61	451.1	0.94
996484-4	543	0.65	352.95	0.99
996484-5	3700	0.69	2405	1.06
996484-6	1080	0,61	702	0.93
996487-1	7410	0.59	4816.5	0.91
996487-2	7840	0.59	5096	0.90
996487-2D	7840	0.59	5096	0.91
LCS				
996518-1	1710	0.66	1111.5	1.01
996518-3	512	0.62	332.8	0.96
996518-4	1151	0.64	748.15	0.99
996518-6	1500	0.67	975	1.04
996518-7	1688	0.66	1097.2	1,02
996518-8	1804	0.64	1172.6	0.99
996644-1	1767	0.54	1148.55	0.83
996644-2	949	0.57	616.85	0.88
996644-3	935	0.59	607.75	0.91
996644-4	835	0.61	542.75	0.95

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Alkalinity by SM 2320B Calculations

E2 Condon

Analytical Batch: 08ALK11A Matrix: Water Date Calculated: 8/5/11

Date of Analysis:	8/5/11
Start of Analysis:	
Date Sampled:	

Lab ID	Sampie 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	Totaf Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as CaCO ₃ _(ppm)	CO3 Alkalinity as CaCO, (ppm)	OH Alkalinity as CaCO₃ (ppm)	Low Alkalinity as CaCO ₃ (<20ppm)
BLANK	7.01	50	0 02		0.0	0.05		1.0	5	ND	ND	ND	ND	
996438-20	7.67	50	0.02		0.0	4.20		84.0	5	84.0	84.0	ND	ND	
996499-1	7.72	50	0.02		0.0	4.20		84.0	5	84.0	84.0	ND	ND	ļ
996487-2	7.49	50	0.02		0.0	6.80		136.0	5	136.0	136,0	ND	ND	
996574-3	7.65	50	0.02		0.0	7.50		150.0	5	150.0	150.0	ND	ND	ļ
996574-4	7.55	50	0.02		0.0	6.75	[135.0	5	135.0	135.0	ND	NÐ	
996438-20DUP	7.67	50	0.02		0.0	4.15		83.0	5	83.0	83.0	ND	ND	
996487-2MS	9.03	50	0.02	1.7	34,0	12.20		244.0	5	244.0	176.0	68	ND	
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			1		ļ									
LCS1	10.30	50	0.02	22	44.0	5.00		100,0	5	100.0	12.0	88	ND	
LCS2	10.30	50	0.02	22	44.0	5 10		102.0	5	102.0	14.0	88	ND	

Calculations as follows:

Where:

T or P = $\begin{pmatrix} A \ x \ N \ x \ 50000 \\ mL \ sample \end{pmatrix}$

P = Phenolphthalein Alkalinity, mg CaCO3/L

T = Total Alkalinity, mg CaCO3/L

A = mL standard acid used

N = normality of standard acid

Low Alkalinity: = as mg/L CaCO3

= <u>(2 x B - C) x N x 50000</u> mL sample

Where: **B** = mL titrant to first recorded pH **C** = total mL titrant to reach pH 0.3 unit lower **N** = normality of standard acid

Analyst Signature

Reviewer Printed Name

Reviewer Signature

049

Analyst Printed Name

MSD: Matrix Spike Duplicate

MS: Matrix Spike

ND: Not Detected (below the reporting limit)

LCSD: Laboratory Control Standard Duplicate

LCS: Laboratory Control Standard

a.

(714)7	Franklin Avenue, '30-6239 FAX: (71 truesdail.com	Tustin, CA 92 4) 730-6462	1780-7008			[IM3Plant-WDR-320] 996489					TURNAROUND TIME 10 Days DATE 8/02/11 PAGE 1 OF 1													
OMPANY	CH2M HILL /E	2					7	1	7		7	. 1	7	7	7		7	p./	ହି/	./	\square		MMENTS	
ROJECTNAME	PG&E Topock	IM3					1		/				<u>}</u> /				/ 1	ة ة ة ة	ပီ/		' /	CL	JMMENTS	Ď
HONE	530-229-3	303	FAX 530-	339-3303		,		/ /	/				Ϊ.	/ ,	12	/ .	1	3 (4500.01)	1	/ /				
DRESS	155 Grand Ave	e Ste 1000		*****		/	Pa /					, Ę	' /		50%		4/2	Ne 3	' /	ER S	/			
	Oakland, CA 9	4612				1			/		/~) j	<u>}</u>	18		/8			$\langle $					
.O. NUMBER	408401.01.DM					[a	/ 8 /0/	/ /			/ 02 / 02	00	19	6	1	itals,		:/ð	7	<i> §</i>				
AMPLERS (SIGNA		DATE	TIME	DESCRIPTION		Alkalin: 6) Lab Fill	EC (10) (2320.B)	TDS (25)	Turb 10.	Total 1.	4mmc	Total r (4500. Muc. Vist Below	Anion (4500-P)	TOC (45 (300.0) F, NO.	Dissol.	Solust.	NO2 / NO2 / NO2 / NO2	(9200-005)	(UMO)	THE OF CONTAINERS				
SC-700B-W	/DR-320	8/02/11	1400	DESCRIPTION	x	f	X	x	x	x	x	<u> </u>	x				x	\vdash	4		1	Ma	=6)	ų.
SC-100B-W		8/02/11	1400		x	x	x	x	X	Ŷ	^ X	x	x	х	x	x	x		9		<u> </u>	+		-20
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	CHAIN OF CUSTODY S	IGNATURE RECORD		SAMPLE CONDITIONS
	Signature (Relinquished)	Company/ Agency	Date/ 6-2-11 Time 1530	RECEIVED COOL 🗹 WARM 🗆 3. 2°CF
	Signature Rafred Dav Mome Rafad	Company/ Agency	Date/ 8 - 2 - 1/ Time 15 - 2 0	CUSTODY SEALED YES 🗂 NO 🗹
	(Relinquished) Rahar Day Printed Rafal	Company/ Agency T. C. T	Date/ 8-4-1P	SPECIAL REQUIREMENTS:
<u> </u>	Signature Printed Printed (Received) Ludie Name Ludhencue	Company/ 72 D	Date/ Time \$14/11 21:30	The metals includes On At Ch. As Do D. Ov. Dh. Ma
60	Signature Printed (Relinquished) Name	Company/ Agency	Date/	
	Signature Printed (Received) Name	Сотрапу/ Agency	Date/ Time	Sample Conditions
			A CAR	e Form Attached
			S	se Follii Armana -

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
08/02/11	996424-1	<i>4.5</i>	NA	NA	N/A-	SB
	-2	<u> </u>	, 	· [
	-3					
	+-4	b	*		4	de
08/03/11	996482-1	9.5	N/A	N/A	N/A	SB
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	-3					
	4					
	-5		·····			
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08/03/11	996483-1	9.5	N/A	NA	NA	SB
	-2	<u> </u>				(
	-3					
	-7					
	¥ -5	<u> </u>			*	F
08/03/11	996484-1	9.5	N/A	N/A	NA	z₿
	1-2		1		· · · · · · · · · · · · · · · · · · ·	<u>í</u>
	-3					
	4					
	-5					
	10 -6	4	4			1
08/03/11	996485-1	9.5	- AM	NA	NA	S B
<u> </u>						1
	-3					
1	4-4	4	A		¥	4
	996486 -1	7.0	5.00	9.5	(0:00	SB
08/03/U	996487-1	7:0	5.00	9.5	9:55	5B
	1-2	4		J.	10:05	b

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

Turbidity/pH Check

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Sample Number Turbidity pin $996418(124 \ 21 \ 72 \ 8/2 \ 11 \ ES \ 1 \ 12 \ 12 \ 11 \ ES \ 12 \ 12 \ 11 \ 12 \ 12 \ 12 \ 12 \ 1$	Adjusted to $pH<2 (Y/N)$ $V_{\mathcal{B}}$ $\mathcal{Y}_{\mathcal{B}}$ $\mathcal{Y}_{\mathcal{B}}$ $\mathcal{Y}_{\mathcal{B}}$ $\mathcal{I}_{\mathcal{C}}$ $\mathcal{I}_{\mathcal{C}}$ $\mathcal{I}_{\mathcal{C}}$ $\mathcal{I}_{\mathcal{C}}$ $\mathcal{I}_{\mathcal{C}}$ $\mathcal{I}_{\mathcal{C}}$ $\mathcal{I}_{\mathcal{C}}$ $\mathcal{I}_{\mathcal{C}}$
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100 Contemport	
99648211-61	
99698911-01	-
	1
9964PS (1-3) V 72 8/3/11 ES A	Jo yus DI: BUP M
(19(64)(6(1-2))) = (1-2)(1-2)	
	tes -
19621 100 1 C	
996518 (1-9/ V V A MOG 539191 =1 =2 UB/05/4 MM	Yes -
006330137 =	
09654011-91	
9965411-8,10/	
096573 V V 996577/1355 21 22 08/08/11 M.M	Ves -
9965 #1 13B 21 V	
9965 13 14 J 22 08/09/11 N.M.	Xes -
0963-011-2	
01660011,3-67	
09660211-51	
996603(1-7)	
m1+20 () / / / / // // //	Ves
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	No 440 3:30
(21(1-8))	
	V V
996647(1-3) 61 72 8/10/11 ES	NO 4100 11:000.
996644 (1-4)	
99664911-91 21 22 8/10/11 MM	Yes -
99665014-9	
	NO W 23:00 PM
1 1 1 2 8 10 11 E	
996671/1-51 -1 <2 BIII/01 M-M	Yes -
Day PT91 Balant I	
1966941+94121 22 8/12/11 M.M	Jes -
99669511-71	
99669611-31 V	
0667201061	Ves TTLC
996679/LST Sola - 8/12/11 M.N	Yes TTLC
1966 80 <u>-</u>	
696 44 10-41 1 C2 1110/11 10.M	Vez -
	/yes =
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9967781-11 + 11 + 11 + 11 + 11 + 11 + 11 + 11	

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Sample Integrity & Analysis Discrepancy Form

Clie	ent: <u>EL</u>	Lab # <u>996 48</u> 7
Dat	e Delivered: 08112/11 Time: 21:30 By: 🗆 Mail & F	ield Service
1.	Was a Chain of Custody received and signed?	QKYes ⊡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
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ¤N/A
5.	Were all requested analyses understood and acceptable?	∕¤Yes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>⊰. € C</u>	∕¤(Yes ⊡No ⊡N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	XYes INO INA
9.	Were sample custody seals intact?	□Yes □No ZÍN/A
9.	Does the number of samples received agree with COC?	PYes □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: □ Truesdall □Client	□Yes □No ØANA
12.	Were samples pH checked? $pH = \underbrace{eee}_{eee} \mathcal{C} \cdot \mathcal{C}$	JafYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	.&Yes ⊡No ⊡N/A
'4.	Have Project due dates been checked and accepted? Turn Around Time (TAT): RUSH	Yes DNo DN/A
5.	Sample Matrix: Liquid Drinking Water Ground V Sludge Soil Wipe Paint Solid	Vater Waste Water Other <u>Water</u>
6.	Comments:	
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	Luda

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

August 24, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-321 PROJECT, GROUNDWATER MONIFORING, TLI NO.: 996652

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-321 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 August 9, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-321 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

Hickory

Michael Ngo Quality Assurance/Quality Control Officer

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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.: 996652 Date: August 24, 2011 Collected: August 9, 2011 Received: August 9, 2011

ANALYST LIST

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

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Laboratory No.: 996652 Date Received: August 9, 2011

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

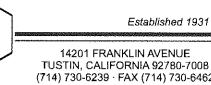
		Analysis	Extraction		Sample				
Lab Sample ID	Field ID	Method	Method	Sample Date	Time	Parameter	Result	Units	RL
996652-001	SC-700B-WDR-321	E120.1	NONE	8/9/2011	13:30	EC	7190	umhos/cm	2.00
996652-001	SC-700B-WDR-321	E200.8	NONE	8/9/2011	13:30	Chromium	ND	ug/L	1.0
996652-001	SC-700B-WDR-321	E200.8	NONE	8/9/2011	13:30	Manganese	1.6	ug/L	1.0
996652-001	SC-700B-WDR-321	E218.6	LABFLT	8/9/2011	13:30	Chromium, hexavalent	ND	ug/L	0.20
996652-001	SC-700B-WDR-321	SM2130B	NONE	8/9/2011	13:30	Turbidity	0.184	NTU	0.10
996652-001	SC-700B-WDR-321	SM2540C	NONE	8/9/2011	13:30	Total Dissolved Solids	4120	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING



Laboratory No. 996652

REPORT

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

Printed 8/24/2011

Page 1 of 8

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 424973.01.DM Project Number: 424973.01.DM

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

Field ID				Lab ID	Col	lected	Matri	x		
SC-700B-WDR-321				996652-001	08/09	/2011 13:30	Wate	er		
Specific Conductivity - E	EPA 120.1	Batch 08EC11C				8/10/2011				
Parameter	ter U			ilyzed	DF	MDL	RL	Result		
996652-001 Specific Conduc	tivity	umhos/	/cm 08/10)/2011	1.00	0.0380	0.0380 2.00			
Method Blank										
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					996652-001		
Duplicate	11	DE	Decult	Eveneted		RPD				
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7180	Expected 7190	r	0.139	0 - 10	nce Range		
Parameter Specific Conductivity MRCCS - Secondary	Unit umhoร	DF 1.00	Result 705	Expected 706	•		Accepta 90 - 110	nce Range		
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 704	Expected 706	F	Recovery 99.7	Accepta 90 - 110	nce Range		
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 982	Expected 998	F	Recovery 98.4	Accepta 90 - 110	nce Range		

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 2 of 8 Printed 8/24/2011

Chrome VI by EPA 218.6	i .		Batch	08CrH11M				
Parameter	1	Unit	Anal	lyzed	DF	MDL	RL	Result
996652-001 Chromium, Hexa	avalent	ug/L	08/10	/2011 09:15	1.05	0.0260	0.20	ND
Method Blank								
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result ND					
Duplicate							Lab ID =	996602-002
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 2.76	Expected 2.75		RPD 0.254	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.08	Expected 5.00		Recovery 102.	90 - 110	ance Range) 996601-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.88	Expected/Add 8.75(5.30)	led	Recovery 102.	90 - 11	ance Range) 996602-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.12	Expected/Add 1.11(1.06)	ded	Recovery 102.	90 - 11	ance Range 0 996602-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.10	Expected/Add 8.05(5.30)	ded	Recovery 101	90 - 11	ance Range D 996602-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.68	Expected/Add 1.65(1.06)	led	Recovery 104.	90 - 11	ance Range 0 • 996602-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.53	Expected/Add 1.49(1.06)	ded	Recovery 104.	90 - 11	ance Range 0 • 996602-005
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.53	Expected/Add 1.58(1.06)	ded	Recovery 94.5	90 - 11	ance Range 0 • 996602-006
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.14	Expected/Add 1.12(1.06)	ded	Recovery 101.	Accept 90 - 11	ance Range 0

Report Continued

Client: E2 Consulting En	gineers, Inc		oject Name: oject Numbei	PG&E Topock Pro : 424973.01.DM	ject	Page 3 of 8 Printed 8/24/2011
Matrix Spike						Lab ID = 996649-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 6.59	Expected/Added 6.48(5.30)	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 996649-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 2.05	Expected/Added 2.02(1.06)	Recovery 103.	Acceptance Range 90 - 110 Lab ID = 996649-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1,96	Expected/Added 1.96(1.06)	Recovery 100.	Acceptance Range 90 - 110 Lab ID = 996649-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 6.58	Expected/Added 6.49(5.30)	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 996649-005
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.74	Expected/Added 8.62(5.30)	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 996649-006
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 6.68	Expected/Added 6.47(5.30)	Recovery 104.	Acceptance Range 90 - 110 Lab ID = 996649-007
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 2.00	Expected/Added 1.96(1.06)	Recovery 104.	Acceptance Range 90 - 110 Lab ID = 996649-008
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 2.00	Expected/Added 1.99(1.06)	Recovery 101.	Acceptance Range 90 - 110 Lab ID = 996649-009
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.92	Expected/Added 8.79(5.30)	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 996649-010
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.15	Expected/Added 1.13(1.06)	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 996652-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.45	Expected/Added 5.46(5.25)	Recovery 99.7	Acceptance Range 90 - 110 Lab ID = 996652-001
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1,21	Expected/Added 1.18(1.06)	Recovery 103.	Acceptance Range 90 - 110

Report Continued

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 5 of 8 Project Number: 424973.01.DM Printed 8/24/2011

Metals by EPA 200.8, Tota	al		Batch	08171 1 A				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
996652-001 Chromium		ug/L	08/17	/2011 16:37 5	5.00	0.0550	1.0	ND
Manganese		ug/L	08/17	/2011 16:37	5.00	0.980	1.0	1.6
Method Blank								
Parameter Chromium	Unit ug/L	DF 1.00	Result ND					
Manganese Duplicate	ug/L	1.00	ND				Lab ID =	996652-001
Parameter Chromium Manganese	Unit ug/L ug/L	DF 5,00 5.00	Result ND 1.58	Expected 0.00 1.56	I	RPD 0 0.957	Accepta 0 - 20 0 - 20	ance Range
Lab Control Sample								
Parameter Chromium Manganese Matrix Spike	Unit ug/L ug/L	DF 1.00 1.00	Result 50.5 51.0	Expected 50.0 50.0	1	Recovery 101. 102 <i>.</i>	85 - 11 85 - 11	
Parameter Chromium Manganese Matrix Spike Duplicate	Unit ug/L ug/L	DF 5.00 5.00	Result 257. 263	Expected/Add 250.(250.) 252.(250.)	ed	Recovery 103. 104.	75 - 12 75 - 12	
Parameter Chromium Manganese MRCCS - Secondary	Unit ug/L ug/L	DF 1.00 1.00	Result 255. 263.	Expected/Add 250.(250.) 252.(250.)	ed	Recovery 102. 105.	Accept 75 - 12 75 - 12	
Parameter Chromium Manganese MRCVS - Primary	Unit ug/L ug/L	DF 1.00 1.00	Result 51.3 53.2	Expected 50.0 50.0		Recovery 103. 106.	Accept 90 - 11 90 - 11	
Parameter Chromium MRCVS - Primary	Unit ug/L	DF 1.00	Result 49.4	Expected 50.0		Recovery 98.9	Accept 90 - 11	ance Range 0
Parameter Chromium	Unit ug/L	DF 1.00	Result 49.8	Expected 50.0		Recovery 99.6	Accept 90 - 11	ance Range 0

Report Continued

Client: E2 Consulting Eng	jineers, In		oject Name: oject Numbe	PG&E Topo r: 424973.01.E	•	ot	Pa Printed 8/	age 7 of 8 24/2011
Interference Check Sta	andard AB							
Parameter Manganese Interference Check Sta	Unit ug/L andard AB	DF 1.00	Result 52.4	Expected 50.0	F	Recovery 105.	Acceptance Range 80 - 120	
Parameter Manganese	Unit ug/L	DF 1.00	Result 53.1	Expected 50.0	F	Recovery 106.	Accepta 80 - 120	nce Range
Total Dissolved Solids b	y SM 254	0 C	Batch	08TDS11H			8/12/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
996652-001 Total Dissolved S	Solids	mg/L	08/12	/2011	1.00	0.434	125	4120
Method Blank								
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID = 9	996694-011
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 376	Expected 368	F	RPD 2.15	Accepta 0 - 5	nce Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 498	Expected 500.	F	Recovery 99.6	Accepta 90 - 110	nce Range
Turbidity by SM 2130 B			Batch	08TUC11F			8/10/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
996652-001 Turbidity		NTU	08/10	/2011	1.00	0.0140	0.100	0.184
Method Blank								
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID =	996652-001
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result 0.185	Expected 0.184	F	₹PD 0.542		
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.65	Expected 8.00	F	Recovery 95.6	Acceptance Ran 90 - 110	
Lab Control Sample D	uplicate							
Parameter Turbidity	Unit NTU	DF 1.00	Result 7.72	Expected 8.00	F	Recovery 96.5	Accepta 90 - 110	nce Range

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



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 8 of 8 Printed 8/24/2011

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch:	08TDS11H
Date Calculated:	8/15/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	73.0152	73.0155	73.0153	0.0002	No	0.0001	1.0	25.0	ND	1
996694-1	50	66.8117	66,8469	66.8469	0.0000	No	0.0352	704.0	50.0	704.0	1
996694-2	20	73.0050	73,064	73,0639	0.0001	No	0,0589	2945.0	125.0	2945.0	1
996694-3	20 [.]	49.2656	49,3427	49.3423	0.0004	No	0.0767	3835.0	125.0	3835.0	1
996694-4	20	47.9643	48.041	48.0406	0.0004	No	0.0763	3815.0	125.0	3815.0	1
996694-5	50	74.7548	74.8337	74.8337	0.0000	No	0.0789	1578.0	50.0	1578.0	1
996694-6	50	73.1401	73.2102	73.21	0.0002	No	0.0699	1398.0	50.0	1398,0	1
996694-7	50	68.6089	68.6532	68.6532	0.0000	No	0.0443	886.0	50.0	886.0	1
996694-9	50	67.7394	67.8025	67.8025	0.0000	No	0.0631	1262.0	50.0	1262,0	1
996694-10	100	110.9547	110.9921	110.9921	0.0000	Na	0.0374	374.0	25.0	374.0	1
996694-11	100	105.3571	105.394	105.3939	0.0001	No	0.0368	368.0	25.0	368.0	1
996694-11D	100	104.8958	104.9334	104.9334	0.0000	No	0.0376	376.0	25.0	376.0	1
LCS	100	109.4438	109.4937	109.4936	0.0001	No	0.0498	498.0	25.0	498.0	1
996695-1	20	47.9679	48.0196	48.0196	0.0000	No	0.0517	2585.0	125.0	2585.0	1
996695-2	50	73.5051	73.6147	73.6145	0.0002	No	0.1094	2188.0	50.0	2188.0	1
996695-3	100	105.2909	105.3203	105.3202	0.0001	No	0.0293	293.0	25.0	293.0	1
996695-4	100	78.3856	78.4207	78.4205	0.0002	No	0.0349	349.0	25.0	349.0	1
996695-5	100	72.5137	72.5484	72.5484	0.0000	No	0.0347	347.0	25.0	347.0	1
996695-6	100	68.1678	68.2047	68.2047	0.0000	No	0.0369	369.0	25,0	369.0	1
996695-7	100	112.1752	112.2205	112.2203	0.0002	No	0.0451	451.0	25.0	451.0	1
996652	20	75.7702	75.8527	75.8527	0.0000	No	0.0825	4125.0	125.0	4125.0	1
996594-2	200	105.6356	105.6534	105.6534	0.0000	No	0.0178	89.0	12.5	89.0	1
996594-4	100	74.7036	74.7309	74 7307	0.0002	No	0.0271	271.0	25.0	271.0	1
LCSD											1

Calculation as follows:

Æ

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

Ø

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

B = weight of dish in grams.

C = mL of sample filtered.

* COC Signed

RL= reporting limit.

ND = not detected (below the reporting limit)

st Printed Name An

Analyst Signature

Reviewer Printed Name

Reviewer Signature

WelChem TDS_0810.xis

TDS/EC CHECK

Batch: 08TDS11H

Date Calculated: 8/15/11

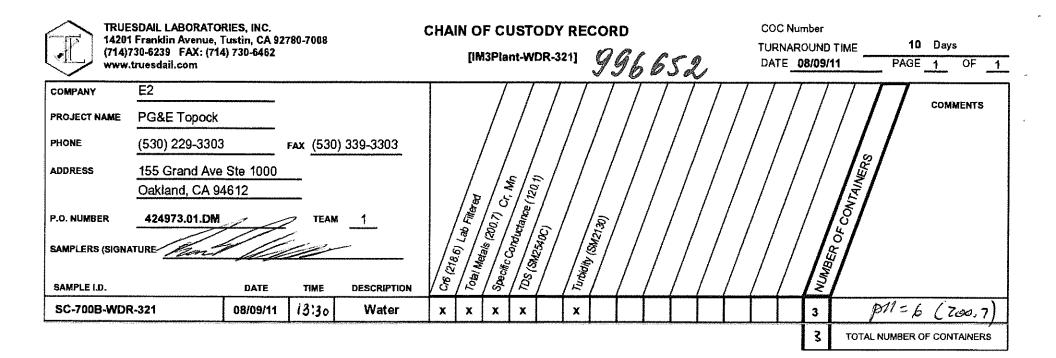
Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3	
996694-1	1204	0.58	782.6	0.90	
996694-2	4360	0.68	2834	1.04	
996694-3	5470	0.70	3555.5	1.08	
996694-4	5480	0.70	3562	1.07	
996694-5	2410	0.65	1566.5	1.01	
996694-6	2250	0.62	1462.5	0.96	
996694-7	1550	0.57	1007.5	0.88	
996694-9	1880	0.67	1222	1.03	
996694-10	632	0.59	410.8	0.91	
996694-11	630	0.58	409.5	0.90	
996694-11D	630	0.60	409.5	0.92	
LCS					
996695-1	4060	0.64	2639	0.98	
996695-2	3280	0.67	2132	1.03	
996695-3	532	0.55	345.8	0.85	
996695-4	596	0.59	387.4	0.90	
996695-5	577	0.60	375.05	0.93	
996695-6	617	0.60	401.05	0.92	
996695-7	745	0.61	484.25	0.93	
996652	7190	0.57	4673.5	0.88	
996594-2	173	0.51	112.45 i	0,79	
996594-4	498	0.54	323.7	0.84	



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10 Jan





For Sample Conditions See Form Attached

		HAIN OF CUSTODY SI	SAMPLE CONDITIONS		
	Signature (Relinquished)	Printed Name HOR FHE	Company/ Agency	Date/ 8911 Time 700	
	Signature (Received) Katal Ony	Printed Brafal	Agency T. LT	Date/ 8 - 9 - 1/ Time	CUSTODY SEALED YES 🗖 NO 🗗
	Signature (Relinquished)	Printed Kafal	Company/ Agency T_L I	Date/ 8 9-11	, SPECIAL REQUIREMENTS:
-	Signature (Received)	Printed Name Suibeuut	Company/ TLF LAgency TLF	Date/ Times/9/11 21:20	
4	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 Num		Initia	al pH	1	Added (mL)		al pH		Buffered	Initials
<u>osliolii</u>	996650-	5	9,	5		<u> </u>	N	/A	N	/A	SB
		6									1
		7									
		8.9									
		.9									
	₩ ~.	10	ų	7		4	×	ļ	ંગ	y .	Ŷ
08/10/11	996651 -	1	9.1	5	N	A	N	A	N/	Ά	SB
		2							<u> </u>		Î
		4									
		5									1
		6				х.					
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. Ar	10 -1	1	١			J∕	<u> </u>	6	<u> </u>	4	4
18/10/11	996652		7.0		5.00		9.5		8:30		8B
							•				
			,								
											-
						1					

ali

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

Turbidity/pH Check

Turbidity/pH Check										
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)				
	21	72	8/2/11	ES	No	45 a 11:30 a.m				
996418(124	<u> </u>	12	L	J.						
996419(1-8)		72	08/03/11	M.M	Yes					
996457	<u> < 1</u>	-24	00/05/11	1		~				
996458		<u>├──</u>	<u>├</u>							
996481	ļ		<u> </u>							
9964821-8		22	┝───┟────┤		+					
996483 M-S	/	ļ	↓↓↓		<u>+</u>					
99648411-61			<u> </u>							
99648511-31						111 ali 2010 m				
(191,114, (1-7)	41	72	8311	ES	NO	yus DI: DUP-M				
991 48711-2		V								
996517 168	10 21	<2	08/04/11	M.M.	yes					
996518 1-9		,V			Ľ.					
446310 1º 9	1 .	L2	08/05/4	MM	Yes					
00602019	<u> </u>					-				
976540 [1-9]		+		1						
996541 11-8,11	<u> </u>	+		1						
096515		- V2-	08/08/11	M.M	Ves	-				
996577 13		- 22	00000	, il						
99657514-:			08/09/11	N.M.	Xes					
09659961-	2 -1	22	0810711			-				
99660011,3-6	5/					-				
9:1660111-3	4									
696602 11-51				+						
99660311-7		¥			1100					
AU538-1	<u> </u>	<u> ~2</u>	8/5/11	KK	yes	44 a 3:30				
991,620(1-	$) \underline{i}$	72	8/9/11	ES	No	- go - 3. 70				
621(1-8	1 1	4								
(022(1-				<u> </u>						
996 59411-7	4) 41	32		V		V V				
99(1,47 (1-7		72	8/10/11	ES	NO	yusa 11:000.				
996644 (1-		1		·						
9966466										
99664911	-9) 21	- 2	8/10/11	MM	Yes					
1 106711		<u></u>								
99665011				V	V	-				
9366514	9,01 V	72	81011	FS	No	44 23:00 pm				
996652		22	8/11/11	(Yes	·				
996671/	· · · · · · · · · · · · · · · · · · ·		01111		- L	-				
09667211			8/12/11	M.M.	1 yes	·				
	194121	2%	0/10/11			-				
39669511-	7/1'									
99669611-	-31 V	<u> </u>	$-+-\nu$	-+ <u>+</u>						
996 7201	1-6/ 1/		V	II M.A	1 Jes	TTLE				
99667914	-51 So Cil	<u>(</u>	3/12/	11 <u>M.M</u>	- re-					
196680	1									
99671411	-4 11	-	V							
996 241 4	-4/ 21	<2	8/16/		M Ves					
996 1 11	1-8/ -1	T	8/17/1	1 <u>M.1</u>	v / yes					
	1-11		V.	V	<u> </u>					
996795		X								
7704 13	Y				•	:				

I

Sample Integrity & Analysis Discrepancy Form

Cl	lient: <u>E2</u>	Lab #	<u>996652</u>
De	ate Delivered: <u>0</u> 8/ <u>09</u> /11 Time: <u>2/:30</u> By: □Mail ⊠F	leid Service	□ <i>Client</i>
1.	Was a Chain of Custody received and signed?	,¤(Yes ⊡No	
2.	Does Customer require an acknowledgement of the COC?	□Yes □No	
3.	Are there any special requirements or notes on the COC?	□Yes □No	
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?	ØYes □No	ÓN/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>4°C</u>	¢QYes ⊡No	
7.	Were samples received Intact (i.e. broken bottles, leaks, air bubbles, etc)?	ØYes □No	
8.	Were sample custody seals intact?	□Yes □No	ANA
9	Does the number of samples received agree with COC?	QYes DNo	
10.	Did sample labels correspond with the client ID's?		
11.	Did sample labeis indicate proper preservation? Preserved (if yes) by: □ Truesda ll □Client	□Yes □No	MN/A
12.	Were samples pH checked? pH = <u></u> C. O. C.	, ☐ Yes □No	
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	ÆYes □No	
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): D RUSH (A Std	□Yes □No	
15.	Sample Matrix: Liquid Drinking Water DGround W	ater DWaste	Water
	□Sludge □Soil □Wipe □Paint □Solid 🖄 O	ther <u>Wafe</u>	<u>"R</u>
6.	Comments:		
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	Suda	

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

September 12, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-322 PROJECT, GROUNDWATER MONITORING, TLI NO.: 996740

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-322 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 August 15, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

Alichael

Michael Ngo Quality Assurance/Quality Control Officer

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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.: 996740 Date: September 1, 2011 Collected: August 15, 2011 Received: August 15, 2011

ANALYST LIST

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

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

Laboratory No.: 996740 Date Received: August 15, 2011

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
									0.00
996740-001	SC-700B-WDR-322	E120.1	NONE	8/15/2011	6:00	EC	6930	umhos/cm	2.00
996740-001	SC-700B-WDR-322	E200.8	NONE	8/15/2011	6:00	Chromium	ND	ug/L	1.0
996740-001	SC-700B-WDR-322	E200.8	NONE	8/15/2011	6:00	Manganese	1.9	ug/L	1.0
996740-001	SC-700B-WDR-322	E218.6	LABFLT	8/15/2011	6:00	Chromium, hexavalent	ND	ug/L	0.20
996740-001	SC-700B-WDR-322	SM2130B	NONE	8/15/2011	6:00	Turbidity	ND	NTU	0.100
996740-001	SC-700B-WDR-322	SM2540C	NONE	8/15/2011	6:00	Total Dissolved Solids	4020	mg/L	125

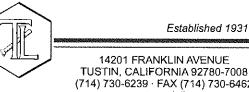
ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING

Project Number: 424973.01.DM



Report

(714) 73

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

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 424973.01.DM Laboratory No. 996740 Page 1 of 6 Printed 9/12/2011

Samples Received on 8/15/2011 9:30:00 PM

Field ID				Lab ID	Col	lected	Mati	ix
SC-700B-WDR-322			<u>.</u>	996740-001	08/15/2011 06:00		Wat	er
Specific Conductivity - E	PA 120.1		Batch	08EC11E			8/16/201	l east
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
996740-001 Specific Conduct	ivity	umhos/	cm 08/16	5/2011	1.00	0.0380	2.00	6930
Method Blank		·····	. <u></u>	·····			·········	
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	996740-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 6920	Expected 6930	F	RPD 0.144	Accepta 0 - 10	ince Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 703	Expected 706	Recovery 99.6		Acceptance Range 90 - 110	
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 696	Expected 706	F	ecovery 98.6	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 980.	Expected 998	F	lecovery 98.2	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

Page 2 of 6 Printed 9/12/2011

Chrome VI by EPA 218.0	6 . 10 state		Batch	08CrH11U		
Parameter	54 - 1 1 5 4 5 	Unit	Ana	alyzed [DF M	DL RL Result
996740-001 Chromium, Hex	avalent	ug/L	08/16	5/2011 09:18 1	05 0.026	50 0.20 ND
Method Blank					······	n ann ann ab 2004 i conn an ann an ann an ann an ann ann ann
Parameter	Unit	DF	Result			
Chromium, Hexavalent Duplicate	ug/L	1.00	ND			Lab ID = 996741-002
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent Lab Control Sample	ug/L	1.05	1.49	1.47	1,28	0 - 20
Parameter	Unit	DF	Result	Expected	Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.00	5.00	100.	90 - 110
Matrix Spike						Lab ID = 996671-001
Parameter	Unit	DF	Result	Expected/Adde	d Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.40	1.42(1.06)	99.0	90 - 110
Matrix Spike						Lab ID = 996671-002
Parameter	Unit	DF	Result	Expected/Adde	d Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.22	1.23(1.06)	98.6	90 - 110
Matrix Spike						Lab ID = 996671-003
Parameter	Unit	DF	Result	Expected/Adde	d Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.20	1.22(1.06)	98.0	90 - 110
Matrix Spike						Lab ID = 996671-006
Parameter	Unit	DF	Result	Expected/Adde	d Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1,10	1.14(1.06)	95.7	90 - 110
Matrix Spike						Lab ID = 996672-008
Parameter	Unit	DF	Result	Expected/Adde	d Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1,17	1.15(1.06)	101.	90 - 110
Matrix Spike						Lab ID = 996672-009
Parameter	Unit	DF	Result	Expected/Adde	d Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.06	18.7	18.8(10.6)	99.2	90 - 110
Matrix Spike						Lab ID = 996672-010
Parameter	Unit	DF	Result	Expected/Addee	d Recover	y Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.14	1.13(1.06)	101.	90 - 110

Report Continued

Client: E2 Consulting Eng	ineers, Ind		oject Name: oject Numbe	PG&E Topock Pro r: 424973.01.DM	oject	Page 3 of 6 Printed 9/12/2011	
Matrix Spike						Lab ID = 996740-001	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.22	Expected/Added 1.22(1.06)	Recovery 100.	Acceptance Range 90 - 110	
Matrix Spike						Lab ID = 996741-001	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 6.63	Expected/Added 6.62(5.30)	Recovery 100.	Acceptance Range 90 - 110	
Matrix Spike						Lab ID = 996741-002	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 6.82	Expected/Added 6.77(5.30)	Recovery 101.	Acceptance Range 90 - 110	
Matrix Spike						Lab ID = 996741-003	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 6.98	Expected/Added 7.04(5.30)	Recovery 98.9	Acceptance Range 90 - 110	
Matrix Spike						Lab ID = 996741-004	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.19	Expected/Added 1.18(1.06)	Recovery 101.	Acceptance Range 90 - 110	
Matrix Spike						Lab ID = 996741-005	
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.14	Expected/Added 1.14(1.06)	Recovery 100.	Acceptance Range 90 - 110	
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range	
Chromium, Hexavalent MRCVS - Primary	ug/L	1.00	4.97	5.00	99.4	90 - 110	
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range	
Chromium, Hexavalent MRCVS - Primary	ug/L	1.00	10.2	10.0	102.	95 - 105	
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range	
Chromium, Hexavalent MRCVS - Primary	ug/L	1.00	10.2	10.0	102.	95 - 105	
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range	
Chromium, Hexavalent MRCVS - Primary	ug/L	1.00	10.2	10.0	102.	95 - 105	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.1	Expected 10.0	Recovery 101.	Acceptance Range 95 - 105	

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

Page 4 of 6 Printed 9/12/2011

Metals by EPA 200.8, T		Batch	090911A				
Parameter	- <u>.</u>	Unit	Ana	lyzed D	F MDL	RL	Result
996740-001 Chromium		ug/L	09/09)/2011 17:53 5.	00 0.110	1.0	ND
Manganese		ug/L	09/09)/2011 17:53 5.	00 0.285	1.0	1.9
Method Blank				· · · · · · · · · · · · · · · · · · ·	······································		
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab ID =	996740-00
Parameter	Unit	DF	Result	Expected	RPD	Accepta	ance Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20	5
Manganese	ug/L	5.00	1.92	1.94	1.27	0 - 20	
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ance Range
Chromium	ug/L	1.00	45.4	50.0	90.8	85 - 115	—
Manganese	ug/L	1.00	48.3	50.0	96.6	85 - 115	5
Matrix Spike						Lab ID =	996740-00 ⁷
Parameter	Unit	DF	Result	Expected/Addec	Recovery	Accepta	ince Range
Chromium	ug/L	5,00	232.	250.(250.)	93.0	75 - 125	-
Manganese	ug/L	5.00	238.	252.(250,)	94.6	75 - 125	5
Matrix Spike Duplica	ite					Lab ID =	996740-00
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	ance Range
Chromium	ug/L	5.00	222.	250.(250.)	88.8	75 - 125	-
Manganese	ug/L	5.00	231.	252.(250.)	91.5	75 - 125	5
MRCCS - Secondary	/						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Chromium	ug/L	1.00	45.3	50.0	90.7	90 - 110	-
Manganese	ug/L	1.00	46.9	50.0	93.7	90 - 110)
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Chromium	ug/L	1.00	48.5	50.0	97.0	90 - 110	0
Manganese	ug/L	1.00	49.8	50.0	99.6	90 - 110	}
Interference Check S	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	ince Range
Chromium	ug/L	1.00	ND	0.00	·····		

Report Continued

Client: E2 Consulting Er	ngineers, Ind		roject Name: roject Numbe	PG&E Topo r: 424973.01.[Page 5 of 6 Printed 9/12/2011
Interference Check S	Standard A					
Parameter Chromium Interference Check S	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Manganese Interference Check S	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Manganese Interference Check S	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Parameter Chromium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 47.4	Expected 50.0	Recovery 94.8	Acceptance Range 80 - 120
Parameter Chromium Interference Check S	Unit ug/L Standard AB	DF 1.00	Result 48.1	Expected 50.0	Recovery 96.2	Acceptance Range 80 - 120
Parameter Manganese Interference Check S	Unit ug/L standard AB	DF 1.00	Result 48.9	Expected 50.0	Recovery 97.8	Acceptance Range 80 - 120
Parameter Manganese	Unit ug/L	DF 1.00	Result 50.6	Expected 50.0	Recovery 101.	Acceptance Range 80 - 120
Total Dissolved Solids	by SM 2540) C	Batch	08TDS11K		8/17/2011
Parameter		Unit	Anal	yzed	DF MDL	RL Result
996740-001 Total Dissolved	Solids	mg/L	08/17	/2011	1.00 0.434	125 4020
Method Blank						
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND			Lab ID = 996740-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 3960	Expected 4020	RPD 1.50	Acceptance Range 0 - 5
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 520.	Expected 500.	Recovery 104	Acceptance Range 90 - 110

Report Continued

Client: E2 Consulting En		oject Name: oject Numbe	Page 6 of 6 Printed 9/12/2011					
Turbidity by SM 2130 B		Batch 08TUC11G					8/16/2011	
Parameter		Unit	Analyzed			MDL	RL	Result
996740-001 Turbidity	·	NTU	08/16	6/2011	1.00	0.0140	0.100	ND
Method Blank								
Parameter	Unit	DF	Result					
Turbidity	NTU	1.00	ND					
Duplicate							Lab ID =	996740-001
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	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.83	8.00		97.9	90 - 110	-
Lab Control Sample	Duplicate							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Turbidity	NTU	1.00	7.90	8.00		98.8	90 - 110	

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

) en (f-- Mona Nassimi

 Mona Nassimi Manager, Analytical Services

E2 Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch:	08TDS11K
Date Calculated:	8/18/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2πd 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	68.5356	68.5358	68.5356	0.0002	No	0.0000	0.0	25.0	ND	1
996732-1	865	111.3979	111.4004	111.4	0.0004	No	0.0021	2.4	2.9	ND	1
996732-2	200	110.6534	110.6661	110.6661	0.0000	No	0.0127	63.5	12.5	63.5	1
996732-3	750	112.8995	112.9003	112.9001	0.0002	No	0.0006	0.8	3.3	ND	1
996734-2	200	112,9783	112.9973	112.9972	0.0001	No	0.0189	94.5	12,5	94,5	1
996734-4	100	76.5503	76.5834	76.583	0.0004	No	0.0327	327.0	25.0	327.0	1
996740	20	49.3818	49.4627	49.4623	0.0004	No	0.0805	4025.0	125.0	4025.0	1
996741-1	50	50.9471	51.0053	51.0052	0.0001	No	0.0581	1162.0	50.0	1162.0	1
996741-2	50	49.8347	49.885	49.8846	0.0004	No	0.0499	998.0	50.0	998.0	1
996741-3	100	74.2302	74.2779	74.2775	0.0004	No	0.0473	473.0	25.0	473.0	1
996741-4	100	72.8236	72.8579	72.8579	0.0000	No	0.0343	343.0	25.0	343.0	1
996740DUP	20	50.4125	50.4918	50.4917	0.0001	No	0.0792	3960.0	125.0	3960.0	1
LCS	100	67.6219	67.6739	67.6739	0.0000	No	0.0520	520.0	25.0	520.0	1
996777-1	50	48.1859	48.2545	48.2545	0.0000	No	0.0686	1372.0	50.0	1372.0	1
996777-2	50	47.9095	47.949	47,9487	0.0003	No	0.0392	784.0	50.0	784.0	1
996777-3	50	47.6195	47.6624	47.662	0.0004	No	0.0425	850.0	50.0	850.0	1
996777-4	100	65.6088	65.6592	65.6592	· 0.0 0 00	No	0.0504	504.0	25.0	504.0	1
996777-5	100	69.7568	69.78	69.78	0.0000	No	0.0232	232.0	25.0	232.0	1
996777-6	50	51.1663	51.2371	51.2371	0.0000	No	0.0708	1416.0	50.0	1416.0	1
996777-7	50	50.3842	50.4592	50.4592	0.0000	No	0.0750	1500.0	50.0	1500.0	1
996777-8	100	65.9517	66.006	66.0058	0.0002	No	0.0541	541.0	25.0	541.0	1
LCSD ,	· · · · · · · · · · · · · · · · · · ·			2							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)

nted Nanje Analyst

Analyst Sign

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 08TDS11K Date Calculated: 8/18/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Caic TDS <1.3	
0000000 4					
996732-1	0.639	ND	0.41535	ND	
996732-2	90.1	0.70	58.565	1.08	
996732-3	1.39	ND	0.9035	ND	
996734-2	172	0.55	111.8	0.85	
996734-4	513	0.64	333.45	0.98	
996740	6930	0.58	4504.5	0.89	
996741-1	1895	0,61	1231.75	0.94	
996741-2	1630	0.61	1059.5	0.94	
996741-3	736	0.64	478.4	0.99	
996741-4	522	0.66	339.3	1.01	
996740DUP	6930	0.57	4504.5	0,88	
LCS					
996777-1	2190	0.63	1423.5	0.96	
996777-2	1330	0.59	864.5	0.91	
996777-3	1290	0.66	838.5	1.01	
996777-4	862	0.58	560.3	0,90	
996777-5	412	0.56	267.8	0.87	
996777-6	2070	0.68	1345.5	1.05	
996777-7	2290	. 0.66	1488.5	1.01	
996777-8	895	0.60	581.75	0.93	
······					



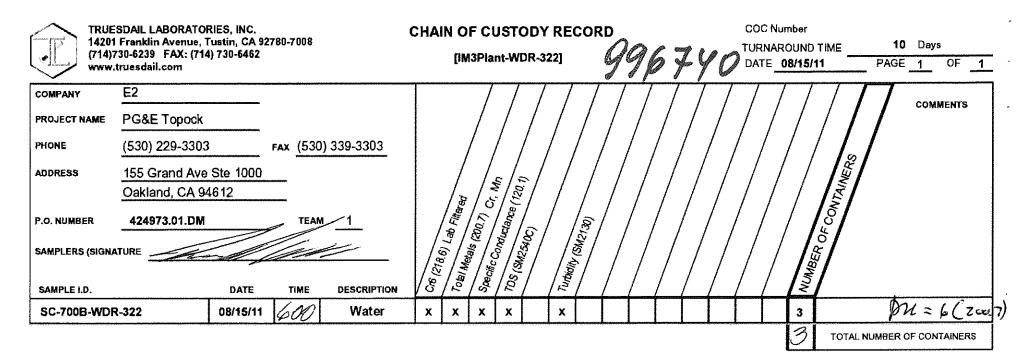
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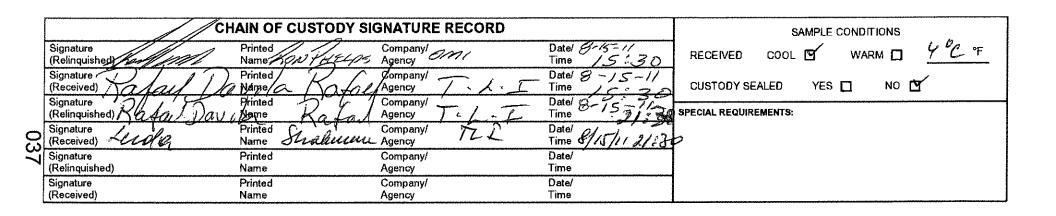
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For Sample Conditions See Form Attached



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Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)		Time Buffered	Initials
08/15/11	996740	9.5	N/A	NA	NA	SB
<u>os/16/((</u>	996 FUI-1	9,5	NA	NA	NA	SB
	-2			i		1
	-3					
	-4					
1	+ -5	1 A		1	J.	i la
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C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

Turbidity/pH Check

			rbiaity/pri C			
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to
996 81011-21	£ 1	22		M.M.	Yes	pH<2 (Y/N)
99681111-34	~ /	<u> </u>	8/18/11		783	
99681211-4/						
996813 1-131						
996740	4	72	glight	*	4 Ca	
996 835 [1-2]	21	62	811914	ESMM	Nes	41 a 2:00 pm
696 836 11-41	$-\frac{-i}{i}$		8/19/0	MN	123	
001 837				<u> </u>		
996838 11-21						
QQ683911-51						
98679911-31	Solid	<u>v</u>	8/19/11	M.M	¥03	TRICITIS
99682411-51	Solil				15	TTLC/STLS
9968531-11	< 1	- 2	8/22/1	M. M	Yes	
146859	21	+2	8/22/11	WK.	No	VRS @ 1 pm
99689311-91	Solid	<u> </u>	2/22/11	M.M	Vec	Ves@1pm
99684211-31	Lignill		8/23/11	Min		
0969502	sblid	81	8125111	<u> </u>	Yes	TTLC
096951-2	2 2 C	Z2	8125/11	MIM	yes	
996948-	F f	T	0.000111			~
956913-146						
99693412-10	122	22	8/26/4	MM	Ver	
996941	<u></u>	~	0 12-2/11		<u> </u>	
796993-1-1	1 Solid	~	08/29/0	11 DA	Yee	TTHE
996912	21	72	8/29/11	ии ES	Yes No	TTLC yus a 3:00 p.m
				<u>v</u>		
<u></u>			·			······································
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Sample Integrity & Analysis Discrepancy Form

Cl	lient: <u>E2</u>	Lab #6440
De	ate Delivered: <u>08/_/5</u> 711 Time: <u>2/:30</u> By: □Mail ØF	Field Service DClient
1.	Was a Chain of Custody received and signed?	XYes INO IN/A
2.	Does Customer require an acknowledgement of the COC?	UYes UNO KINA
3.	Are there any special requirements or notes on the COC?	□Yes □No ØN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ØN/A
5.	Were all requested analyses understood and acceptable?	⊠ÍYes ⊡No ÚN/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>4 °C</u>	ØLYes DNo DN/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	₽Yes □No □N/A
8.	Were sample custody seals intact?	QYes QNo QNA
9.	Does the number of samples received agree with COC?	
10.	Did sample labels correspond with the client ID's	No DNA
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	EXTES ONO DANA
12.	Were samples pH checked? pH = <u>Ste</u> C. O. C.	AYes INO IN/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	QYes ONO ON/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): RUSH Ø Std	Q ^r Yes □No □N/A
15.	Sample Matrix: Liquid Drinking Water DGround W	
	□Sludge □Soil □Wipe □Paint □Solid ऄd	other <u>Water</u>
16.	Comments:	
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	, decala

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EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

August 30, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-322B PROJECT, GROUNDWATER MONITORING, TLI NO.: 996859

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-322B 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 August 19, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-322B for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi Manager, Analytical Services

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Michael Ngo Quality Assurance/Quality Control Officer

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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.: 996859 Date: August 30, 2011 Collected: August 19, 2011 Received: August 19, 2011

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 Kiarashpoor
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

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Laboratory No.: 996859 Date Received: August 19, 2011

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

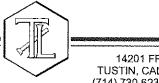
Lab Sample ID	Field ID	Analysi Method		Sample Date	Sample Time	Parameter	Result	Units	RL
996859-001	SC-700B-WDR-322	2B E120.1	NONE	8/19/2011	13:18	EC	6910	umhos/cm	2.00
996859-001	SC-700B-WDR-322	2B E200.8	NONE	8/19/2011	13:18	Chromium	ND	ug/L	1.0
996859-001	SC-700B-WDR-322	B E200.8	NONE	8/19/2011	13:18	Manganese	6,7	ug/L	1.0
996859-001	SC-700B-WDR-322	B E218.6	LABFLT	8/19/2011	13:18	Chromium, hexavalent	ND	ug/L	0.20
996859-001	SC-700B-WDR-322	B SM2130	B NONE	8/19/2011	13:18	Turbidity	ND	NTU	0.100
996859-001	SC-700B-WDR-322	B SM2540	C NONE	8/19/2011	13:18	Total Dissolved Solids	3940	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING



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

Printed 8/30/2011

Laboratory No. 996859

Established 1931

Page 1 of 7

Report

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 424973.01.DM Project Number: 424973.01.DM

Samples Received on 8/19/2011 9:30:00 PM

Field ID	Lab ID		Col	Collected		ix			
SC-700B-WDR-322B					996859-001 08/19/2011 13:1		/2011 13:18	3 Water	
Specific Conductivity - E			Batch	08EC11G			8/22/2011		
Parameter		Unit		Ana	lyzed	DF	MDL	RL	Result
996859-001 Specific Conduct	ivity	umhos	/cm	08/22	2/2011	1.00	0.0380	2.00	6910
Method Blank									
Parameter Specific Conductivity	Unit umhos	DF 1.00	Re N	esult D					
Duplicate								Lab ID = !	996859-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00		Result Expected 6920 6910		RPD 0.145		Acceptance Range 0 - 10	
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00		esult 10.	Expected 706			Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00		esult D8	Expected 706	F	ecovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00		esult 30.	Expected 998	R	ecovery 98.2	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

Page 2 of 7 Printed 8/30/2011

Chrome VI by EPA 218.6			Batch	08CrH11Y				
Parameter		Unit	Analyzed		DF	MDL	RL	Result
996859-001 Chromium, Hexa	valent	ug/L	08/22	/2011 17:40	1.05	0.0260	0.20	ND
Method Blank								
Parameter	Unit	DF	Result					
Chromium, Hexavalent Duplicate	ug/L	1.00	ND				Lab ID =	996813-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 4.04	Expected 4.01		RPD 0.820	Accepta 0 - 20	ince Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.03	Expected 5.00		Recovery 101.	90 - 110	nce Range) 996813-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 9.47	Expected/Add 9.31(5.30)	ed	Recovery 103.	90 - 110	nce Range) 996813-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 9.64	Expected/Add 9.56(5.30)	ed	Recovery 101.	90 - 110	nce Range) 996813-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 10.2	Expected/Add 10.1(5.30)	ed	Recovery 101.	90 - 110	ince Range) 996813-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 10.1	Expected/Add 10.1(5.30)	ed	Recovery 100.	90 - 110	ince Range) 996813-005
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 19.4	Expected/Add 19.5(10.6)	ed	Recovery 99.1	90 - 110	ince Range) 996813-008
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 17.3	Expected/Add 17.1(10.6)	ed	Recovery 102.	90 - 110	ince Range) 996813-009
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 7.74	Expected/Add 7.72(5.30)	ed	Recovery 100.	Accepta 90 - 110	ince Range)

Report Continued

Client: E2 Consulting Eng	jineers, Inc		oject Name: oject Number	oject	Page 3 of 7 Printed 8/30/2011	
Matrix Spike						Lab ID = 996813-011
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 9.19	Expected/Added 9.10(5.30)	Recovery 102.	Acceptance Range 90 - 110 Lab ID = 996835-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 8.09	Expected/Added 7.89(5.25)	Recovery 104.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 10.0	Expected/Added 9.92(5.30)	Recovery 102.	Lab ID = 996835-002 Acceptance Range 90 - 110 Lab ID = 996837-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 16.5	Expected/Added 16.6(10.6)	Recovery 99.6	Acceptance Range 90 - 110 Lab ID = 996859-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.26	Expected/Added 1.25(1.06)	Recovery 101.	Acceptance Range 90 - 110 Lab ID = 996859-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 5.25	Result 5.63	Expected/Added 5.55(5.25)	Recovery 101.	Acceptance Range 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.99	Expected 5.00	Recovery 99.7	Acceptance Raлge 90 - 110
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102.	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	Recovery 104.	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	Recovery 103.	Acceptance Range 95 - 105
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102.	Acceptance Range 95 - 105

Report Continued

996859-001 Chromium ug/L 08/24/2011 16:51 5.00 0.110 1.0 Manganese ug/L 08/24/2011 16:51 5.00 0.980 1.0 Method Blank Parameter Unit DF Result 5.00 0.980 1.0 Manganese ug/L 1.00 ND ND Lab Control Sample Accer Parameter Unit DF Result Expected Recovery Accer Chromium ug/L 1.00 49.8 50.0 99.5 85 - 1 Manganese ug/L 1.00 46.6 50.0 99.5 85 - 1 Manganese ug/L 1.00 46.6 50.0 99.3 75 - 1 Manganese ug/L 5.00 248. 250.(250.) 99.0 75 - 1 Manganese ug/L 5.00 253. 250.(250.) 101. 75 - 1 Marix Spike Duplicate Lab ID Expected/Added Recovery Accer Parameter	sulting Engineers, Inc.	Project Name: PG&E ⁻ Project Number: 424973	Fopock Project .01.DM	Page 4 of 7 Printed 9/6/2011 Revised
Ontern Find Floc Of MOL NL 996859-001 Chromium ug/L 08/24/2011 16:51 5.00 0.110 1.0 Manganese ug/L 08/24/2011 16:51 5.00 0.980 1.0 Method Blank Parameter Unit DF Result 5.00 0.980 1.0 Manganese ug/L 1.00 ND ND Lab Control Sample Accee Parameter Unit DF Result Expected Recovery Accee Chromium ug/L 1.00 A5.6 50.0 93.3 85 - 1 Manganese ug/L 1.00 46.6 50.0 93.3 85 - 1 Matrix Spike Unit DF Result Expected/Added Recovery Accee Chromium ug/L 5.00 252. 257.(250.) 98.0 75 - 1 Manganese ug/L 5.00 253. 250.(250.) 101. 75 - 1 Manganese ug/L	200.8, Total	Batch 082411A		
996859-001 Chromium ug/L 08/24/2011 16:51 5.00 0.110 1.0 Manganese ug/L 08/24/2011 16:51 5.00 0.980 1.0 Method Blank Parameter Unit DF Result 5.00 0.980 1.0 Manganese ug/L 1.00 ND ND Lab Control Sample Accee Parameter Unit DF Result Expected Recovery Accee Chromium ug/L 1.00 49.8 50.0 99.5 85 - 1 Manganese ug/L 1.00 46.6 50.0 93.3 85 - 1 Manganese ug/L 1.00 46.8 50.0 93.3 75 - 1 Manganese ug/L 5.00 248 250.(250.) 99.3 75 - 1 Manganese ug/L 5.00 253. 250.(250.) 90.1 75 - 1 Manganese ug/L 5.00 263. 250.(250.) 101. 75 - 1 <	Un	it Analyzed	DF MDL	RL Result
Manganese ug/L 08/24/2011 16:51 5.00 0.980 1.0 Method Blank Parameter Unit DF Result 5.00 0.980 1.0 Manganese ug/L 1.00 ND ND Lab Control Sample Acce Parameter Unit DF Result Expected Recovery Acce Chromium ug/L 1.00 49.8 50.0 99.5 85 - 1 Manganese ug/L 1.00 49.8 50.0 99.5 85 - 1 Marganese ug/L 1.00 46.6 50.0 93.3 85 - 1 Matrix Spike Lab ID Lab ID Lab ID Lab ID Parameter Unit DF Result Expected/Added Recovery Accee Chromium ug/L 5.00 252. 257.(250.) 98.0 75 - 1 Manganese ug/L 5.00 253. 250.(250.) 101. 75 - 1 Mangane	nium ug/	08/24/2011 16:	51 5.00 0.110	
Method Blank Parameter Unit DF Result Chromium ug/L 1.00 ND Manganese ug/L 1.00 ND Lab Control Sample	anese ug/	- 08/24/2011 16:		
Chromium ug/L 1.00 ND Manganese ug/L 1.00 ND Lab Control Sample	nk			
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Chromium ug/L 1.00 49.8 50.0 99.5 85 - 1 Manganese ug/L 1.00 46.6 50.0 93.3 85 - 1 Matrix Spike Lab ID Lab ID Lab ID Lab ID Lab ID Parameter Unit DF Result Expected/Added Recovery Acception Chromium ug/L 5.00 248. 250.(250.) 99.3 75 - 1 Manganese ug/L 5.00 252. 257.(250.) 98.0 75 - 1 Matrix Spike Duplicate Lab ID Lab ID Lab ID Lab ID Lab ID Parameter Unit DF Result Expected/Added Recovery Acception Acception Chromium ug/L 5.00 253. 250.(250.) 101. 75 - 1 Manganese ug/L 1.00 250. 257.(250.) 101. 75 - 1 Manganese ug/L 1.00 49.4 50.0 98.7 90 - 1	Unit DF	Result Expect	ed Recoverv	Acceptance Range
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Matrix SpikeLab IDParameterUnitDFResultExpected/AddedRecoveryAccelChromiumug/L5.00248.250.(250.)99.375 - 1Manganeseug/L5.00252.257.(250.)98.075 - 1Matrix Spike DuplicateDFResultExpected/AddedRecoveryAccelParameterUnitDFResultExpected/AddedRecoveryAccelChromiumug/L5.00253.250.(250.)101.75 - 1Manganeseug/L5.00260.257.(250.)101.75 - 1MRCCS - SecondaryVVVVParameterUnitDFResultExpectedRecoveryAccelChromiumug/L1.0049.450.098.790 - 1Manganeseug/L1.0046.550.092.990 - 1MRCVS - PrimaryUnitDFResultExpectedRecoveryAccelParameterUnitDFResultExpected96.490 - 1MRCVS - PrimaryUnitDFResultExpectedRecovery96.4ParameterUnitDFResultExpectedRecovery90 - 1MRCVS - PrimaryUnitDFResultExpected90 - 1MRCVS - PrimaryUnitDFResultExpectedRecovery90 - 1MRCVS - PrimaryUnitDF <td< td=""><td>ug/L 1.0(</td><td>) 46.6 50.0</td><td>93.3</td><td>85 - 115</td></td<>	ug/L 1.0() 46.6 50.0	93.3	85 - 115
Chromium ug/L 5.00 248. 250.(250.) 99.3 75 - 1 Manganese ug/L 5.00 252. 257.(250.) 98.0 75 - 1 Matrix Spike Duplicate Lab ID DF Result Expected/Added Recovery Accept Chromium Parameter Unit DF Result Expected/Added Recovery Accept Chromium Manganese ug/L 5.00 253. 250.(250.) 101. 75 - 1 Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 Manganese ug/L 1.00 49.4 50.0 98.7 90 - 1 Manganese ug/L 1.00 46.5 50.0 92.9 90 - 1 MRCVS - Primary MRCVS - Primary V 1.00 48.2 50.0 96.4 90 - 1 Parameter Unit DF Result Expe	e			Lab ID = 996859-001
Chromium ug/L 5.00 248. 250.(250.) 99.3 75 - 1 Manganese ug/L 5.00 252. 257.(250.) 98.0 75 - 1 Matrix Spike Duplicate Imaganese Unit DF Result Expected/Added Recovery Accept Chromium Parameter Unit DF Result Expected/Added Recovery Accept Chromium Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 MRCCS - Secondary V V 1.00 49.4 50.0 98.7 90 - 1 Manganese ug/L 1.00 49.5 50.0 92.9 90 - 1 Manganese ug/L 1.00 48.2 50.0 96.4 90 - 1 MRCVS - Primary V V 1.00 48.2 50.0 96.4 90 - 1 MRCVS - Primary V V <	Unit DF	Result Expect	ed/Added Recovery	Acceptance Range
Manganese ug/L 5.00 252. 257.(250.) 98.0 75 - 1 Lab ID Parameter Unit DF Result Expected/Added Recovery Accept Chromium ug/L 5.00 253. 250.(250.) 101. 75 - 1 Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 MRCCS - Secondary V	ug/L 5.00	•	,	75 - 125
ParameterUnitDFResultExpected/AddedRecoveryAcceptionChromiumug/L5.00253.250.(250.)101.75 - 1Manganeseug/L5.00260.257.(250.)101.75 - 1MRCCS - SecondaryVVVParameterUnitDFResultExpectedRecoveryAcceptionChromiumug/L1.0049.450.098.790 - 1Manganeseug/L1.0046.550.092.990 - 1MRCVS - PrimaryVVVVVVParameterUnitDFResultExpectedRecoveryAcceptionMRCVS - PrimaryVVV48.250.096.490 - 1MRCVS - PrimaryVVV48.250.096.490 - 1ParameterUnitDFResultExpectedRecoveryAcceptionMRCVS - PrimaryVVV1.0048.250.096.490 - 1ParameterUnitDFResultExpectedRecoveryAcceptionParameterUnitDFResultExpectedRecovery90 - 1MRCVS - PrimaryVVV10051.750.0103.90 - 1	ug/L 5.00	252. 257.(2	50.) 98.0	75 - 125
Chromium ug/L 5.00 253. 250.(250.) 101. 75 - 1 Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 MRCCS - Secondary MRCCS - Secondary V V V V V Parameter Unit DF Result Expected Recovery Accept Chromium ug/L 1.00 49.4 50.0 98.7 90 - 1 Manganese ug/L 1.00 46.5 50.0 92.9 90 - 1 MRCVS - Primary V V V Accept Accept Parameter Unit DF Result Expected Recovery Accept Chromium ug/L 1.00 48.2 50.0 96.4 90 - 1 MRCVS - Primary V V V V Accept 96.4 90 - 1 MRCVS - Primary V V V V V V V V	e Duplicate			Lab ID = 996859-001
Chromium ug/L 5.00 253. 250.(250.) 101. 75 - 1 Manganese ug/L 5.00 260. 257.(250.) 101. 75 - 1 MRCCS - Secondary MRCCS - Secondary Accept Accept Accept Parameter Unit DF Result Expected Recovery Accept Chromium ug/L 1.00 49.4 50.0 98.7 90 - 1 Manganese ug/L 1.00 46.5 50.0 92.9 90 - 1 MRCVS - Primary Unit DF Result Expected Recovery Accept Parameter Unit DF Result Expected 96.4 90 - 1 MRCVS - Primary Unit DF Result Expected Recovery Accept Parameter Unit DF Result Expected Recovery Accept Chromium ug/L 1.00 51.7 50.0 103. 90 - 1	Unit DF	Result Expect	ed/Added Recoverv	Acceptance Range
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Parameter ChromiumUnit ug/LDF 1.00Result 49.4Expected 50.0Recovery 98.7Accept 90 - 1Manganese MRCVS - Primaryug/L1.0046.550.092.990 - 1Parameter Chromium MRCVS - PrimaryUnit ug/LDF 1.00Result 48.2Expected 50.0Recovery 96.4Accept 90 - 1Parameter MRCVS - PrimaryUnit ug/LDF 1.00Result 48.2Expected 50.0Recovery 96.4Accept 90 - 1Parameter Chromium ug/LUnit ug/LDF 1.00Result 51.7Expected 50.0Recovery 96.4Accept 90 - 1	ug/L 5.00	260. 257.(25	50.) 101.	75 - 125
Chromiumug/L1.0049.450.098.790 - 1Manganeseug/L1.0046.550.092.990 - 1MRCVS - PrimaryMRCVS - PrimaryParameterUnitDFResultExpectedRecoveryAcceptChromiumug/L1.0048.250.096.490 - 1MRCVS - PrimaryVVAcceptAcceptAcceptParameterUnitDFResultExpectedRecoveryAcceptChromiumug/L1.0051.750.0103.90 - 1	econdary			
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ParameterUnitDFResultExpectedRecoveryAcceptionChromiumug/L1.0048.250.096.490 - 1MRCVS - PrimaryVVVVAcceptionParameterUnitDFResultExpectedRecoveryAcceptionChromiumug/L1.0051.750.0103.90 - 1	ug/L 1.0(46.5 50.0	92.9	90 - 110
Chromiumug/L1.0048.250.096.490 - 1MRCVS - PrimaryParameterUnitDFResultExpectedRecoveryAcceptionChromiumug/L1.0051.750.0103.90 - 1	rimary			
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Chromium ug/L 1.00 51.7 50.0 103. 90 - 1	Unit DF	Result Expecte	ed Recovery	Acceptance Range
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	ug/L 1.00			90 - 110
MRCVS - Primary	imary			· · ·
Parameter Unit DF Result Expected Recovery Accep	Unit DF	Result Expecte	d Recovery	Acceptance Range
			,	90 - 110

Report Continued

Client: E2 Consulting En	gineers, In		oject Name: oject Numbe	Page 6 of 7 Printed 8/30/2011				
Total Dissolved Solids I	0 C	Batch	08TDS11M			8/22/2011		
Parameter	-	Unit	Ana	lyzed	DF	MDL	RL	Result
996859-001 Total Dissolved	Solids	mg/L	08/22	2/2011	1.00	0.434	125	3940
Method Blank								
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID ≃	996859-001
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result Expected 3920 3940		RPD 0.509			
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 503	Expected 500.	F	Recovery 101.	Accepta 90 - 110	nce Range
Turbidity by SM 2130 B			Batch	08TUC11L			8/20/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
996859-001 Turbidity		NTU	08/20)/2011	1.00	0.0140	0.100	ND
Method Blank								
Parameter Turbidity	Unit NTU	DF 1.00	Result ND					
Duplicate							Lab ID ≍	996859-001
Parameter Turbidity	Unit NTU	DF 1.00	Result ND	Expected 0.00	F	RPD 0	Accepta 0 - 20	nce Range
Lab Control Sample				_				_
Parameter Turbidity	Unit NTU	DF 1.00	Result Expected 7,57 8.00		Recovery 94.6		Acceptance Range 90 - 110	
Lab Control Sample [1.00	1.01	0.00			50 110	
Parameter Turbidity	, Unit NTU	DF 1.00	Result 7.60	Expected 8.00	Recovery 95.0		Acceptance Ran 90 - 110	



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 7 of 7 Printed 8/30/2011

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

For Mona Nassimi Manager, Analytical Services

E2 Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 08TDS11M Date Calculated: 8/23/11

Laboratory Number	Sample volume, mi	initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	68.6151	68.6156	68.6152	0.0004	No	0.0001	1.0	25.0	ND	1
996835-1	20	51.1298	51.2134	51.2132	0.0002	No	0.0834	4170.0	125.0	4170.0	1
996836-2	20	75.3059	75.3708	75.3707	0.0001	No	0.0648	3240.0	125.0	3240.0	1
996836-1	50	76.2019	76.2585	76.2584	0.0001	No	0,0565	1130.0	50,0	1130.0	1
996836-2	50 ¹	65.6325	65.685 7	65.6853	0.0004	No	0.0528	1056.0	50.0	1056.0	1
898838-3	100	73.8308	73,862	73.8616	0.0004	No	0.0308	308.0	25.0	308.0	1
996836-4	100	72.4299	72.4718	72.4712	0.0004	No	0.0413	413.0	25.0	413.0	1
996837	50	49,4185	49.5147	49.5147	0.0000	No	0.0962	1924.0	50.0	1924.0	1
996853-1	50	74,7133	74.7565	74.7554	0.0001	No	0.0421	842.0	50.0	842.0	1
996859	20	49,7002	49,7794	49,7791	0.0003	No	0.0789	3945.0	125.0	3945.0	1
996859D	20	51,1414	51.2198	51.2198	0.0000	No	0.0784	3920.0	125.0	3920.0	1
LCS	100	67.7025	67.8432	67.8428	0.0004	No	0,0503	503.0	25.0	503.0	1
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LCSD								а м. н. ц. н. н. на том том том том то С		.;	

Calculation as follows:

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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

* COC - Signed A.

Reviewer Pfinted Name

Reviewer Signature

WelChem TDS_0810.xls

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 08TDS11M

Date Calculated: 8/23/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Cald TDS <1.3
996835-1	5290	0.79	3438.5	1.21
996835-2	4230	0,77	2749.5	1.18
996836-1	1740	0.65	1131	1,00
996836-2	1680	0.63	1092	0.97
996836-3	510	0,60	331.5	0.93
996836-4	510	: 0.81	331.5	1.25
996837	2760	0.70	1794	1.07
996853-1	1449	0.58	941.85	0,89
996859	6920	0.57	4498	0.88
996859D	6920	0.57	4498	0.87
LCS				
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14201	SDAIL LABORATO Franklin Avenue, 1 30-6239 FAX: (714 truesdail.com	Tustin, CA 92	780-7008	68				USTC			ORD					TURNA	lumber ROUN[08/19		P/	10 AGE	Days <u>1</u>)F <u>1</u>	
COMPANY PROJECT NAME PHONE ADDRESS	E2 PG&E Topock (530) 229-3303 155 Grand Ave Oakland, CA 94	3 Ste 1000	fax <u>(530</u>	339-3303		/		Mn 20.1)			Rec'd 22b	08 9 9	/19/1 68	,5 !	- 9 /			CONTAINERS	Ţ	7	COMME	NTS	
P.O. NUMBER SAMPLERS (SIGNA SAMPLE I.D.	424973.01.DM		теам 900- тіме	 Description	Cre (210.	Total Mc	Specific Cr	TDS (SMP 24)	(30%-	Turbiotity (Suran	(ar)-						NUME	THER OF CONT	,				
SC-700B-WDR	-322B	08/19/11	13:18	Water	x	T	x	x		x							3		<u> </u>	M =	=6(ટ <i>હર</i> ુ	1
																	3	тот/		BER OF	CONTAI	NERS	



For Sample Conditions See Form Attached

		CHAIN OF CUST	ODY SIGNATURE	RECORD		SAM	IPLE CONDITIONS
	Signature (Relinquished) l.llux	GUT Printed C.	Knight Company/ Agency	Cotzmitic Da		RECEIVED COOL) WARM □ 4 <u>°C °F</u>
	Signature (Received) Kafail		Company/ Agency	TeL-I Da	1e/8-19-11 1e 15:53	CUSTODY SEALED	
	Signature (Relinquished)	Davy Name Ka,	Company/ Agency		10/8-19-11 10 21:30	SPECIAL REQUIREMENTS:	
с С	Signature (Received) Luda	Printed Name Hual	Company/ BUUI UGAgency	TCI Da TCI Tin			
õ	Signature (Relinquished)	Printed Name	Company/ Agency	Da Tin			
	Signature (Received)	Printed Name	Company/ Agency	Da Tin			

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number		Buffer Added (mL)	Final pH	Time Buffered	Initials
8/19/11	996839-3	9.5	NIA	NIA	NB	ALI'
<u> </u>	-2				1	
	V-5		V			N
<u>os/19711</u>	996853-1	9.5	NA	N/A	N/A	SB
	1 -2	4	1	J	L	J.
08/22/11	996859	9.5	N/A	NA	NA	212
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C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

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Turbidity/pH Check

1817

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Contraction of the

		Tu	rbidity/pH Cl	IECK		
T		<u>.</u>				Adjusted to
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	pH<2 (Y/N)
996 81011-2/	e 1	22	8/18/11	M-M	Yes	-
	<u> </u>	$\overline{\mathbf{f}}$	+0/1° 1/+			
996811 (1-34)		<u>_</u>	<u> </u>			
39681211-41			<u> </u>			
09681311-13/	V I			V	V	
996740	41	72	8/18/11	ES	No	yu a 2:00 pi
996 835 (1-2)	21	22	811910	MM	No	0 - 1
	/		prepret		1	_
696 836 [1-4]		:				· · · · · · · · · · · · · · · · · · ·
996837				·		
006838/1-21						
19683911-51	./			U	V	<u> </u>
021779911-31	Selici	V	8/19/11	M.M	yp3	TTZC/STLS
				17		TTIC
99682411-51	Solid				N/a B	
996853 [-1]	< /	<i>22</i>	8/22/1	M.M	yes	100
140859	4	2	8/22/11	KK	No	VRS@1pm
49684311.91	Solid	-	2/220/11	MM	Yes	TTLCI
09689911-31	10010	. 1=	8/921			
<u> 49079211-21</u>	1/gain	0.1	8125/11	<u>~</u>	725	TTLC
996950	solid	81	0 4 11	M		
996951-2	e 2	Z2	8125/11	MM	yes.	
996948-		J V				
936913-146		29		il		
		22	8/26/4	MM	1 yes	
99693411-10	1 - 2	- L.	0 10-0 10			
996941						TTLO
1996993-12	J Solit	·~~	08/29/0	ES ES	No	TTLC USQ3:00pm
996912	1 21	72	8/29/11	ES	NO	44 a 3,00 p.m
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Sample Integrity & Analysis Discrepancy Form

Cl	ient: <u>E2</u>	Lab #6859
Da	nte Delivered: <u>08119</u> 111 Time: <u>2430</u> By: □Mail &	Field Service DClient
1.	Was a Chain of Custody received and signed?	¢QYes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No øN/A
3.	Are there any special requirements or notes on the COC?	□Yes □No ØN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ⊉N/A
5.	Were all requested analyses understood and acceptable?	AYes INO IN/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u> </u>	ØŸYes ⊒No ⊒N/A
7.	Were samples received intact (i.e. broken bottles, leaks, alr bubbles, etc)?	∕ØYes ⊡No ⊡N/A
8.	Were sample custody seals intact?	□Yes □No QŃA
9.	Does the number of samples received agree with COC?	
10.	Did sample labets correspond with the client ID's?	
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdall □Client	
12.	Were samples pH checked? $pH = \underline{Sel}(C, O, C, C)$	No DNA
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): RUSH	□Yes □No □N/A
15.	Sample Matrix: DLiquid Drinking Water DGround	Water QWaste Water
	□Sludge □Soil □Wipe □Paint □Solid)⊠	Other <u>Water</u>
16.	Comments:	
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	Juda

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

October 13, 2011

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-323 PROJECT, GROUNDWATER MONITORING, TLI NO.: 996912

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-323 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 August 23, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-323 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

 Mona Nassimi Manager, Analytical Services

Midrael Atgo

Michael Ngo Quality Assurance/Quality Control Officer

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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.: 996912 Date: September 7, 2011 Collected: August 23, 2011 Received: August 23, 2011

ANALYST LIST

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

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

Laboratory No.: 996912 Date Received: August 23, 2011

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
		······································							
996912-001	SC-700B-WDR-323	E120.1	NONE	8/23/2011	12:16	EC	7110	umhos/cm	2.00
996912-001	SC-700B-WDR-323	E200.8	NONE	8/23/2011	12:16	Chromium	ND	ug/L	1.0
996912-001	SC-700B-WDR-323	E200.8	NONE	8/23/2011	12:16	Manganese	3.1	ug/L	1.0
996912-001	SC-700B-WDR-323	E218.6	LABFLT	8/23/2011	12:16	Chromium, hexavalent	ND	ug/L	0.20
996912-001	SC-700B-WDR-323	SM2130B	NONE	8/23/2011	12:16	Turbidity	0.136	NTU	0.100
996912-001	SC-700B-WDR-323	SM2540C	NONE	8/23/2011	12:16	Total Dissolved Solids	4130	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING

P.O. Number: 424973.01.DM Project Number: 424973.01.DM Established 1931

REPORT

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

Client: E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project

Laboratory No. 996912 Page 1 of 8 Printed 9/7/2011

Samples Received on 8/23/2011 10:30:00 PM

Field ID				Lab ID	Col	lected	Mat	rix
SC-700B-WDR-323				996912-001	08/23	/2011 12:16	Wat	ter
Specific Conductivity - EPA 120.1 Parameter			1	Batch 08EC11H				1
		Unit		llyzed	DF	MDL	RL	Result
996912-001 Specific Conduct	livity	umhos/	cm 08/26	5/2011	1.00	0.0380	2.00	7110
Method Blank								
Parameter	Unit	DF	Result					
Specific Conductivity	umhos	1.00	ND					
Duplicate							Lab ID =	996913-006
Parameter	Unit	DF	Result	Expected	F	PD	Accepta	ince Range
Specific Conductivity	umhos	1.00	947	946		0.106	0 - 10	
Duplicate							Lab ID =	996913-016
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	ince Range
Specific Conductivity	umhos	1.00	957	956		0.104	0 - 10	ander tange
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	ince Range
Specific Conductivity	umhos	1.00	706	706		100.	90 - 110	-
Lab Control Sample D	uplicate						00 110	•
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	ince Range
Specific Conductivity	umhos	1.00	708	706		100.	90 - 110	•
MRCCS - Secondary							00 110	
Parameter	Unit	DF	Result	Expected	R	ecovery	Accenta	nce Range
Specific Conductivity	umhos	1.00	707	706		100.	90 - 110	~
MRCVS - Primary				,				,
Parameter	Unit	DF	Result	Expected	D	ecovery	Accorto	neo Done-
Specific Conductivity	umhos	1.00	978	998	r.	98.0	90 - 110	nce Range
• • • • • • • • • • • • • •			0,0	000		50.0	30-110	

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 3 of 8 Printed 9/7/2011

Chrome VI by EPA 218.6		Batch	08CrH11AA					
Parameter	n fall i na suithea	Unit	Ana	lyzed	DF	MDL	RL	Result
996912-001 Chromium, Hexa	996912-001 Chromium, Hexavalent ug/L 08/25/2011 14:3		5/2011 14:38	1.05	0.0260	0.20	ND	
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	996934-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result ND	Expected 0.0670	F	RPD 0	Accepta 0 - 20	ince Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 5.09	Expected 5.00	F	Recovery 102.	90 - 110	ince Range) 996912-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.28	Expected/Add 1.22(1.06)	ed F	Recovery 105.	90 - 110	ince Range) 996912-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.90	Expected/Add 5.55(5.25)	ed F	Recovery 106.	90 - 110	ince Range) 996934-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1,15	Expected/Add 1.13(1.06)	ed F	Recovery 102.	90 - 110	nce Range) 996934-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.17	Expected/Add 1.14(1.06)	ed F	Recovery 103.	90 - 110	nce Range 996934-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.16	Expected/Adde 1.14(1.06)	ed F	Recovery 103.	90 - 110	nce Range 996934-004
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.22	Expected/Adde 1.13(1.06)	ed F	Recovery 108.	90 - 110	nce Range 996934-005
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.22	Expected/Adde 1.18(1.06)	ed F	Recovery 104.	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

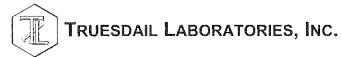
Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 5 of 8 Printed 9/7/2011

Parameter Unit Analyzed DF MDL RL Result 996912-001 Chromium ug/L 09/02/2011 07:50 5.00 0.10 1.0 ND Menganese ug/L 09/02/2011 07:50 5.00 0.980 1.0 3.1 Method Blank Parameter Unit DF Result Chromium ug/L 1.00 ND Parameter Unit DF Result Expected RPD Acceptance Rang Chromium ug/L 5.00 3.32 3.10 6.91 0 - 20 Manganese ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Rang Chromium ug/L 1.00 48.6 50.0 97.3 85 - 115 Manganese ug/L 5.00 254.2 250.2 101.7 75 - 125 Markix Spike Unit DF Resu	Metals by EPA 200.8, To		Batch	090111C					
Manganese ug/L 09/02/2011 07:50 5.00 0.980 1.0 3.1 Method Blank Parameter Unit DF Result 5.00 0.980 1.0 3.1 Manganese ug/L 1.00 ND ND Duplicate Lab ID = 996912-00 Parameter Unit DF Result Expected RPD Acceptance Rang Chromium ug/L 5.00 ND 0.00 0 0 - 20 Manganese ug/L 5.00 ND 0.00 0 0 - 20 Lab Control Sample ug/L 5.00 3.32 3.10 6.91 0 - 20 Parameter Unit DF Result Expected Recovery Acceptance Rang Chromium ug/L 1.00 48.6 50.0 97.3 85 - 115 Manganese ug/L 5.00 254. 250.(250.) 101. 75 - 125 MRCCS - Secondary Vit DF Result <	Parameter		Unit	Ana	Analyzed		MDL	RL	Result
Method Blank Parameter Unit DF Result Chromium ug/L 1.00 ND Manganese ug/L 1.00 ND Duplicate Lab ID = 896912-00 RPD Acceptance Rang Parameter Unit DF Result Expected RPD Acceptance Rang Chromium ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Rang Parameter Unit DF Result Expected/Added Recovery Acceptance Rang Chromium ug/L 1.00 49.7 50.0 97.3 85 - 115 Manganese ug/L 1.00 48.6 50.0 97.3 85 - 115 Matrix Spike Lab ID = \$96912-00 254. 250 (250.) 101. 75 - 125 Manganese ug/L 5.00 254. 250 (250.) 101. 75 - 125 <td>996912-001 Chromium</td> <td></td> <td>ug/L</td> <td>09/02</td> <td>2/2011 07:50</td> <td>5.00</td> <td>0.110</td> <td>1.0</td> <td>ND</td>	996912-001 Chromium		ug/L	09/02	2/2011 07:50	5.00	0.110	1.0	ND
Parameter Unit DF Result Chromium ug/L 1.00 ND Manganese ug/L 1.00 ND Duplicate Lab ID = 996912-00 Parameter Unit DF Result Expected RPD Acceptance Rang Chromium ug/L 5.00 ND 0.00 0 0 - 20 Manganese ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample V V V Acceptance Rang Parameter Unit DF Result Expected Recovery Acceptance Rang Manganese ug/L 1.00 48.6 50.0 97.3 85 - 115 Matrix Spike ug/L 50.0 254. 250.(250.) 101. 75 - 125 Manganese ug/L 50.0 254. 250.(250.) 95.4 75 - 125 Manganese ug/L 1.00 50.0 50.0 100.0 90 -	Manganese		ug/L	09/02	09/02/2011 07:50		0.980	1.0	3.1
Chromium ug/L 1.00 ND Manganese ug/L 1.00 ND Duplicate Lab ID = 996912-00 Parameter Unit DF Result Expected RPD Acceptance Rang Chromium ug/L 5.00 ND 0.00 0 0 20 Manganese ug/L 5.00 ND 0.00 0 0 20 Lab Control Sample Expected Recovery Acceptance Rang 0.00 99.3 85 - 115 Manganese ug/L 1.00 48.6 50.0 99.3 85 - 115 Matrix Spike Unit DF Result Expected/Added Recovery Acceptance Rang Chromium ug/L 5.00 254. 250.(250.) 101.75 - 125 125 Manganese ug/L 1.00 49.2 50.0 98.4 90 - 110 Marganese ug/L 1.00 49.2 50.0 98.4 90 - 110 <td< td=""><td>Method Blank</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Method Blank								
Manganese ug/L 1.0 ND Duplicate Lab ID = 996912-00 Lab ID = 996912-00 Parameter Unit DF Result Expected RPD Acceptance Rang Chromium ug/L 5.00 ND 0.00 0 0 - 20 Manganese ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample Expected Recovery Acceptance Rang Chromium ug/L 1.00 49.7 50.0 99.3 85 - 115 Manganese ug/L 1.00 48.6 50.0 97.3 85 - 115 Mariansee ug/L 5.00 254.2 250.(250.) 101.7 75 - 125 Marganese ug/L 5.00 242.2 253.(250.) 95.4 75 - 125 MRCCS - Secondary ug/L 1.00 50.0 50.0 100.0 90 - 110 Manganese ug/L 1.00 49.2 50.0 97.8 90 - 110	Parameter	Unit	DF	Result					
Duplicate Lab ID = 996912-00 Parameter Unit DF Result Expected RPD Acceptance Rang Chromium ug/L 5.00 ND 0.00 0 0 - 20 Manganese ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample	Chromium	ug/L	1.00	ND					
Parameter Chromium Unit ug/L DF 5.00 Result ND Expected 0.00 RPD 0 Acceptance Rang 0 Acceptance Rang 0 Manganese ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample	Manganese	ug/L	1.00	ND					
Chromium ug/L 5.00 ND 0.00 0 0 - 20 Manganese ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Rang Chromium ug/L 1.00 49.7 50.0 99.3 85 - 115 Manganese ug/L 1.00 48.6 50.0 97.3 85 - 115 Matrix Spike Lab ID = 996912.00 Parameter Unit DF Result Expected/Added Recovery Acceptance Rang Chromium ug/L 5.00 254. 250.(250.) 101. 75 - 125 MarcCS - Secondary MRCCS - Secondary Parameter Unit DF Result Expected Recovery Acceptance Rang Chromium ug/L 1.00 50.0 50.0 98.4 90 - 110 Manganese ug/L 1.00 48.9 50.0 97.8 90 - 110 <tr< td=""><td>Duplicate</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Lab ID =</td><td>996912-001</td></tr<>	Duplicate							Lab ID =	996912-001
Chromium ug/L 5.00 ND 0.00 0 0 - 20 Manganese ug/L 5.00 3.32 3.10 6.91 0 - 20 Lab Control Sample	Parameter	Unit	DF	Result	Expected		RPD	Accepta	ance Range
Lab Control SampleParameterUnitDFResultExpectedRecoveryAcceptance RangChromiumug/L1.0049.750.099.385 - 115Manganeseug/L1.0048.650.097.385 - 115Matrix SpikeLab ID = 996912.00ParameterUnitDFResultExpected/AddedRecoveryAcceptance RangParameterUnitDFResultExpected/AddedRecoveryAcceptance RangChromiumug/L5.00254.250.(250.)101.75 - 125Manganeseug/L5.00242.253.(250.)95.475 - 12575 - 12575 - 125MRCCS - SecondaryVVVVVVVVParameterUnitDFResultExpectedRecoveryAcceptance RangChromiumug/L1.0049.250.0100.090 - 11090 - 110MRCVS - PrimaryVVVVVVVParameterUnitDFResultExpectedRecoveryAcceptance RangChromiumug/L1.0049.150.097.890 - 110VMRCVS - PrimaryVVVVVAcceptance RangParameterUnitDFResultExpectedRecoveryAcceptance RangMRCVS - PrimaryUnitDFResultExpectedRecoveryAcceptance RangParameterUn	Chromium	ug/L	5.00	ND	•			-	
Parameter ChromiumUnit ug/LDF 1.00Result 49.7Expected 50.0Recovery 99.3Acceptance Rang 85 - 115 Lab ID = 996912.00Manganese Matrix Spikeug/L1.0048.650.097.385 - 115 Lab ID = 996912.00Parameter ChromiumUnit ug/LDF 5.00ResultExpected/Added 250.(250.)Recovery 101.Acceptance Rang Acceptance Rang 250.(250.)Manganese MRCCS - Secondaryug/L5.00242.253.(250.)95.475 - 125Manganese Chromiumug/L1.0050.050.0100.090 - 110Manganese Chromiumug/L1.0049.250.098.490 - 110Manganese Chromiumug/L1.0048.950.097.890 - 110Manganese Chromiumug/L1.0048.950.097.890 - 110MRCVS - PrimaryUnitDFResultExpectedRecovery ResultAcceptance Rang 90 - 110Parameter 	Manganese	ug/L	5.00	3.32	3.10		6.91	0 - 20	
Chromium ug/L 1.00 49.7 50.0 99.3 85 - 115 Manganese ug/L 1.00 48.6 50.0 97.3 85 - 115 Matrix Spike Lab ID = 996912.00 Acceptance Rang Chromium ug/L 5.00 254. 250.(250.) 101. 75 - 125 Manganese ug/L 5.00 242. 253.(250.) 95.4 75 - 125 Manganese ug/L 1.00 50.0 50.0 100.0 90 - 110 Manganese ug/L 1.00 50.0 50.0 100.0 90 - 110 Manganese ug/L 1.00 49.2 50.0 98.4 90 - 110 Manganese ug/L 1.00 49.2 50.0 97.8 90 - 110 Manganese ug/L 1.00 48.9 50.0 97.8 90 - 110 MRCVS - Primary Parameter Unit DF Result Expected Recovery Acceptance Rang Chromium ug/L	Lab Control Sample								
Chromium ug/L 1.00 49.7 50.0 99.3 85 - 115 Manganese ug/L 1.00 48.6 50.0 97.3 85 - 115 Matrix Spike Lab ID = 996912.00 Parameter Unit DF Result Expected/Added Recovery Acceptance Rang Chromium ug/L 5.00 254. 250.(250.) 101. 75 - 125 Manganese ug/L 5.00 242. 253.(250.) 95.4 75 - 125 Manganese ug/L 1.00 50.0 50.0 100.0 90 - 110 Manganese ug/L 1.00 50.0 50.0 98.4 90 - 110 Manganese ug/L 1.00 49.2 50.0 97.8 90 - 110 Manganese ug/L 1.00 48.9 50.0 97.8 90 - 110 Manganese ug/L 1.00 48.9 50.0 97.8 90 - 110 MRCVS - Primary Parameter Unit DF Res	Parameter	Unit	DF	Result	Expected		Recoverv	Accepta	ance Range
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	Parameter	Unit	DF	Result	Expected	1	Recoverv	Accepta	ince Rande
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Report Continued

Client: E2 Consulting Engineers, Inc.	Project Name:	PG&E Topock Project	Page 7 of 8
	Project Number:	424973.01.DM	Printed 9/7/2011

Total Dissolved Solids b	oy SM 254	0 C	Batch	08TDS11N		8/29/2011			
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
996912-001 Total Dissolved	Solids	mg/L	08/29	9/2011	1.00	0.434	125	4130	
Method Blank				· · · · · · · · · · · · · · · · · · ·		······			
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND						
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 4260	Expected 4130		RPD 3.22		996912-00 ⁻ ance Range	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 496	Expected 500.		ecovery 99.2	Accepta 90 - 110	ance Range)	
Turbidity by SM 2130 B Parameter		Unit		08TUC11N lyzed	DF	MDL	8/24/2011 RL	1 Result	
996912-001 Turbidity		NTU	08/24	/2011	1.00	0.0140	0.100	0.136	
Method Blank								· · · · · · · · · · · · · · · · · · ·	
Parameter Turbidity	Unit NTU	DF 1.00	Result ND						
Duplicate							Lab ID =	996912-001	
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result 0.138	Expected 0.136		PD 1.46	Accepta 0 - 20	ince Range	
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.55	Expected 8.00		ecovery 107.	Accepta 90 - 110	ince Range)	
Lab Control Sample D	ouplicate								
Parameter Turbidity	Unit NTU	DF 1.00	Result 8,30	Expected 8.00		ecovery 104.	Accepta 90 - 110	ince Range)	



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 8 of 8 Printed 9/7/2011

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

↓ ✓ Mona Nassimi Manager, Analytical Services

EZ Condan

Total Dissolved Solids by SM 2540 C

Calculations

Batch:	OSTDS11N
Date Calculated:	8/29/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL , ppm	Reported Value, ppm	DF
BLANK	100	110.7154	110.7157	110.7156	0.0001	No	0.0002	2.0	25.0	ND	1
996912	20	49.5300	49.6126	49,6126	0.0000	No	0.0826	4130.0	125.0	4130.0	1
996941	50	51.0768	51.1132	51.113	0.0002	No	0.0362	724.0	50.0	724.0	1
996956	442	164.0854	164.0863	164.0863	0.0000	No	0.0009	2.0	5.7	ND	1
996965-2	200	110.3754	110.3923	110.3923	0.0000	No	0.0169	84.5	12.5	84.5	1
996965-4	100	105.6374	105.6595	105.6595	0.0000	No	0.0221	221.0	25.0	221.0	1
996987-1	20	47.9652	48.0088	48.0086	0.0002	No	0.0434	2170.0	125.0	2170.0	1
996987-2	20	51,5099	51.5579	51.5578	0.0001	No	0.0479	2395.0	125.0	2395.0	1
996912D	20	73,0040	73.0895	73.0893	0.0002	No	0.0853	4265.0	125.0	4265.0	1
LCS	100	109.4436	109.4936	109.4932	0.0004	No	0.0496	496.0	25.0	496.0	1
LCSD								• •			1

Calculation as follows:

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

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)

t Printed Mame

Analyst Signature

Reviewer Printed Name

Reviewer Signature

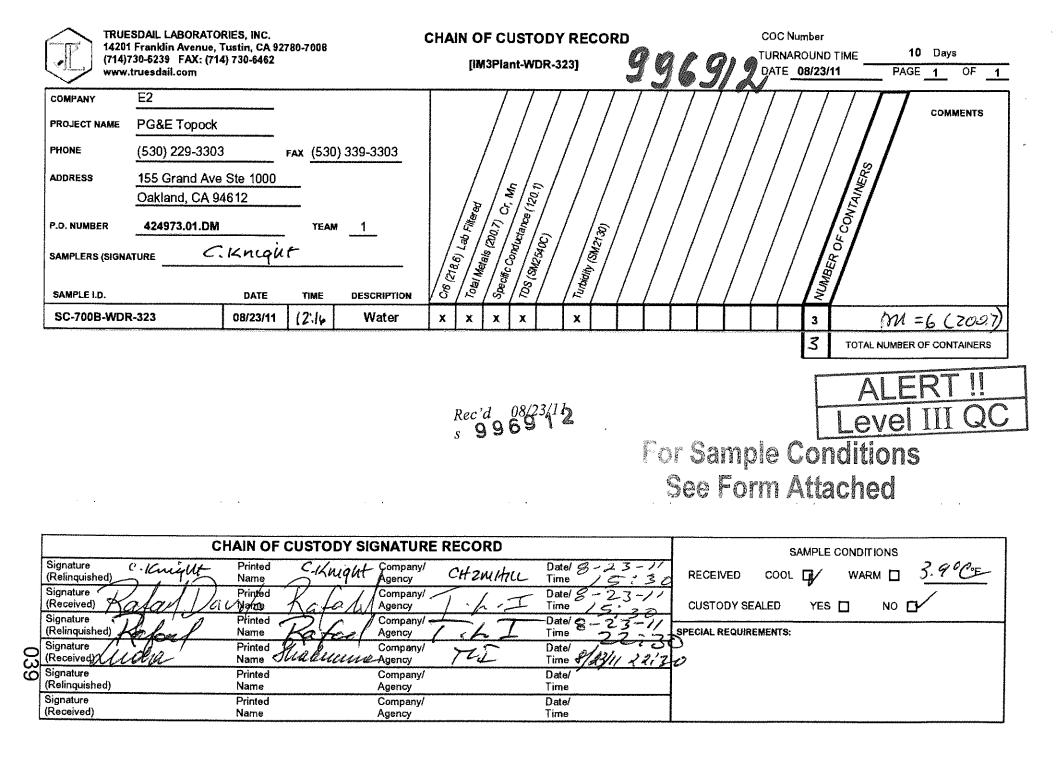
Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 08TDS11N Date Calculated: 8/29/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
200040	7400			
996912	7120	0.58	4628	0.89
996941	1108	0.65	720.2	1.01
996956	4.63	ND	3.0095	ND
996965-2	144	0.59	93.6	0.90
996965-4	385	0.57	250.25	0.88
996987-1	3800	0.57	2470	0.88
996987-2	3980	0.60	2587	0.93
996912D	7120	0.60	4628	0.92
LCS				
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Lab Number Initial pH Buffer Added (mL) Date Final pH Time Buffered Initials 996839-3 8/19/11 9.5 NIA AL, NIA NA -2 -5 ١. D <u>os/197u</u> NA 996853-1 9.5 N/A-N/A $\mathbb{Z}^{\mathbb{C}}$ -2 L J. . 1 08/22/11 996859 9.5 NA NA N/A 53 08/24/1 996912 7.O 5.00 95 9:15 SB 08/24/11 996913-1 95 NA NA N/A SB -2 -3 -4 -5 -6 -7 -8 -9 -10 -11 - 12 -13 -14 -15 -16 12 Ŷ 1 08/25/11-99*69*34 - 1 NA 9.5 NA N/A STS -2 -3 $-\gamma$ -5 -6 -Į -8 . • -9 ∛ -10 \mathcal{A}

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

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

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dl

Turbidity/pH Check

		14	rbidity/pH C	HELK		
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to
996 81011-21	e 1	22	8/18/11	M.M	Yes	pH<2 (Y/N)
99681111-77			0/10/		1-1-3-	
35681211-41						
996813 1-131					1	
996740	41	72	8/18/11	ES	No	yu a 2:00 pin
906 83511-21	<i>∠</i> /	42	811910	M.M	Xes	y a copin
696 836 11-41					1	
996837		;				_
996838 11-21	<u></u>					
09683911-51	V			<u> </u>	V	<u> </u>
9-67-99 (1-3/	Solid	·	8/19/11	M.M	Y03	TTZC/STLS
998824 (1-51	Solid	-				TTLC
596853(-1)	< /	22	8/22/1	M. M	Yes	
146859 (000 042 1 0	4	42	8/22/11	KK.	No	Ves @ 1 pm
996893(1-9)	Solid	-	2/22/11	M.M.	XES	TTLCI
a969502	liquill	81	8/23/11 8/25/11	<u> </u>		
096951-2	sblid E 2	01 ZZ	8125/11	Min	Yes	TTLC
996948-	<u> </u>	V V	8120/11	<u> </u>	Jes_	
936913-1146			+			
99693411-10	¥	22 22	8/26/4	MM	Ne	
996941		<u> </u>	010010			
796993-12	1 Solit	~	03/29/0	μЙ	Yes	TTIO
996912	Z1	72	8/20/11	ES	No	1111 a) 2'10 P.M
996539(1-8)	501	, 1999	8/25/11	ES	Yus	TTLC yus a3;00p.m ttic
997023	< 1	c2	08/31111	M.M.	Ves	-
997024/1-5	Ŀ		j.	J		~
997022 1	21	72	9/2/11	ES	NO	UNOV11: 30 CM
(197095(1-2)		72	9/7/11	ES	NO	41 0 11: 30 Car 44 a) 11:00 a.
997096 (1-2)	21	72	J.	L	Ľ.	
997097 11-21 997099 11-4	_ <u> </u>	<2	917/11	M.M.	yes-	-
99709911-4			<u> </u>	V	- V	<u>~</u>
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Sample Integrity & Analysis Discrepancy Form

Clier	nt: <u>E 2</u>	Lab #2
Date	Delivered: <u>08</u> / <u>23</u> /11 Time: <u>22/30</u> By: □Mail □Fi	eld Service □Client
1.	Was a Chain of Custody received and signed?	Æ(Yes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ¤(N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No ¤(N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ¤(N/A
5.	Were all requested analyses understood and acceptable?	¤ą́Yes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>3. % C</u>	Yes INO IN/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?	ÆqYes □No □N/A
10.	Did sample labels correspond with the client ID's2	ǾYes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	□Yes □No 귍N/A
12.	Were samples pH checked? $pH = \frac{S \ell \ell}{2} C \cdot C$	Axes INO IN/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Yes DNO DN/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): D RUSH A Std	QatYes □No □N/A
15.	<u>Sample Matrix:</u> □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid ⊉	
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	luda

EXCELLENCE IN INDEPENDENT TESTING

Established 1931

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

September 9, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-324 PROJECT, GROUNDWATER MONITORING, TLI NO.: 997022

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-324 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 August 30, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-324 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

4. - Mona Nassimi Manager, Analytical Services

Allulia

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) Groundwater Sample Project Name: PG&E Topock Project Project No.: 424973.01.DM

Laboratory No.: 997022 Date: September 9, 2011 Collected: August 30, 2011 Received: August 30, 2011

ANALYST LIST

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

EXCELLENCE IN INDEPENDENT TESTING



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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

Laboratory No.: 997022 Date Received: August 30, 2011

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

Analytical Results Summary

Lab Sample ID Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	ы
997022-001SC-700B-WDR-324997022-001SC-700B-WDR-324997022-001SC-700B-WDR-324997022-001SC-700B-WDR-324997022-001SC-700B-WDR-324997022-001SC-700B-WDR-324997022-001SC-700B-WDR-324	E200.8 E200.8 E218.6 SM2130B	NONE NONE LABFLT NONE NONE	8/30/2011 8/30/2011 8/30/2011 8/30/2011 8/30/2011 8/30/2011	21:30 21:30 21:30 21:30 21:30 21:30	EC Chromium Manganese Chromium, hexavalent Turbidity Total Dissolved Solids	7200 ND 1.0 ND 0.109 4100	umhos/cm ug/L ug/L ug/L NTU ma/L	RL 2.00 1.0 1.0 0.20 0.100 125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING

Project Name: PG&E Topock Project

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

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

Established 1931

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy

Laboratory No. 997022 Page 1 of 6 Printed 9/9/2011

Samples Received on 8/30/2011 10:30:00 PM

Field ID					Lab ID	Col	lected	Mat	rix
SC-700B-WDR-324					997022-001	08/30	/2011 21:30	Wat	
Specific Conductivity - E	PA 120.1	Batch 08EC11J				8/31/201	1.		
Parameter		Unit		Ana	lyzed	DF	MDL	RL	Result
997022-001 Specific Conduct	ivity	umhos	/cm	08/31	1/2011	1.00	0.0380	2.00	7200
Method Blank									
Parameter Specific Conductivity	Unit umhos	DF 1.00		esult ID					
Duplicate								Lab ID =	997024-005
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00		esult 10.	Expected 511	R	PD 0.196	Accepta 0 - 10	ince Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00		esult 08	Expected 706	R	ecovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00		esult 12	Expected 706	R	ecovery 101.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00		esult 78	Expected 998	R	ecovery 98.0	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

Page 2 of 6 Printed 9/9/2011

Chrome VI by EPA 218.6	i Serve States		Batch	08CrH11AC				
Parameter		Unit	Ana	llyzed	DF	MDL	RL	Result
997022-001 Chromium, Hexa	avalent	ug/L	08/31	1/2011 09:48	1.05	0.0260	0.20	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	997023-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 3.54	Expected 3.55	F	RPD 0.254		nce Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.94	Expected 5.00	F	Recovery 98.8	90 - 110	nce Range 997022-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.23	Expected/Add 1.22(1.06)	ed F	Recovery 101.	90 - 110	nce Range 997022-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.53	Expected/Add 5.45(5.25)	ed F	Recovery 102.	90 - 110	nce Range 997023-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 8.77	Expected/Add 8.85(5.30)	ed F	Recovery 98.5	90 - 110	nce Range 997024-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 6.69	Expected/Add 6.38(5.30)	ed R	Recovery 106.	90 - 110	nce Range 997024-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.76	Expected/Adde 1.69(1.06)	ed R	Recovery 106.	Accepta 90 - 110	nce Range 997024-003
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.56	Expected/Adde 1.49(1.06)	ed R	lecovery 107.	90 - 110	nce Range 997024-004
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 1.57	Expected/Adde 1.49(1.06)	ed R	lecovery 107.	Acceptar 90 - 110	nce Range

Chromium

ug/L

1.00

Report Continued

Client: E2 Consulting Eng	jineers, In		roject Name: roject Numbe	PG&E Topock F er: 424973.01.DM	Projec	ct	F Printed 9	Page 4 of 6 9/9/2011
Metals by EPA 200.8, Tot	al		Batch	090611A			· . *	
Parameter		Unit	Ana	ilyzed (DF	MDL	RL	Result
997022-001 Chromium	·····	ug/L			.00	0.110	1.0	ND
Manganese		ug/L			.00	0.285	1.0	1.0
Method Blank			·					
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	997022-001
Parameter	Unit	DF	Result	Expected	R	PD	Accent	ance Range
Chromium	ug/L	5.00	ND	0.00		0	0 - 20	unee ritarige
Manganese	ug/L	5.00	ND	1.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	lecovery	Accepta	ance Range
Chromium	ug/L	1.00	49.7	50.0		99.4	85 - 11	-
Manganese	ug/L	1.00	49.2	50.0		98.4	85 - 11	5
Matrix Spike							Lab ID =	997022-001
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery	Accepta	ance Range
Chromium	ug/L	5.00	244	250.(250.)		97.6	75 - 12	-
Manganese	ug/L	5.00	235.	251(250.)		93.5	75 - 128	5
Matrix Spike Duplicate							Lab ID =	997022-001
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery	Accepta	ance Range
Chromium	ug/L	5.00	246.	250.(250.)		98.3	75 - 129	5
Manganese	ug/L	5.00	233.	251(250.)		93.0	75 - 125	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ance Range
Chromium	ug/L	1.00	50.2	50.0		100.	90 - 110) –
Manganese	ug/L	1.00	49.1	50.0		98.2	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ance Range
Chromium	ug/L	1.00	50.4	50.0		101.	90 - 110)
Manganese	ug/L	1.00	49.4	50.0		98.8	90 - 110)
Interference Check Sta	ndard A							
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	ince Range
Chromium	ua/l	1.00	NID	0.00		-	•	-

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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ND



Report Continued

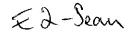
Client: E2 Consulting E	ngineers, In		Project Name: Project Numbe	PG&E Topo er: 424973.01.1		Pa Printed 9/	age 5 of 6 9/2011
Interference Check S	Standard A						
Parameter Chromium	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Accepta	nce Range
Interference Check S							
Parameter Manganese Interference Check S	Unit ug/L Standard A	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptar	nce Range
Parameter Manganese Interference Check S	Unit ug/L Standard AB	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptar	nce Range
Parameter Chromium Interference Check S	Unit ug/L	DF 1.00	Result 51.6	Expected 50.0	Recovery 103.	Acceptar 80 - 120	nce Range
Parameter Chromium Interference Check S	Unit ug/L	DF 1.00	Result 50.5	Expected 50.0	Recovery 101	Acceptar 80 - 120	nce Range
Parameter Manganese Interference Check S	Unit ug/L standard AB	DF 1.00	Result 50.3	Expected 50.0	Recovery 101.	Acceptar 80 - 120	nce Range
Parameter Manganese	Unit ug/L	DF 1.00	Result 49.8	Expected 50.0	Recovery 99.6	Acceptar 80 - 120	ice Range
Total Dissolved Solids I	bv SM 2540) C	Batch	08TDS110		8/31/2011	<u></u>
Parameter	,	Unit		yzed	DF MDL		Result
997022-001 Total Dissolved	Solids	mg/L	08/31	/2011	1.00 0.434	125	4100
Method Blank							
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND			Lab ID = 9	97000-004
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 229	Expected 225	RPD 1.76		ice Range
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 477	Expected 500.	Recovery 95.4	Acceptan 90 - 110	ce Range

Report Continued

Client: E2 Consulting Engineers, Inc. Project Name: PG&E Topock Project Page 6 of 6 Project Number: 424973.01.DM Printed 9/9/2011 Turbidity by SM 2130 B Batch 08TUC11Q 8/31/2011 Parameter Unit Analyzed DF MDL RL Result 997022-001 Turbidity NTU 08/31/2011 1.00 0.0140 0.100 0.109 Method Blank Parameter Unit DF Result Turbidity NTU 1.00 ND Duplicate Lab ID = 997024-002 Parameter Unit DF Result Expected RPD Acceptance Range Turbidity NTU 1.00 ND 0.00 0 0 - 20 Lab Control Sample Parameter Unit DF Result Expected Recovery Acceptance Range Turbidity NTU 1.00 7.53 8.00 94.1 90 - 110 Lab Control Sample Duplicate Parameter DF Unit Result Expected Recovery Acceptance Range Turbidity NTU 1,00 7,50 8.00 93.8 90 - 110

> Respectfully submitted, TRUESDAIL LABORATORIES, INC.

Mona Nassimi
 Manager, Analytical Services



Total Dissolved Solids by SM 2540 C

Calculations

Batch:	08TDS110
Date Calculated:	9/1/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Fínal weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	73,5505	73.5508	73.5507	0.0001	No	0.0002	2.0	25.0	ND	1
996689	477	162.2145	162.215	162.2146	0.0004	No	0.0001	0.2	5.2	ND	1
997000-2	200	104.2457	104.2615	104.2615	0.0000	No	0.0158	79.0	12.5	79.0	1
997000-4	100	110.7650	110.7875	110.7875	0.0000	No	0.0225	225.0	25.0	225.0	1
997022	20	51.0763	51.1585	51.1582	0.0003	No	0.0819	4095.0	125.0	4095.0	1
997023	50	67.7841	67.8275	67.8272	0.0003	No	0.0431	862.0	50.0	862.0	1
997024-1	100	108.6462	108.6703	108.6703	0.0000	No	0.0241	241.0	25.0	241.0	1
997024-2	100 j	102.7260	102.755	102.7548	0,0002	No	0.0288	288.0	25.0	288.0	1
997024-3	100	74.5538	74.585	74.585	0.0000	No	0.0312	312.0	25.0	312.0	1
997024-4	100	73.6066	73.6381	73.638	0.0001	No	0.0314	314.0	25.0	314.0	1
997024-5	100	72.9656	72.9961	72.9961	0.0000	No	0.0305	305.0	25.0	305.0	1
9970G0-4D	100	69.4890	69.5122	69.5119	0.0003	No	0.0229	229.0	25.0	229.0	1
LCS	100	92.1025	92.1504	92.1502	0.0002	No	0.0477	477.0	25.0	477.0	1
LCSD											1

Calculation as follows:

I

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)

* COC - Signed AF

Analyst Printed Name

Analyst Signature

Reviewer Printed N ame

Reviewer Signature

017

TDS/EC CHECK

Batch: 08TDS110 Date Calculated: 9/1/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1,3
000000				
996689	29.7	ND	19.305	ND
997000-2	156	0.51	101.4	0.78
997000-4	489	0.46	317.85	0.71
997022	7200	0.57	4680	0.87
997023	1485	0.58	965.25	0.89
997024-1	433	0.56	281.45	0.86
997024-2	481	0.60	312.65	0.92
997024-3	511	0.61	332.15	0.94
997024-4	508	0.62	330.2	0.95
997024-5	511	0.60	332,15	0.92
997000-4D	489	0.47	317.85	0.72
LCS			-	
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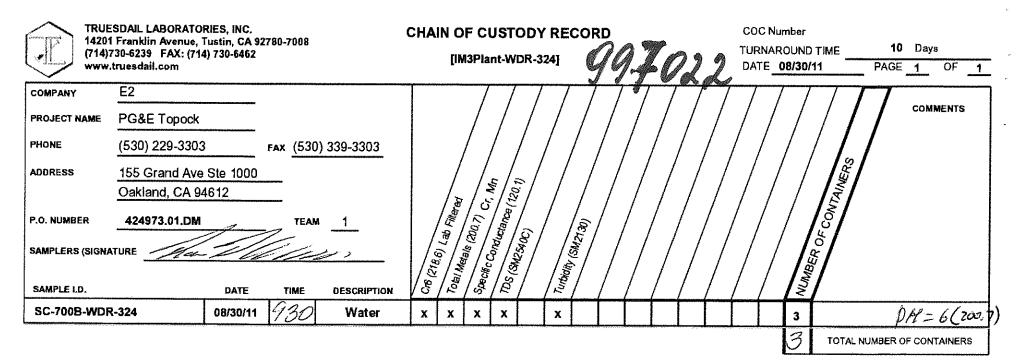


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For Sample Conditions See Form Attached

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	CHAIN OF CUSTODY S	IGNATURE RECORD	······································	SAMPLE CONDITIONS
	Signature Printed (Relinquished) HELL	Company/ SAgency OMI	Date/ <i>B-30-11</i> Time <i>1530</i>	RECEIVED COOL T WARM
	Signature Radaul Dry Name Laton	Company/ T-L. I	Date/ 8-30 - 1/ Time 5 2 A	CUSTODY SEALED YES D NO D
	(Relinquished) Rahmer Day, Name Rahad	Company/ Agency T. X. F	Date/ 8-30-11 Time 22:27	SPECIAL REQUIREMENTS:
ပ္ပ	Signature (Received) Luda Name Suabymin	Company/ T/L	Date/ Time 8/30/11 22/30	
	Signature Printed (Relinquished) Name	Company/ Agency	Date/ Time	
	Signature Printed (Received) 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
0831/4	997022	7.0	5.00	9.5	8:40	đ
28/31/11	997023	9.5	NA	NA	N/A	B
08/31/11	997023 997024 -1	9,5	NA	NA	NA	SB
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C:\My Documents\Templates\Hexavalent Chromium\Cr6+ pH Log

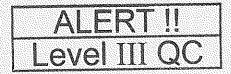
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Turbidity/pH Check

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99709911-4 1 2 9/3/11 M. M. Yes - 99709811-21 21 22 9/3/11 M. M. Yes - 99713211-71 V V V	997096 (1-2)	21		J.	L	K	J J
99713211-71 V V V -	1704 304 1.01	c /	<2	917/11	KI. M	Jes-	~ ¯
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99713211-71 V V V -	99 Jon 8 11-21	21	22	9/8/11	M.M	yez_	
$\frac{996083(16,23)}{21} \frac{21}{72} \frac{72}{911(11)} \frac{911(11)}{5} \frac{5}{10} \frac{10}{910} \frac{9100}{10}$	99713211-71			,Ve	L_L_	Lí V	
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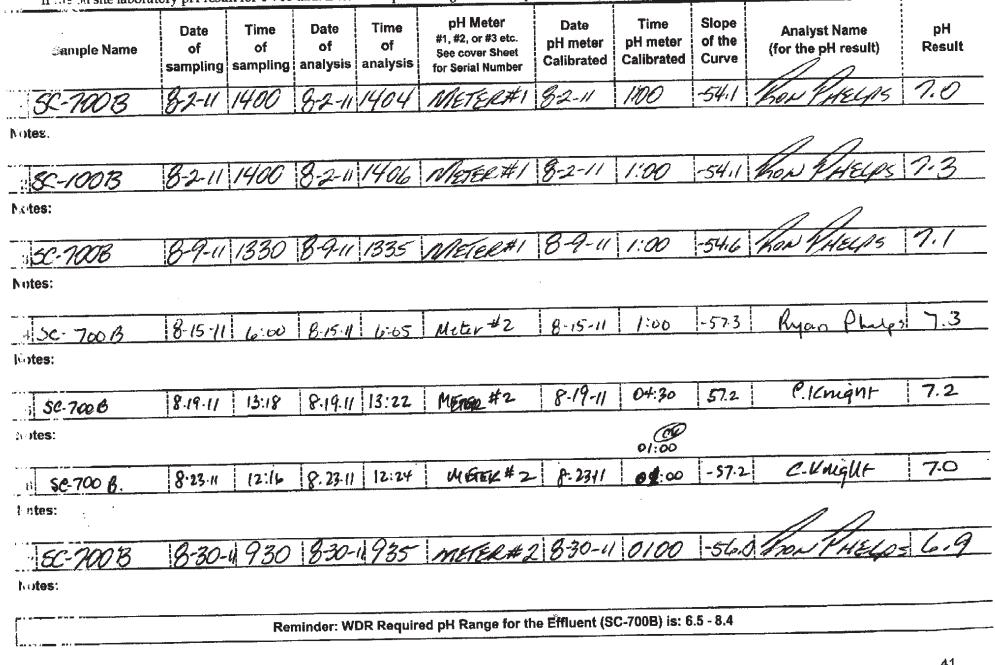
Sample Integrity & Analysis Discrepancy Form

	ent: <u> </u>	Lab # <u>• 997</u> 0
Dat	e Delivered: <u>8/30</u> /11	Field Service DClient
1.	Was a Chain of Custody received and signed?	Erres INO IN/A
2.	Does Customer require an acknowledgement of the COC?	UYes UNO VINA
3.	Are there any special requirements or notes on the COC?	□Yes □No ℤłN/A
! .	If a letter was sent with the COC, does it match the COC?	□Yes □No □AN/A
5.	Were all requested analyses understood and acceptable?	BYes DNo DN/A
3 .	Were samples received in a chilled condition? Temperature (if yes)? <u>5 ° C</u>	፼Yes □No □N/A
	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	Dryes INO IN/A
.	Were sample custody seals intact?	□Yes □No □N/A
•	Does the number of samples received agree with COC?	⊡Yes □No □N/A
0.	Did sample labels correspond with the client ID's?	TYes INO IN/A
1.	Did sample labels indicate proper preservation? Preserved (if yes) by: Truesdail Client	□Yes ŨNo □N/A
2.	Were samples pH checked? pH = <u>See</u> C.o.C	⊠Yes □No □N/A
3.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	ØYes □No □N/A
4.	Have Project due dates been checked and accepted? Turn Around Time (TAT): I RUSH I Std	ØYes □No □N/A
5.	<u>Sample Matrix:</u> □Liquid □Drinking Water □Ground W □Sludge □Soil □Wipe □Paint □Solid ੴ	Vater □Waste <u>Wa</u> ter Other_ <i>U</i> _A_{ER
5,	Comments:	
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	La 1. 11 Day

Analytical Bench Log Book

WDR pH Results

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



LASERJET ΗΡ 3:10PM -201 30

Bug

FAX

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EXCELLENCE IN INDEPENDENT TESTING

Established 1931

September 30, 2011

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

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-325 PROJECT, GROUNDWATER MONITORING, TLI NO.: 997096

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-325 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 September 6, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-325 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

 Mona Nassimi Manager, Analytical Services

Alichnel

Michael Ngo Quality Assurance/Quality Control Officer 002

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: Two (2) Groundwaters Project Name: PG&E Topock Project Project No.: 408401.01.DM

Laboratory No.: 997096 Date: September 30, 2011 Collected: September 6, 2011 Received: September 6, 2011

ANALYST LIST

METHOD	PARAMETER						
EPA 120,1	Specific Conductivity	ANALYST Gautam Savani					
SM 2540C	Total Dissolved Solids						
SM 2320B	Total Alkalinity	Jenny Tankunakorn Kim Luck					
SM 4500-Si D	Soluble Silica						
SM 4500-P B,E	Total Phosphorus	Jenny Tankunakorn					
SM 5310C	Total Organic Carbon	Jenny Tankunakorn					
SM 2130B	Turbidity	Jenny Tankunakorn					
EPA 300.0	Anions	Gautam Savani					
SM 4500-NH3 D	Ammonia	Giawad Ghenniwa					
SM 4500-NO2 B	Nitrite as N	Maria Mangarova					
EPA 200.7	Metals by ICP	Jenny Tankunakom					
EPA 200.8	Metals by ICP/MS	Ethel Suico					
EPA 218.6	Hexavalent Chromium	Katia Kiarashpoor Maksim Gorbunov					

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

Laboratory No.: 997096 Date Received: September 6, 2011

Attention: Shawn Duffy

005

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

Analytical Results Summary

RL 2.00
2 00
50.0
200
20.0
10.0
10.0
1.0
10.0
1.0
5.0
10.0
1.0
10.0
10.0
0.20
0.500
1.00
12.5
0.100
125
0.500
0.0050

Report Continued

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997096-002	SC-100B-WDR-325	E120.1	NONE	9/6/2011	14:00	EC	7810		
997096-002	SC-100B-WDR-325	E200.7	NONE	9/6/2011	14:00	Aluminum	ND	umhos/cm	2.00
997096-002	SC-100B-WDR-325	E200.7	NONE	9/6/2011	14:00	BORON	1040	ug/L	50.0
997096-002	SC-100B-WDR-325	E200.7	NONE	9/6/2011	14:00	Iron	ND	ug/L	200
997096-002	SC-100B-WDR-325	E200.7	LABFLT	9/6/2011	14:00	Iron	ND	ug/L	20.0
997096-002	SC-100B-WDR-325	E200.7	NONE	9/6/2011	14:00	Zinc	ND	ug/L	20.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Antimony	ND	ug/L	10.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Arsenic	3.4	ug/L	10.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Barium	25.6	ug/L	1.0
997096-002	SC-100B-WDR-325	E200.8	NONË	9/6/2011	14:00	Chromium	25.6 828	ug/L	10.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Copper	ozo ND	ug/L	1.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Lead	ND	ug/L	5.0
997096-002	SC-100B-WDR-325	E200.8	LABFLT	9/6/2011	14:00	Manganese	ND 8.7	ug/L	10.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Manganese	8.8	ug/L	1.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Molybdenum	20.4	ug/L	1.0
997096-002	SC-100B-WDR-325	E200.8	NONE	9/6/2011	14:00	Nickel	20.4 ND	ug/L	10.0
997096-002	SC-100B-WDR-325	E218.6	LABFLT	9/6/2011	14:00	Chromium, hexavalent	860	ug/L	10.0
997096-002	SC-100B-WDR-325	E300	NONE	9/6/2011	14:00	Fluoride	2.65	ug/L	21.0
997096-002	SC-100B-WDR-325	E300	NONE	9/6/2011	14:00	Nitrate as N	2.05	mg/L	0.500
997096-002	SC-100B-WDR-325	E300	NONE	9/6/2011	14:00	Sulfate	527	mg/L	1.00
997096-002	SC-100B-WDR-325	SM2130B	NONE	9/6/2011	14:00	Turbidity	0.18	mg/L	12.5
997096-002	SC-100B-WDR-325	SM2320B	NONE	9/6/2011	14:00	Alkalinity	155	NTU	0.100
997096-002	SC-100B-WDR-325	SM2320B	NONE	9/6/2011	14:00	Bicarbonate	155	mg/L	5.00
997096-002	SC-100B-WDR-325	SM2320B	NONE	9/6/2011	14:00	Carbonate		mg/L	5.00
997096-002	SC-100B-WDR-325	SM2540C	NONE	9/6/2011	14:00	Total Dissolved Solids	ND 4500	mg/L	5.00
997096-002	SC-100B-WDR-325	SM4500NH3D	NONE	9/6/2011	14:00	Ammonia-N	4590	mg/L	125
997096-002	SC-100B-WDR-325	SM4500NO2B	NONE	9/6/2011	14:00	Nitrite as N	1.51	mg/L	0.500
997096-002	SC-100B-WDR-325	SM4500-PB_E	NONE	9/6/2011	14:00	Total Phosphorous-P	ND	mg/L	0.0050
997096-002	SC-100B-WDR-325	SM4500SI	NONE	9/6/2011	14:00	Soluble Silica	ND 20.8	mg/L	0.0200
997096-002	SC-100B-WDR-325	SM5310C	NONE	9/6/2011	14:00	Total Organic Carbon	20.8	mg/L	1.00
				0.0/2011	14.00	Total Organic Carbon	ND	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.

EXCELLENCE IN INDEPENDENT TESTING

P.O. Number: 424973.01.DM Project Number: 424973.01.DM Established 1931

REPORT

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

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project

Laboratory No. 997096 Page 1 of 32 Printed 9/30/2011

Samples Received on 9/6/2011 9:30:00 PM

Field ID				Lab iD	Co	llected	Matr	·iγ
SC-700B-WDR-325 SC-100B-WDR-325				997096-001 997096-002		09/06/2011 14:00 09/06/2011 14:00		er er
Anions By I.C EPA		Batc	h 09AN11D		ne Maria Maria a Santa			
Parameter	en de finis de la de la de	Unit	An	alyzed	DF	MDL	RL	Result
997096-001 Fluoride		mg/L		7/2011 11:09	5.00	0.0250	0.500	
Nitrate as Nit	rogen	mg/L		7/2011 11:09	5.00	0.0250	1.00	1.94 2.97
Sulfate		mg/L		7/2011 13:25	25.0	0.500	12.5	2.97 492.
997096-002 Fluoride		mg/L	09/0	7/2011 11:20	5.00	0.0250	0.500	2.65
Nitrate as Nit	rogen	mg/L		7/2011 11:20	5.00	0.0550	1.00	3.22
Sulfate	······	mg/L	09/0	7/2011 13:35	25.0	0.500	12.5	527.
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	997071-004
Parameter	Unit	DF	Result	Expected	Þ	PD		
Sulfate	mg/L	25.0	79.6	78,7		1.08	0 - 20	nce Range
Duplicate						1.00		97096-002
Parameter	Unit	DF	Result	Expected	R	PD		
Fluoride	mg/L	5.00	2.66	2.65		0.564	0 - 20	ice Range
Nitrate as Nitrogen	mg/L	5.00	3.25	3.22		0.927	0 - 20	

Report Continued

Client: E2 Consulting Engineers, Inc.			Project Name: Project Number	Page 2 of 32 Printed 9/30/2011		
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Accontance Banas
Fluoride	mg/L	1.00	4.11	4,00	103.	Acceptance Range 90 - 110
Sulfate	mg/L	1.00	19.9	20.0	99.6	90 - 110
Nitrate as Nitrogen Matrix Spike	mg/L	1.00	3.97	4.00	99.2	90 - 110
Parameter	Unit	DF	Result	Exmented/Artic	_	Lab ID = 997071-004
Sulfate	mg/L	25.0	178.	Expected/Added 179.(100.)	Recovery 99.4	Acceptance Range
Matrix Spike	5			170.(100.)	55.4	85 - 115 Lab ID = 997096-002
Parameter	Unit	DF	Result	Expected/Added	Deerward	
Fluoride	mg/L	5.00	23.0	22.6(20.0)	Recovery 102.	Acceptance Range 85 - 115
Nitrate as Nitrogen	mg/L	5.00	24.2	23.2(20.0)	102.	85 - 115 85 - 115
MRCCS - Secondary	-			(_0,0)	100.	00 - 110
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.14	4.00	104.	90 - 110
Sulfate	mg/L	1.00	20.0	20.0	100.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.98	4.00	99.6	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.15	3.00	105.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.14	3.00	104.	90 - 110
Sulfate	mg/L	1.00	15.0	15.0	100.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.0	15.0	99.8	90 - 110
MRCVS - Primary						110
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.97	3.00	99.0	90 - 110

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

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Nitrite SM 4500-NO2 B			Batch	09NO211A				
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
997096-001 Nitrite as Nitrogen		mg/L	09/07	/2011 12:16	1.00	0.000360	0.0050	ND
997096-002 Nitrite as Nitrogen		mg/L	09/07/2011 12:17		1.00	0.000360	0.0050	ND
Method Blank								
Parameter Nitrite as Nitrogen	Unit ma/l	DF 1,00	Result					
Duplicate	mg/L	1,00	ND				Lab ID = 9	97096-001
Parameter Nitrite as Nitrogen Lab Control Sample	Unit mg/L	DF 1.00	Result ND	Expected 0.00	F	RPD 0		ice Range
Parameter Nitrite as Nitrogen Matrix Spike	Unit mg/L	DF 1.00	Result 0.0398	Expected 0.0400	F	Recovery 99.5	90 - 110	ce Range 97096-001
Parameter Nitrite as Nitrogen MRCCS - Secondary	Unit mg/L	DF 1.00	Result 0.0197	Expected/Add 0.0200(0.0200		Recovery 98.5		ce Range
Parameter Nitrite as Nitrogen MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.0194	Expected 0.0200	٦	Recovery 97.0	Acceptan 90 - 110	ce Range
Parameter Nitrite as Nitrogen	Unit mg/L	DF 1.00	Result 0.0197	Expected 0.0200	F	ecovery 98.5	Acceptan 90 - 110	ce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

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Alkalinity by SM 23201	B		Batch	n 09ALK11B			9/12/201	
Parameter		Unit	Ana	alyzed	DF	MDL	RL	Result
997096-002 Alkalinity as C	aCO3	mg/L	09/12/2011 09/12/2011 09/12/2011		1.00	1,68	5.00	155
Bicarbonate (0	Calculated)	mg/L			1.00 1.68 1.00 1.68		5.00	155
Carbonate (Ca	alculated)	mg/L					5.00 ND	
Method Blank								
Parameter Alkalinity as CaCO3	Unit mg/L	DF 1.00	Result ND					
Duplicate							Lab ID =	997083-020
Parameter Alkalinity as CaCO3 Lab Control Sample	Unit mg/L	DF 1.00	Result 80.0	Expected 80.0	F	PD 0.00	Acceptance Range 0 - 20	
Parameter Alkalinity as CaCO3	Unit mg/L	DF 1.00	Result 100,	Expected 100.	R	ecovery 100.	Accepta 90 - 110	ince Range
Lab Control Sample	Duplicate							
Parameter Alkalinity as CaCO3 Matrix Spike	Unit mg/L	DF 1.00	Result 100.	Expected 100.	R	ecovery 100.	90 - 110	
							Lab ID =	997096-002
Parameter Alkalinity as CaCO3	Unit mg/L	DF 1.00	Result 250.	Expected/Adde 255(100.)		ecovery 95.0	Accepta 75 - 125	nce Range

Report Continued

 Client: E2 Consulting Engineers, Inc.
 Project Name:
 PG&E Topock Project
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 Project Number:
 424973.01.DM
 Printed 9/30/2011

Specific Conductivity -	EPA 120.1	n persona est	Batch	09EC11B			9/9/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
997096-001 Specific Conduct 997096-002 Specific Conduct	-	umhos umhos		9/2011 9/2011	1.00	0.0380	2.00	7270 7810
Method Blank	······································					0,0000	2.00	7010
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND					
Parameter	11		_ .				Lab ID =	997096-002
Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7820	Expected 7810	• •	PD 0.128	Accepta 0 - 10	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 707	Expected 706	R	ecovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhoะ	DF 1.00	Result 706	Expected 706	R	ecovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 990.	Expected 998		ecovery 99.2	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

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Analyzed //08/2011 16:35 //08/2011 16:45 Expected 2.16 Expected 5.00	(Re	MDL 0.0260 2.73 PD 0.314 ecovery	0.20 21.0 Lab ID =	Result ND 860. 997132-002 nce Range
Expected 2.16 Expected	105 RF (2.73 PD 0.314	21.0 Lab ID = Accepta	860. 997132-002
Expected 2.16 Expected	RF (2.73 PD 0.314	21.0 Lab ID = Accepta	860. 997132-002
Expected 2.16 Expected	RF (р D.314	Lab ID = Accepta	997132-002
Expected 2.16 Expected	(Re	0.314	Accepta	
2.16 Expected	(Re	0.314	Accepta	
2.16 Expected	(Re	0.314	Accepta	
2.16 Expected	(Re	0.314		nce Range
2.16 Expected	(Re	0.314		nce Kange
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Expected/Ac	Ided Re	COVADI		
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Expected/Ac	Ided Re	COVOD		
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Expected/Ad	Ided Ro	COVODI		
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(97096-002
Expected/Ad	ded Re	00000		
•				nce Kange
()	0	0.0		97097-001
Expected/Ad	ded Ro	001/05/		
·		•		ice Range
	·	00.		07007.002
Expected/Ad	dod Ro			
				ice Kange
,	•	U£.		
•			•	ice Range
	Expected/Ad 20.1(10.6) Expected/Ad 1.18(1.06) Expected/Ad 5.42(5.25) Expected/Ad 1910(1050) Expected/Ad 1.55(1.06) Expected/Ad 7.10(5.30)	Expected/Added 20.1(10.6)Re 1Expected/Added 1.18(1.06)Re 1Expected/Added 5.42(5.25)Re 1Expected/Added 1910(1050)Re 9Expected/Added 1.55(1.06)Re 1Expected/Added 1.55(1.06)Re 1Expected/Added 1.55(1.06)Re 1Expected/Added 1.55(1.06)Re 1Expected/Added 1.55(1.06)Re 1Expected/Added 7.10(5.30)Re 1	Expected/Added 20.1(10.6)Recovery 100.Expected/Added 1.18(1.06)Recovery 100.Expected/Added 5.42(5.25)Recovery 102.Expected/Added 1910(1050)Recovery 98.0Expected/Added 1.55(1.06)Recovery 103.Expected/Added 1.05.30)Recovery 102.Expected/Added 1.03.Recovery 102.	Lab ID =Expected/AddedRecoveryAccepta20.1(10.6)100.90 - 110Lab ID = 3Expected/AddedRecoveryAccepta1.18(1.06)100.90 - 110Lab ID = 3Expected/AddedRecoveryAccepta5.42(5.25)102.90 - 110Lab ID = 3Expected/AddedRecoveryAccepta1910(1050)98.090 - 110Lab ID = 3Expected/AddedRecoveryAccepta1.55(1.06)103.90 - 110Lab ID = 3Expected/AddedRecovery7.10(5.30)102.90 - 110Lab ID = 3Expected/AddedRecoveryAcceptar7.10(5.30)102.Expected/AddedRecoveryAcceptar7.10(5.30)102.90 - 110Lab ID = 3Expected/AddedExpected/AddedRecoveryAcceptar7.10(5.30)102.90 - 110Lab ID = 3Expected/AddedRecoveryAcceptar7.10(5.30)102.Expected/AddedRecoveryAcceptarAcc

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.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

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Metals by EPA 200.7, To	tal		Batc	h 090811A		aalii t	
Parameter		Unit	An	alyzed [F MDL	RL	Result
997096-001 Aluminum		ug/L	09/0	8/2011 10:50 1.	00 2.83	50.0	ND
Boron		ug/L			00 1.50	200.	1020
Iron		ug/L			00 1.34	200.	ND
997096-002 Aluminum		ug/L			00 2.83	20.0 50.0	ND
Boron		ug/L			00 1.50	200.	
Iron		ug/L			00 1.30	200.	1040
Method Blank		<u>U </u>			00 1,34	20.0	ND
Parameter	Unit	DF	Result				
Aluminum	ug/L	1.00	ND				
Iron	ug/L	1.00	ND				
Boron	ug/L	1.00	ND				
Duplicate	•					l ab ID ≕	997083-023
Parameter	Unit	DF	Result	Expected	RPD		
Aluminum	ug/L	1.00	59.7	61.5	2.97	Ассерта 0 - 20	nce Range
Iron	ug/L	1.00	ND	0.00	0	0 - 20 0 - 20	
Boron	ug/L	1.00	131.	134	0 2.11	0 - 20 0 - 20	
Lab Control Sample					4.11	0-20	
Parameter	Unit	DF	Result	Expected	Recovery	Accenta	nce Range
Aluminum	ug/L	1.00	5250	5000	105.	85 - 115	nce Kange
Iron	ug/L	1.00	5160	5000	103.	85 - 115	
Boron	ug/L	1.00	5000	5000	100.	85 - 115	
Matrix Spike							997083-023
Parameter	Unit	DF	Result	Expected/Added	Recovery		
Aluminum	ug/L	1.00	1770	2060(2000)	85.5	75 - 125	nce Range
Iron	ug/L	1.00	1830	2000(2000)	91.4	75 - 125	
Boron	ug/L	1.00	1930	2130(2000)	89.8	75 - 125	
MRCCS - Secondary					·		
Parameter	Unit	DF	Result	Expected	Recovery	Accortor	nce Range
Aluminum	ug/L	1.00	5200	5000	104.	90 - 110	ice Range
Iron	ug/L	1.00	5100	5000	102.	90 - 110	
Boron	ug/L	1.00	4780	5000	95.6	90 - 110 90 - 110	
MRCVS - Primary						00 ° 110	
Parameter	Unit	DF	Result	Expected	Recovery	Accentar	ice Range



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

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Parameter		Unit	Ana	ilyzed D	F MDL	RL	Result
997096-001 Zinc		ug/L	09/28	3/2011 17:08 1.0	0 3.89	10.0	ND
997096-002 Zinc		ug/L	09/28	3/2011 17:26 1.0		10.0	ND
Method Blank		·····					
Parameter	Unit	DF	Result				
Zinc	ug/L	1.00	ND				
Duplicate						Lab ID =	997096-001
Parameter	Unit	DF	Result	Expected	RPD		nce Range
Zinc	ug/L	1.00	ND	0.00	0	0 - 20	nee nange
Lab Control Sample	è						
Parameter	Unit	DF	Result	Expected	Recovery	Accenta	nce Range
Zinc	ug/L	1.00	5360	5000	107.	85 - 115	
Matrix Spike						Lab ID = :	997096-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accenta	nce Range
Zinc	ug/L	1.00	1960	2000(2000)	98.2	75 - 125	-
MRCCS - Secondar	у			, <u>,</u>			
Parameter	Unit	DF	Result	Expected	Recovery	Accenta	nce Range
Zinc	ug/L	1.00	5150	5000	103.	90 - 110	-
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Zinc	ug/L	1.00	5260	5000	105.	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Zinc	ug/L	1.00	5070	5000	101.	90 - 110	loo nange
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptar	nce Range
Zinc	ug/L	1.00	ND	0.00		· · · · · · · · · · · · · · · · · · ·	loo nange
Interference Check	Standard A						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptar	nce Range
Zinc	ug/L	1.00	ND	0.00	· - · · ,		
Interference Check	Standard AB						
Parameter	Unit	DF	Result	Expected	Recovery	Accepter	ice Range
Zinc	ug/L	1.00	2130	2000	106.	80 - 120	ise Kange



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

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Parameter			Unit	A polymore d				
997096-001	Arconio	······		Analyzed	DF	MDL	RL	Result
337030-001			ug/L	09/15/2011 15:38	5.00	0.285	1.0	ND
	Barium		ug/L	09/15/2011 15:38	5.00	0.200	10.0	13.2
	Chromium		ug/L	09/15/2011 15:38	5.00	0,110	1.0	1.5
	Copper		ug/L	09/15/2011 15:38	5.00	0.125	5.0	ND
	Lead		ug/L	09/15/2011 15:38	5.00	0.110	10.0	ND
	Manganese		ug/L	09/15/2011 15:38	5.00	0.285	1.0	5.7
	Molybdenum		ug/L	09/15/2011 15:38	5.00	2.70	10.0	16.9
	Nickel		ug/L	09/15/2011 15:38	5.00	0.0750	10.0	ND
997096-002	Arsenic		ug/L	09/15/2011 16:39	5,00	0.285	1.0	3.4
	Barium		ug/L	09/15/2011 16:39	5.00	0.200	10.0	25.6
	Chromium		ug/L	09/15/2011 16:39	5.00	0.110	1.0	828
	Copper		ug/L	09/15/2011 16:39	5.00	0.125	5.0	ND
	Lead		ug/L	09/15/2011 16:39	5.00	0,110	10.0	ND
	Manganese		ug/L	09/15/2011 16:39	5.00	0.285	1.0	8.8
	Molybdenum		ug/L	09/15/2011 16:39	5.00	2.70	10.0	20.4
	Nickel		ug/L	09/15/2011 16:39	5.00	0.0750	10.0	20.4 ND
Metho	od Blank				0.00	0.0100	10.0	
Parameter		Unit	DF	Result				
Arsenic		ug/L	1.00	ND				
Barium		ug/L	1.00	ND				
Chromium		ug/L	1.00	ND				
Nickel		ug/L	1.00	ND				
Copper		ug/L	1.00	ND				
Lead		ug/L	1.00	ND				
Manganese	,	ug/L	1.00	ND				
Molybdenur	n	ug/L	1.00	ND				



Report Continued

Client: E2 Consulting Engi	ineers, Inc.		Project Name: Project Number:	PG&E Topock Pro 424973.01.DM	pject	Page 15 of 32 Printed 9/30/2011
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	48.5	50.0	97.0	85 - 115
Barium	ug/L	1.00	48.3	50.0	96.7	85 - 115
Chromium	ug/L	1.00	48.8	50.0	97.5	85 - 115
Nickel	ug/L	1.00	48.0	50.0	95.9	85 - 115
Copper	ug/L	1.00	48.9	50.0	97.8	85 - 115
Lead	ug/L	1.00	49.7	50.0	99.5	85 - 115
Manganese	ug/L	1.00	50.4	50.0	101.	85 - 115
Molybdenum	ug/L	1.00	49.4	50.0	98.7	85 - 115
Matrix Spike						Lab ID = 997096-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	245.	250.(250.)	98.0	75 - 125
Barium	ug/L	5.00	231	263.(250.)	87.1	75 - 125
Chromium	ug/L	5.00	226.	251.(250.)	89.9	75 - 125
Nickel	ug/L	5.00	210.	250.(250.)	83.8	75 - 125
Copper	ug/L	5.00	206.	250.(250.)	82.4	75 - 125
Lead	ug/L	5.00	204.	250.(250.)	81.4	75 - 125
Manganese	ug/L	5.00	231.	256.(250.)	90.3	75 - 125
Molybdenum	ug/L	5.00	234.	267.(250.)	86.8	75 - 125
Matrix Spike Duplicate						Lab ID = 997096-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Arsenic	ug/L	5.00	240.	250.(250.)	95.9	75 - 125
Barium	ug/L	5.00	227.	263.(250.)	85.6	75 - 125
Chromium	ug/L	5.00	220.	251.(250.)	87.6	75 - 125
Nickel	ug/L	5.00	204.	250.(250.)	81.4	75 - 125
Copper	ug/L	5.00	200.	250.(250.)	80.2	75 - 125
Lead	ug/L	5.00	201	250.(250.)	80.4	75 - 125
Manganese	ug/L	5.00	230.	256.(250.)	89.8	75 - 125
Molybdenum	ug/L	5.00	231	267.(250.)	85.6	75 - 125





Report Continued

Client: E2 Consulting Engi	neers, Inc.		Project Name: Project Number:	roject	Page 21 of 32 Printed 9/30/2011	
Interference Check Star	ndard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	47.6	50.0	95.2	80 - 120
Lead	ug/L	1.00	ND	0.00		
Interference Check Star	ndard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	ND	0.00	,	i leeepianee nange
Interference Check Star	ndard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.3	50.0	94.6	80 - 120
Interference Check Star	ndard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.4	50.0	96.7	80 - 120
Molybdenum	ug/L	1.00	ND	0,00		
Interference Check Star	idard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	ND	0.00	, lees to ly	Acceptance Mange
Serial Dilution						Lab ID = 997095-002
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	50.0	26.6	26.4	0.680	0 - 10
Chromium	ug/L	50.0	908.	992	8.88	0 - 10

Report Continued

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	092911A				
Parameter		Unit	Ana	lyzed D	F	MDL	RL	Result
997096-001 Antimony		ug/L	09/29	/2011 12:03 5.	00	0.120	10.0	ND
997096-002 Antimony		ug/L	09/29	/2011 12:33 5.	00	0.120	10.0	ND
Method Blank								
Parameter	Unit	DF	Result					
Antimony	ug/L	1.00	ND					
Duplicate							Lab ID =	997096-001
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	ance Range
Antimony	ug/L	5.00	ND	0.00		0	0 - 20	
Lab Control Sample	!							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Antimony	ug/L	1.00	45.8	50.0		91.6	85 - 118	5
Matrix Spike							Lab ID =	997096-001
Parameter	Unit	DF	Result	Expected/Added	d F	Recovery	Accepta	ance Range
Antimony	ug/L	5.00	200.	250.(250.)		80.2	75 - 12	5
Matrix Spike Duplica	ate						Lab ID =	997096-001
Parameter	Unit	DF	Result	Expected/Added	d P	Recovery	Accepta	ance Range
Antimony	ug/L	5.00	205.	250.(250.)		82.0	75 - 12	5
MRCCS - Secondar	У							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Antimony	ug/L	1.00	49,4	50.0		98.7	90 - 11(כ
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Antimony	ug/L	1.00	50.5	50.0		101.	90 - 11	כ
Interference Check	Standard A							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Antimony	ug/L	1.00	ND	0.00				
Interference Check	Standard A							
Parameter	Unit	DF	Result	Expected	f	Recovery	Accepta	ance Range
Antimony	ug/L	1.00	ND	0.00				
Interference Check	Standard AB							
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Antimony	ug/L	1.00	ND	0.00				
-	-							

Report Continued

Client: E2 Consulting En		I	Project Name: Project Number	PG&E Topock P : 424973.01.DM	roject	Page 23 of 32 Printed 10/5/2011 Revised
Interference Check St	andard AB					
Parameter Antimony	Unit ug/L	DF 1.00	Result ND	Expected 0.00	Recovery	Acceptance Range
Reactive Silica by SM45 Parameter	00-Si D	Unit	Batch Analy	09Si11B /zed E	PF MDL	9/9/2011 RL Result
997096-002 Silica		mg/L	09/09/	2011 25	5.0 0.532	1.00 20.8
Method Blank						
Parameter Silica	Unit mg/L	DF 1.00	Result ND			
Duplicate						Lab ID = 997096-002
Parameter Silica	Unit mg/L	DF 25.0	Result 20.8	Expected 20.8	RPD 0.194	Acceptance Range 0 - 20
Lab Control Sample	Ŧ				0.101	0-20
Parameter Silica Matrix Spike	Unit mg/L	DF 1.00	Result 0.232	Expected 0.220	Recovery 105.	Acceptance Range 90 - 110 Lab ID = 997096-002
Parameter Silica MRCCS - Secondary	Unit mg/L	DF 25.0	Result 30.1	Expected/Addec 30.8(10.0)	I Recovery 92.7	Acceptance Range 75 - 125
Parameter Silica MRCVS - Primary	Unit mg/L	DF 1.00	Result 0.111	Expected 0.110	Recovery 101	Acceptance Range 90 - 110
Parameter Silica	Unit mg/L	DF 1.00	Result 0.384	Expected 0.400	Recovery 96.0	Acceptance Range 90 - 110

Report Continued

Client: E2 Consulting Engineers, Inc.	Project Name:	PG&E Topock Project	Page 24 of 32
	Project Number:	424973.01.DM	Printed 9/30/2011
Total Dissolved Solids by SM 2540 C	Batch	09TDS11A	9/7/2011

Iotal Dissolved Solids c)y 5₩ 254	UC	Batch	I U9IDS11A			9/7/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
997096-001 Total Dissolved	Solids	mg/L	09/07/2011		1.00	0.400	125	4660
997096-002 Total Dissolved	Solids	mg/L	09/07	7/2011	1.00	0.400	125	4590
Method Blank								
Parameter	Unit	DF	Result					
Total Dissolved Solids	mg/L	1.00	ND					
Duplicate							Lab ID =	997099-001
Parameter	Unit	DF	Result	Expected	F	RPD	Acceptance Range	
Total Dissolved Solids	mg/L	1.00	1200	1230		2.80	0 - 5	•
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	492	500.		98.4	90 - 110)

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 25 of 32 Printed 9/30/2011

Parameter	la ka shekara	Unit	Ana	lyzed	DF	MDL	RL	Result
997096-002 Total Organic Car		mg/L	09/12	/2011 15:59 1	.00	0.0103	0.300	ND
Method Blank		··· ·· ·						
Parameter	Unit	DF	Result					
Total Organic Carbon	mg/L	1.00	ND					
Duplicate							Lab ID =	997083-020
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	3.17	3.21		1.22	0 - 20	-
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	24.7	25.0		98.7	90 - 110	
Matrix Spike							Lab ID =	997083-021
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	13.4	12.5(10.0)		109.	75 - 125	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	25.2	25.0		101.	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	10.7	10.0		107.	90 - 110	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Total Organic Carbon	mg/L	1.00	10.6	10.0		106.	90 - 110	



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 26 of 32 Printed 9/30/2011

Total Phosphate, SM 450	00-PB,E		Batch	09TP11B			9/9/2011	
Parameter	Aleka dikerin ke d	Unit	Anal	yzed I	DF	MDL	RL	Result
997096-002 Phosphate, Tota	l As P	mg/L	09/09/2011		.00	0.00530	0,0200	ND
Method Blank								
Parameter	Unit	DF	Result					
Phosphate, Total As P	mg/L	1.00	ND					
Duplicate							Lab ID = 9	97096-002
Parameter	Unit	DF	Result	Expected	F	RPD	Acceptar	nce Range
Phosphate, Total As P	mg/L	1.00	ND	0.00		0	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	F	Recovery	Acceptar	nce Range
Phosphate, Total As P	mg/L	1.00	0.108	0.100		108.	90 - 110	
Matrix Spike							Lab ID = 9	97096-002
Parameter	Unit	DF	Result	Expected/Adde	ed F	Recovery	Acceptar	nce Range
Phosphate, Total As P	mg/L	1.00	0.0627	0.0650(0.0650)	9 6.5	75 - 125	
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Phosphate, Total As P	mg/L	1.00	0.0634	0.0600		106.	90 - 1 10	
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range
Phosphate, Total As P	mg/L	1.00	0.0690	0.0650		106.	90 - 110	

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

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Ammonia Nitrogen by SM			영국 문화 같이	09NH3-E11A	egele.		9/7/2011	
Parameter		Unit	Ana	lyzed [)F	MDL	RL	Result
997096-001 Ammonia as N		mg/L	09/07	7/2011 1	.00	0.00200	0.500	1.01
997096-002 Ammonia as N		mg/L	09/07/2011		.00	0.00200	0.500	1.51
Method Blank								
Parameter	Unit	DF	Result					
Ammonia as N	mg/L	1.00	ND					
Duplicate							Lab ID =	997096-002
Parameter	Unit	DF	Result	Expected	R	PD	Accepta	nce Range
Ammonia as N	mg/L	1.00	1.42	1.51		6.35	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	R	lecovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	9.9 8	10.0		99.8	90 - 110	
Matrix Spike							Lab ID =	997096-002
Parameter	Unit	DF	Result	Expected/Adde	d R	lecovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	6.90	7.51(6.00)		89.8	75 - 125	•
Matrix Spike Duplicate							Lab ID =	997096-002
Parameter	Unit	DF	Result	Expected/Adde	d R	ecovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	7.04	7.51(6.00)		92.1	75 - 125	-
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	6.01	6.00		100.	90 - 110	•
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	R	ecovery	Accepta	nce Range
Ammonia as N	mg/L	1.00	6.44	6.00		107.	90 - 110	•

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 28 of 32 Printed 9/30/2011

Metals by EPA 200.8, Di	ssolved		Batch	091511A				
Parameter	·· · · · · · · · · · · · · · · · · · ·	Unit	Ana	lyzed	DF	MDL	RL	Result
997096-002 Manganese		ug/L	09/15	5/2011 16:46	5.00 0.285		1.0	8.7
Method Blank								
Parameter	Unit	DF	Result					
Chromium	ug/L	1.00	ND					
Manganese	ug/L	1.00	ND					
Duplicate							Lab ID =	997095-001
Parameter	Unit	DF	Result	Expected	RPD)	Accepta	ance Range
Chromium	ug/L	5,00	9.02	8.97	0.5	534	0 - 20	-
Manganese	ug/L	5.00	34.6	35.5	2.6	58	0 - 20	
Lab Control Sample								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	ance Range
Chromium	ug/L	1.00	48.8	50.0	97	.5	85 - 110) _
Manganese	ug/L	1.00	50.4	50.0	10	1.	85 - 110)
Matrix Spike							Lab ID =	997095-001
Parameter	Unit	DF	Result	Expected/Add	ed Rec	overy	Accepta	ance Range
Chromium	ug/L	5.00	245.	259.(250.)	94	•	75 - 12	-
Manganese	ug/L	5,00	273.	286.(250.)	94	.9	75 - 12	5
MRCCS - Secondary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	ance Range
Chromium	ug/L	1,00	46.9	50.0	93	.8	90 - 110) –
Manganese	ug/L	1.00	48.7	50.0	97	.3	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	ance Range
Chromium	ug/L	1,00	49.8	50.0	99	.7	90 - 110	•
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	ance Range
Chromium	ug/L	1.00	48.2	50,0	96	.3	90 - 110)
MRCVS - Primary								
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	ance Range
Chromium	ug/L	1.00	49,9	50.0	99	•	90 - 110	-
MRCVS - Primary	2							
Parameter	Unit	DF	Result	Expected	Rec	overy	Accepta	ance Range
Chromium	ug/L	1.00	48.3	50.0	96	-	90 - 11	-

Client: E2 Consulting Engineers, Inc.			-	PG&E Topock 424973.01.DN	•	Page 30 of 32 Printed 9/30/2011		
Serial Dilution						Lab ID = 997095-002		
Parameter Chromium	Unit ug/L	DF 50.0	Result 908.	Expected 992	RPD 8.88	Acceptance Range 0 - 10		

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 31 of 32 Printed 9/30/2011

Metals by 200.7, Diss Parameter	olved	Unit	ata sa kali	090811A lyzed D	F MDL	RL Result
997096-002 Iron	. # 8 1 1	ug/L		/2011 12:01 1.(00 1.34	20.0 ND
Method Blank			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		
Parameter	Unit	DF	Result			
Iron	ug/L	1.00	ND			
Duplicate						Lab ID = 997096-002
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Iron	ug/L	1,00	ND	0.00	0	0 - 20
Lab Control Samp	le					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Rang
Iron	ug/L	1.00	5160	5000	103.	85 - 115
Matrix Spike						Lab ID = 997096-00
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Rang
Iron	ug/L	1.00	1700	2000(2000)	85.0	75 - 125
MRCCS - Seconda	ary					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Rang
Iron	ug/L	1.00	5100	5000	102.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Rang
Iron	ug/L	1.00	5250	5000	105.	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Rang
Iron	ug/L	1.00	5000	5000	99.9	90 - 110
Interference Chec	k Standard A					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Rang
Iron	ug/L	1.00	2190	2000	109.	80 - 120
Interference Chec	k Standard A					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Rang
Iron	ug/L	1.00	2210	2000	111.	80 - 120
Interference Chec	k Standard AB					
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Rang
Iron	ug/L	1.00	2170	2000	108.	80 - 120

Report Continued

Client: E2 Consulting E	-	iect Name: ject Numbe	ct	Page 32 of 32 Printed 9/30/2011					
Interference Check	Standard AB								
Parameter Iron	Unit ug/L	DF 1.00	Result 2230	Expected 2000	F	Recovery 111.	Acceptance Range 80 - 120		
Turbidity by SM 2130 E			Batch	09TUC11A			9/7/2011	tatan Partan Partan	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
997096-001 Turbidity		NTU	09/07	/2011	1.00	0.0140	0.100	0.100	
997096-002 Turbidity		NTU	09/07	/2011	1.00	0.0140	0.100	0.180	
Method Blank									
Parameter	Unit	DF	Result						
Turbidity	NTU	1.00	ND						
Duplicate							Lab ID = !	997096-002	
Parameter	Unit	DF	Result	Expected	F	RPD	Accepta	nce Range	
Turbidity	NTU	1.00	0.182	0.180		1.10	0 - 20	-	
Lab Control Sample	•								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range	
Turbidity	NTU	1.00	8.32	8.00		104	90 - 110	-	
Lab Control Sample	Duplicate								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range	
Turbidity	NTU	1.00	8.10	8.00		101.	90 - 110		

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

🔓 , Mona Nassimi Manager, Analytical Services

EZ-Secu

Total Dissolved Solids by SM 2540 C

Calculations

Batch:	09TDS11A
Date Calculated:	9/12/11

1

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	112.3586	112.3589	112.3588	0.0001	No	0.0002	2.0	25.0	ND	1
997071-2	200	109.3949	109.4104	109.4104	0.0000	No	0.0155	77.5	12.5	77.5	1
997071-4	100	108.6939	108.7217	108.7216	0.0001	No	0.0277	277.0	25.0	277.0	1
997083-16	50	68.1527	68.1900	68.1900	0.0000	No	0.0373	746.0	50.0	746.0	1
997095-1	20	68.2092	68.2657	68.2663	0.0004	No	0.0571	2855.0	125.0	2855.0	1
997095-2	20	50.1288	50.2318	50.2317	0.0001	No	0.1029	5145.0	125.0	5145.0	1
997096-1	20	68.1070	68.2006	68.2002	0.0004	No	0.0932	4660.0	125.0	4660.0	1
997096-2	20	74,7543	74.8461	74.8461	0.0000	No	0.0918	4590.0	125.0	4590.0	1
997098-1	100	103,4180	103.4621	103.4617	0.0004	No	0.0437	437.0	25.0	437.0	1
997098-2	100	100.6890	100.7412	100.7412	0.0000	No	0.0522	522.0	25.0	522.0	1
997099-1	50	111.1909	111.2526	111.2522	0.0004	No	0.0613	1226.0	50.0	1226.0	1
997099-1D	50	111.6555	111.7157	111.7153	0.0004	No	0.0598	1196.0	50.0	1196,0	1
LCS	100	104.8947	104.944	104.9439	0.0001	No	0.0492	492.0	25.0	492.0	1
997699-2	50 :	112.3125	112.3541	112,3537	0.0004	No	0.0412	824.0	50.0	824.0	1
997099-3	50	69.3493	69.4204	69.4204	0.0000	No	0.0711	1422.0	50.0	1422.0	1
997099-4	50	74.6989	74,7759	74.7759	0.0000	No	0.0770	1540.0	50.0	1540.0	1
997130-1	50	68.2216	68 .2719	68.2719	0.0000	No	0.0503	1006.0	50.0	1006.0	1
997130-2	100	73.1389	73.1964	73.1961	0.0003	No	0.0572	572.0	25.0	572.0	1
997130-3	100	65.7133	65.7695	65.7692	0.0003	No	0.0559	559.0	25.0	559.0	1
997130-4	50	73.5047	73.5349	73.5349	0.0000	No	0.0302	604.0	50.0	604.0	1
											· · · · · · · · · · · · · · · · · · ·
LCSD											1

Calculation as follows:

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

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)

Analyst Printed Name

Analyst Signature

¥ COC-Signed J. Welchem TDS_0810.xls

Reviewer Printed Name

Reviewer Signature

048

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

Batch: 09TDS11A

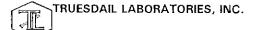
Date Calculated: 9/12/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3	
			1		
997071-2	142	0.55	92.3	0.84	
997071-4	503	0.55	326.95	0.85	
997083-16	1346	0.55	874.9	0.85	
997095-1	5040	0.57	3276	0.87	
997095-2	8490	0.61	5518.5	0.93	
997096-1	7270	0.64	4725.5	0.99	
997096-2	7810	0.59	5076.5	0.90	
997098-1	726	0.60	471.9	0.93	
997098-2	835	0.63	542.75	0.96	
997099-1	1903	0.64	1236.95	0.99	
997099-1D	1903	0.63	1236.95	0.97	
LCS			1		
997099-2	1294	0.64	841.1	0.98	
997099-3	2060	0.69	1339	1.06	
997099-4	2240	0.69	1456	1.06	
997130-1	1817	0.55	1181.05	0.85	
997130-2	994	0.58	646.1	0.89	
997130-3	933	0.60	606.45	0.92	
997130-4	1017	0.59	661.05	0.91	
1					
iiiii		+	; ;		



11

WetChem TDS_0810.xis



Alkalinity by SM 2320B Calculations

Date of Analysis: 9/12/11 Start of Analysis: Date Sampled:

Analytical Batch:	09ALK11B
Matrix:	Water
Date Calculated:	9/12/11

Lab ID	Sample pH	Sample Volume (ml)	N of HCL	Titrant Volume to reach pH 8.3	P Alkalinity as CaCO3	Titrant Volume to reach pH 4.5	Total mL titrant to reach pH 0.3 unit lower	Total Alkalinity as CaCO3	RL, ppm	Total Alkalinity Reported Value	HCO3 Alkalinity as CaCO₃ (ppm)	CO3 Alkalinity as CaCO ₃ (ppm)	OH Alkalinity as CaCO, (ppm)	Low Alkalinity as CaCO ₃ (<20ppm)
BLANK	6.98	50	0.02		0,0	0 05		1.0	5	ND	ND	ND	ND	i
997083-16	7 05	50	0.02		0.0	4.75	Anti-at-long alter starting and the above	95.0	5	95,0	95.0	ND	ND	
997083-20	7.57	50	0.02		0.0	4 00		80,0	5	80.0	80.0	ND	ND	
997096-2	7 46	50	0 02	Contrast of Contrast of Contrast	0.0	7 75		155.0	5	155.0	155.0	ND	ND	
997083-20D	7 55	50	0.02		0.0	4.00		80.0	5	80.0	80.0	ND	ND	į
997096-2MS	8 92	50	0.02	1.6	31.0	12.50		250.0	5	250.0	188.0	62	ND	
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una engan ganta varia de anticipas variadas o	and mental index to serve a transmission of the	han ta talan ya talaha ya uta ta	a posta a transportante	a se annih er des ingels tracerities		-toopol critico control context control (enterior and contract counts							
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			New Address of the Address	hand a second second second second second second second second second second second second second second second										
	anna ann ann ann ann ann ann ann ann an			•		- -								
	co		 T:>:-											
LCS1	10.25	50	0.02	2.2	44.0	5 00	han en her her her her her her her her her her	100.0	5	100.0	12.0	88	ND	·····
LCS2	10.30	50	0 02	2.2	44.0	5.00		100.0	5	100.0	12.0	88	ND	

Calculations as follows:

ND: Not Detected (below the reporting limit)

LCSD: Laboratory Control Standard Duplicate

LCS: Laboratory Control Standard

<u>A x N x</u> 50000 Tor P= mL sample

T = Total Alkalinity, mg CaCO3/L P = Phenolphthalein Alkalinity, mg CaCO3/L A = mL standard acid used

N = normality of standard acid

Where:

Analyst Signature

Reviewer Printed Name

Low Alkalinity: = as mg/L CaCO3

(2 x B - C) x N x 50000 mL sample

Where: B = mL titrant to first recorded pH C = total mL titrant to reach pH 0.3 unit lower N = normality of standard acid

Reviewer Signature

Lea

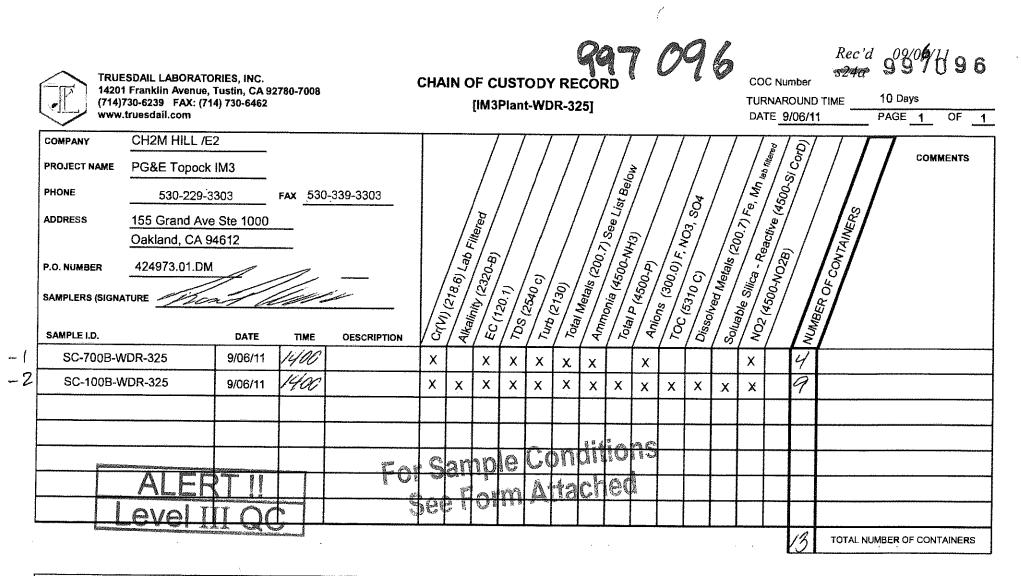
056

MS: Matrix Spike

MSD: Matrix Spike Duplicate

Analyst Printed Name

n



		CHAIN OF CUSTO	OY SIGNATURE RECORD		SAMPLE CONDITIONS				
	Signature (Relinquished)	Printed Name South	Company/	Date/ 9-6-11 Time 1530					
	(Received)	nul Dry Namer Kate	Agency	Date/9-6-11 Time 15-37					
	Signature (Relinquished)	W Day Printed Kaf	Agency T. h. J	Date/9-6-11 Time 21.30	SPECIAL REQUIREMENTS:				
 	Signature Printed		Company/ Givani Agency 7L/	Date/ 9-6-11 Time 913D	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn,				
ω	Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	Mo, Ni, Fe, Zn				
	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)		Time Buffered	Initials
06/31/4	997022	7.0	5.00	9.5	8:40	SB
08/31/11	997023	9,5	NA	NA	N/A	N
08/31/11	997024-1	9,5	NA	NA	NA	SB
ļ	1-2			301	<i>p /</i>	1
	-3					
	-4					
¥	\$ -5	4	*	4		4
09/07/11	<u>997095-1</u>	7.0	2.00	9.5	8:20	SB.
09/07/11	997096-1	7.0	5.00	9.5	8:15	SB .
	5 -2	4	4	L	8:25	4
09/04/11	977097-1	9.5	N/A	N/A	N/A	SB
k.	st -2	4	J.	6	J.	
09 OF U	997099-1	9.5	N/A	N/A	N/A	SB
	1-2	1		1	1	
	-3					
		6		No l		J.
9/8/11	997,098-1	9,5	N/A.	NA	N/A	MV4
	-2					1
4	+ -3	¥	4	F	1	
9/3/11	9997132 -1	9,5	N/A	NA	Ne/A	
	-2					
	-3					1
	-4					
	-6					
¥	¥ -7	+	¥	\checkmark	1	$\overline{1}$
·						
	- -					

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

Turbidity/pH Check

:

Turbidity/pH Check												
Sample Number	Turbidity	рH	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)						
996 81011-21	e 1	22	8/18/11	M-M	Yes							
99681111-34		- F F	0/10/1	<u>, , , , , , , , , , , , , , , , , , , </u>	- 15-3							
001 P1911-41												
096813 11-131		. /										
996740	41	72	8/18/11	ES	No	111 72:000						
996 83511-21	21	22		MM	Yes	41 a) 2:00 pip						
696 836 11-41	/	- É Ć	8/19/11	MN	<u></u>							
99 <u>6 837</u> 996 837	├}		<u> </u>									
0000000												
1961 30 18 21 1966 82 01 1 21	<u> </u> /		<u>├ </u>			~						
1700 J 11-J1		<u> </u>	8/19/11	M.M	yes.	The chitic						
<u>1-6 + 99 (1-3/</u>	Solid	·	3//3///	10.10	753	TTZ (STLS						
398824(1-5)	solid			V	V	TTLC						
<u> 196853 (-1)</u>	< /	22	8/22/1	M.M	yes.							
146859	21	42	8/22/11	KK_	No	VRS @ 1 pm						
996893(1-91	Solid		2/22/11	M.M	X15-	TILCI						
99684211-31	liquill	1 1	8/23/11	<u>Y</u>								
996950	sblid	81	8125111		705	TTLC						
<u> 396951-2</u>	<u> 2</u>	Z2	8125/11	Min	Ves							
996948-		Y										
036913-11-6		22	- aller	-V-	N/o							
97693411-10	122	62	8/26/4	MM	<u> </u>							
996941												
196993-1,	1 Solid	~	08/29/4	<u>ии</u>	Jes	TTLC yus a 3;00 p.m						
496912	21	72	8 29/11	ES	NÓ	ysaz; top.n						
996539(1-8)	Soil		8/25/11	. 53	Yus	fric						
997023	< <u> <1</u>	<i>c</i> 2	08/3114	MM	Ves							
997024/1.5			, V,	l		<u> </u>						
997022 1	<u> </u>	.72	9/2/11	ES	NO	410 11: 30 Ca						
997095(1-2)	<u> </u>	72	9/7/11	ES	No	91 a) 11: 30 Ca yus a) 11:00 G						
997096 (1-2)	<u> </u>	72	Ľ	L	Ľ Ľ	° J						
191097 (1.21	c/	<2	912/11	KI.M	Jes-	~						
99209911-4				Ľ.		~						
99100811-21	21	L 2	9/8/11	M.M	yes							
99713211-71					1							
946083116,23	21	ブス	97 11	ES	NU	41A N 10:00 an						
997199(1-11)	21	72	9/17/11	ES	Yes	3710A						
091223111	c!	<u> </u>	9115111	MM	Yes	3710H						
9972241-11				<u> </u>								
99722511-21												
99722611-31												
997142 (1-10)												
997243 1-10		- J		1	<u> </u>							
067227	41	72	9/15/11	tr	No	yu a zivop.						
997260	<1	CE		MM	yes	J- a -						
697967140		1 1	9/10/11	мм	V10	~						
09126811-9	() —	<u> </u>		<u></u>		~						
69726511-4	/			· · · · ·								
9912201-4	A				<u> </u>							
992941	<u></u>	<u>+ + ₩/</u>	$+ \psi +$		- 1/							
1778 X +1	<u> </u>	V			⊥¥	1						

120

	TRUESDAIL LABORATORIES, INC.	ALERT !! Level III QC
	Sample Integrity & Analysis Discr	epancy Form
Cli	ent:	<i>Lab</i> # _99 7096
Da	te Delivered: <u>9/6/11</u> Time: <u>2/3</u> 3 By: □Mail 🖄	, Field Service □Client
1.	Was a Chain of Custody received and signed?	¢ ⊈ Yes □No □N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No ¤(N/A
3.	Are there any special requirements or notes on the COC?	□Yes □No 如N/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No ØN/A
5.	Were all requested analyses understood and acceptable?	Yes DNo DN/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u>2°C</u>	∕¤(Yes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	∕AYes □No □N/A
8.	Were sample custody seals intact?	□Yes □No ⊅Ŵ/A
9.	Does the number of samples received agree with COC?	Xes INO IN/A
10.	Did sample labels correspond with the client ID's?	XYes INO IN/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: ATruesdail Client	, ¤ÉYes ⊡No ⊡N/A
12.	Were samples pH checked? pH = <u>See</u> CDC	□Yes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Å Yes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): I RUSH Std	Øves □No □N/A
15.	<u>Sample Matrix:</u> □Liquid □Drinking Water □Ground □Sludge □Soil □Wipe □Paint □Solid ½	Water □Waste Water Other
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Alex

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

September 28, 2011

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-326 PROJECT, GROUNDWATER MONITORING, TLI NO.: 997227

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-326 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 September 13, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for the matrix spike for sample SC-700B-WDR-326 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits, the data from the straight run is reported.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

£ - Mona Nassimi

Manager, Analytical Services

Michael #

Michael Ngo Quality Assurance/Quality Control Officer

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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.: 997227 Date: September 28, 2011 Collected: September 13, 2011 Received: September 13, 2011

ANALYST LIST

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

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Laboratory No.: 997227 Date Received: September 13, 2011

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997227-001	SC-700B-WDR-326	E120.1	NONE	9/13/2011	10:00	EC	7130	umhos/cm	2.00
997227-001	SC-700B-WDR-326	E200.8	NONE	9/13/2011	10:00	Chromium	ND	ug/L	1.0
997227-001	SC-700B-WDR-326	E200.8	NONE	9/13/2011	10:00	Manganese	5.0	ug/L	1.0
997227-001	SC-700B-WDR-326	E218.6	LABFLT	9/13/2011	10:00	Chromium, hexavalent	ND	ug/L	0.20
997227-001	SC-700B-WDR-326	SM2130B	NONE	9/13/2011	10:00	Turbidity	0.124	NTU	0.100
997227-001	SC-700B-WDR-326	SM2540C	NONE	9/13/2011	10:00	Total Dissolved Solids	4040	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

EXCELLENCE IN INDEPENDENT TESTING

REPORT

14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92780-7008

Page 1 of 8

Established 1931

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Printed 9/28/2011

Laboratory No. 997227

Client: E2 Consulting Engineers, inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612

Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 424973.01.DM Project Number: 424973.01.DM

Samples Received on 9/13/2011 10:00:00 PM

Field ID				Lab ID		Collected		ix
SC-700B-WDR-326				997227-001	09/13	/2011 10:00	Wat	er
Specific Conductivity - I	EPA 120.1	Batch 09EC11C					9/14/201 ⁻	1
Parameter		Unit		Analyzed	DF	MDL	RL	Result
997227-001 Specific Conductivity		umhos/	′cm 0	9/14/2011	1.00	0.0380	2.00	7130
Method Blank								
Parameter Specific Conductivity Duplicate	Unit umho៖	DF 1.00	Resu ND	lt			Lab ID =	997227-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Resu 7140		F	RPD 0.140		ance Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Resu 710.	lt Expected 706	•		Accepta 90 - 110	ance Range)
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Resu 712	It Expected 706	•		Accepta 90 - 110	ance Range)
Parameter Specific Conductivity	Unit umhos	DF 1.00	Resu 981	lt Expected 998	f	Recovery 98.3	Accepta 90 - 110	ance Range

Report Continued

Client: E2 Consulting Engineers, inc.Project Name:PG&E Topock ProjectPage 2 of 8Project Number:424973.01.DMPrinted 9/28/2011

Chrome VI by EPA 218.6		Batch 09CrH11C						
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
997227-001 Chromium, Hexa	valent	ug/L	09/14	/2011 09:14	1.05	0.0260	0.20	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	997224-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 1.45	Expected 1.42		RPD 2.02	Accepta 0 - 20	ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.84	Expected 5.00		Recovery 96.8	90 - 11	ance Range 0 [;] 997223-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.75	Expected/Added Recovery 1.73(1.06) 102.		Acceptance Range 90 - 110 Lab ID = 997223-002		
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.17	Expected/Ad 1.14(1.06)	ded	Recovery 102.	90 - 11	ance Range 0 • 997224-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 6.87	Expected/Ad 6.72(5.30)	ded	Recovery 103.	90 - 11	ance Range 0 • 997224-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.15	Expected/Ad 1.14(1.06)	ded	Recovery 101.	90 - 11	ance Range 0 = 997225-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 7.07	Expected/Ad 6.96(5.30)	ded	Recovery 102.	90 - 11	ance Range 0 = 997225-002
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 7.12	Expected/Ad 6.89(5.30)	lded	Recovery 104.	90 - 11	ance Range 0 = 997225-003
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.06	Result 7.06	Expected/Ad 6.82(5.30)	lded	Recovery 104.	Accept 90 - 11	ance Range 0

Report Continued

Client: E2 Consulting Engi	neers, inc.		bject Name: bject Number:	PG&E Topock Proj 2424973.01.DM	iect	Page 3 of 8 Printed 9/28/2011	
Matrix Spike						Lab ID = 997225-004	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 7.04	Expected/Added 6.83(5.30)	Recovery 104.	Acceptance Range 90 - 110 Lab ID = 997225-005	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 7.67	Expected/Added 7.36(5.30)	Recovery 106.	Acceptance Range 90 - 110 Lab ID = 997225-006	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.20	Expected/Added 1.14(1.06)	Recovery 105.	Acceptance Range 90 - 110 Lab ID = 997225-007	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.17	Expected/Added 1.12(1.06)	Recovery 105.	Acceptance Range 90 - 110 Lab ID = 997225-008	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.20	Expected/Added 1.12(1.06)	Recovery 107.	Acceptance Range 90 - 110 Lab ID = 997226-002	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 20.7	Expected/Added 20.6(10.6)	Recovery 101.	Acceptance Range 90 - 110 Lab ID = 997226-003	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 9.63	Expected/Added 9.45(5.30)	Recovery 103.	Acceptance Range 90 - 110 Lab ID = 997227-001	
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 1.21	Expected/Added 1.22(1.06)	Recovery 98.3	Acceptance Range 90 - 110 Lab ID = 997227-001	
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 5.25	Result 5.40	Expected/Added 5.52(5.25)	Recovery 97.9	Acceptance Range 90 - 110	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.88	Expected 5.00	Recovery 97.5	Acceptance Range 90 - 110	
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.2	Expected 10.0	Recovery 102.	Acceptance Range 95 - 105	
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 9.99	Expected 10.0	Recovery 99.9	Acceptance Range 95 - 105	

ug/L

Chromium

1.00

Report Continued

Client: E2 Consulting Engi	ineers, in		Project Name: PG&E Topock Project Pa Project Number: 424973.01.DM Printed 9/2						
Metals by EPA 200.8, Tota	al		Batch	092011B					
Parameter		Unit	Analyzed		DF	MDL	RL	Result	
997227-001 Chromium		ug/L	09/21	/2011 02:43	5.00	0.110	1.0	ND	
Manganese		ug/L	09/21	/2011 02:43	5.00	0.285	1.0	5.0	
Method Blank						·			
Parameter	Unit	DF	Result						
Chromium	ug/L	1.00	ND						
Manganese	ug/L	1.00	ND						
Duplicate							Lab ID =	997227-001	
Parameter	Unit	DF	Result	Expected		RPD	Accept	ance Range	
Chromium	ug/L	5.00	ND	0.00		0	0 - 20	-	
Manganese	ug/L	5.00	4.87	4.99		2.39	0 - 20		
Lab Control Sample									
Parameter	Unit	DF	Result	Expected		Recovery	Accept	ance Range	
Chromium	ug/L	1.00	49.0	50.0		97.9	85 - 11	5	
Manganese	ug/L	1.00	50.2	50.0		100.	85 - 11	5	
Matrix Spike							Lab ID =	997227-001	
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accept	ance Range	
Chromium	ug/L	5.00	224.	250.(250.)		89.5	75 - 12	5	
Manganese	ug/L	5.00	226.	255.(250.)		88.5	75 - 12	5	
Matrix Spike Duplicate							Lab ID =	= 997227-001	
Parameter	Unit	DF	Result	Expected/Add	ed	Recovery	Accept	ance Range	
Chromium	ug/L	5.00	224.	250.(250.)		89.8	75 - 12	5	
Manganese	ug/L	5.00	229.	255.(250.)		89.6	75 - 12	5	
MRCCS - Secondary									
Parameter	Unit	DF	Result	Expected		Recovery		ance Range	
Chromium	ug/L	1.00	49.5	50.0		99.0	90 - 11		
Manganese	ug/L	1.00	50.5	50.0		101	90 - 11	0	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected		Recovery		ance Range	
Chromium	ug/L	1.00	48.8	50.0		97.7	90 - 11	0	
MRCVS - Primary									
Parameter	Unit	DF	Result	Expected		Recovery	-	ance Range	
Channelum	السب	1 00	40.4	50.0		00 0	00 11	~	

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.

50.0

98.2

90 - 110

49.1

Report Continued

Client: E2 Consulting Er	igineers, inc		Project Name: PG&E Topock Project Project Number: 424973.01.DM					Page 7 of 8 Printed 9/28/2011	
Interference Check S	tandard AB								
Parameter Chromium Interference Check S	Unit ug/L tandard AB	DF 1.00	Result 47.2	Expected 50.0	F	Recovery 94.5	Accepta 80 - 120	nce Range	
Parameter Chromium Interference Check S	Unit ug/L standard AB	ug/L 1.00 47.6 50.0 9		Recovery 95.1		Acceptance Range 80 - 120			
Parameter Manganese Interference Check S	Unit ug/L itandard AB	DF 1.00	Result 48.9	Expected 50.0	F	Recovery 97.7	Acceptance Range 80 - 120		
Parameter Manganese	Unit E		Result 48.8	Expected 50.0	Recovery 97.6		Acceptance Range 80 - 120		
Total Dissolved Solids	by SM 2540) C	Batch 09TDS11B				9/14/2011		
Parameter	-	Unit	Ana	lyzed	DF	MDL	RL	Result	
997227-001 Total Dissolved	Solids	mg/L	09/14	/2011	1.00	0.400	125	4040	
Method Blank									
Parameter Total Dissolved Solids Duplicate	Unit mg/L	DF 1.00	Result ND				l ab ID =	997199-009	
Parameter Total Dissolved Solids Lab Control Sample				Acceptance Range 0 - 5					
Parameter Unit Total Dissolved Solids mg/L		DF 1.00	Result 494	Expected 500.	Recovery 98.8		Acceptance Range 90 - 110		

Report Continued

Client: E2 Consulting Eng		oject Name: oject Numbe	Page 8 of 8 Printed 9/28/2011						
Turbidity by SM 2130 B	Turbidity by SM 2130 B			09TUC11E			9/14/2011	14/2011	
Parameter	Unit	Ana	lyzed	DF	MDL	RL	Result		
997227-001 Turbidity		NTU	09/14/2011 1.00 0			0.0140	0.100	0.124	
Method Blank									
Parameter	Unit	DF	Result						
Turbidity	NTU	1.00	ND						
Duplicate							Lab ID =	997227-001	
Parameter	Unit	DF	Result	Expected	F	RPD	Acceptance Range		
Turbidity	NTU	1.00	0.126	0.124		1.60	0 - 20		
Lab Control Sample									
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range	
Turbidity	NTU	1.00	8.50	8.00		106.	90 - 110)	
Lab Control Sample D	uplicate								
Parameter	Unit	DF	Result	Expected	F	Recovery	Accepta	nce Range	
Turbidity	NTU	1.00	8.17	8.00		102.	90 - 110)	

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

+. - Mona Nassimi

 Mona Nassimi Manager, Analytical Services



EZ-Sean

Calculations

Batch:	09TDS11B
Date Calculated:	9/16/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
81.ANK	100	68.5194	68.5195	68.5195	0.0000	No	0.0001	1.0	25.0	ND	1
997194-2	200	115.2464	115.2608	115.2606	0.0002	No	0.0142	71.0	12.5	71.0	1
997194-4	100	72.8108	72.839	72.8387	0.0003	No	0.0279	279.0	25.0	279.0	1
997199-1	50	48.1870	48.2406	48.2404	0.0002	No	0.0534	1068.0	50.0	1068.0	1
997199-2	50	67.6239	67.6778	67.6776	0.0000	No	0.0537	1074.0	50.0	1074.0	1
997199-4	50	76.5533	76.6578	76.6578	0.0000	No	0.1045	2090.0	50.0	2090.0	1
997199-5	50	65.9505	65.0589	66 0588	0.0001	No	0.1083	2166,0	50.0	2166.0	1
997199-6	50	50.3843	50,4944	50.4044	0.0000	No	0.1101	2202.0	50.0	2202.0	1
997199-7	50	\$1.1660	51.282	51.2818	0.0002	No	0.1158	2316.0	50.0	2316.0	1
997199-8	50	76.5590	76.6167	76.6167	0.0000	No	0.0577	1154.0	50.0	1154.0	1
997199-9	50	49.4785	49.5106	49.5103	0,0003	No	0.0318	636.0	50.0	636.0	1
997199-9D	50	49.2970	49.3295	49.3291	0.0004	No	0.0321	642,0	50,0	642.0	1
LCS	100	72.8268	72.8764	72.8762	0.0002	No	0.0494	494.0	25.0	494.0	1
997199-10	20	50.4128	50.4847	50.4842	0,0005	No	0,0714	3570.0	125.0	3570.0	1
997199-11	50	49.3824	49,4587	49,4584	0.0003	No	0.0760	1520.0	50.0	1520.0	1
997226-1	50	47.9095	47.9667	47.9663	0.0004	No	0.0568	1136.0	50.0	1136.0	1
997226-2	50	49.8354	49.8895	49.8893	0,0002	No	0.0539	1078.0	50.0	1078.0	1
997226 -3	50	67.7448	67.8003	67,8001	0.0002	No	0.0553	1106.0	50.0	1106.0	1
997227	20	67.7919	67.8728	67.8728	0,0000	No	0.0809	4045.0	125.0	4045.0	1
997227	20	67.7919	67.8728	67.8728	0.0000	No	0.0809	4045.0	125.0	4045.0	· ···
LCSD		L		<u></u>	•	: 	· · · · · · · · · · · · · · · · · · ·	···· · · · · · · · · ·		•	1

Calculation as follows:

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

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)

Analyst Printed Name

Analyst Signature

* Coc-signed of

WelChem TDS_0810.xls

Reviewer Printed Name

Reviewer Signature

Total Dissolved Solids by SM 2540 C

TDS/EC CHECK

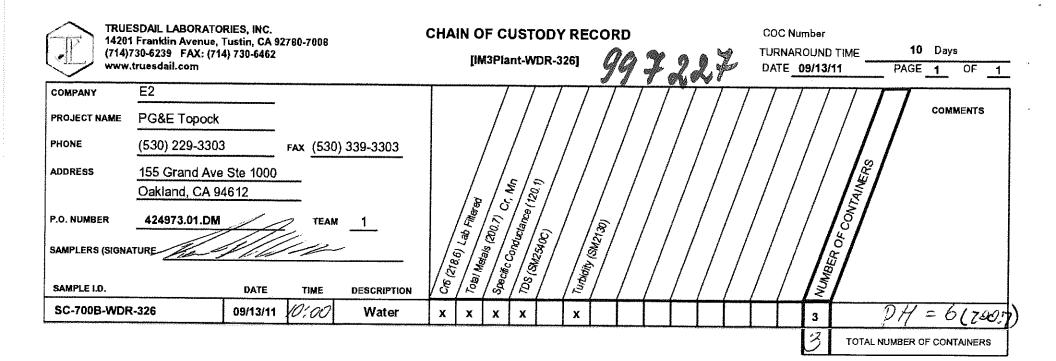
Batch: 09TDS11B

Date Calculated: 9/16/11

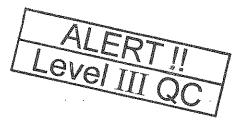
Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3	
997194-2	144	0.49	93.6	0,76	
997194-4	496	0.56	322.4	0.87	
997199-1	1653	0.65	1074.45	0.99	
997199-2	1650	0.65	1072.5	1.00	
997199-4	3040	0.69	1976	1.06	
997199-5	3080	0.70	2002	1.08	
997199-6	3010	0.73	1956.5	1.13	
997199-7	3390	0.68	2203.5	1.05	
997199-8	1740	0,66	1131	1.02	
997199-9	1070	0.59	695.5	0.91	
997199-9D	1070	0.60	695.5	0.92	
LCS				· · · · · · · · · · · · · · · · · · ·	
997199-10	4760	0.75	3094	1.15	
997199-11	2250	0,68	1462.5	1.04	
997226-1	1710	0.66	1111.5	1.02	
997226-2	1640	0.66	1066	1.01	
997226-3	1670	0,66	1085,5	1.02	
997227	7130	0.57	4634.5	0.87	
				· · · · · · · · · · · · · · · · · · ·	



h



For Sample Conditions See Form Attached



	CHAIN OF CUSTODY S	SAMPLE CONDITIONS		
	Signature (Relinquished)	Company/ S'Agency Orm	Date/ 9-13-11 Time 1600	RECEIVED COOL DY WARM D 4.4°C°F
	Signature (Received) Rahad Davingene Rahad	Company/ Agency T.L.I	Date/9-13-11 Time 16:00	CUSTODY SEALED YES 🗖 NO 🗹
	(Relinquished) Republic David Name Rafeet	Company/ Agency T.L.I	Date/9-13-11 Time 23-100	SPECIAL REQUIREMENTS:
N	(Received) Lecolo Name Shakeene	Company/ TZ_D	Date/ SEP 1 3 2011	
মৃ	Signature Printed (Relinquished) Name	Company/ Agency	Date/ 22. CO Tíme	
	Signature Printed (Received) Name	Company/ Agency	Date/ Time	

Hexavalent Chromium Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	·····		7	Time Buffered	Initials
09/13/11	997199-6	9,5	N/A	N/A	N/A-	SB
	-7]
	-8					
	-10					
_	1[
akalu	1-12	9.5	¥	ik	·¥	<u></u>
<u>09/14/11</u>	997223-1	9.5	<u>р/д</u>	N/A	N/A	SB
oghulu	102 NO2211 1	9.5			¥	
<u>00/14/11</u>	997224-1 1 -2	9, 3	N/A	N/4	N/A	<u> 98</u>
09/14/11	997225-1	9.5	N/A	 /n	<u>\</u>	<u> </u>
)	1 -2	}	<u> </u>	N/A	<u>N/A</u>	<u>SB</u>
	-3					
	- 4					
	-5					
	-6					
	7					
. ↓	- 8	4	*	4		
sly/u	997226-1	9.5	A/4	N/A	N/A	3B
	1-2	1	1	1		
	<u>↓</u> -3	J	H I	L	4	- -
09/14/11	997227	70	5.00	9.5	9:15	SB
			······································			
	<u> </u>	<u> </u>				<u>/</u>
						ali

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

Turbidity/pH Check

			rbidity/pH C	IIGON		
Camala Number	Turbidity	рH	Date	Analyst	Need Digest	Adjusted to
Sample Number		The second second second second second second second second second second second second second second second s				pH<2 (Y/N)
996 81011-2/	e 1	22	8/18/11	M-M	Jes-	<u> </u>
99681111-74			<u> </u>			
39681211-4/		<u> </u>				-
996813 1-13/	/	/		V	V	
99674D	41	72	8/18/11	ES	No	41 a) 2:00 pin
996 835 (1-21	41	22	811914	MM	Yes	° — 1
696 836 (1-4)					1	<u>~</u>
996837				ŀ		~
996838 /1-21			11			~
19683911-51				1	J.	~
99655717-57 996779911-31	Solid	V	8/19/11	M.M	yos.	TTZC/SELS
				1	1	TTIC
39682411-51	Solid		24.24			1120
196853 (-1)	< /	22	8/22/1	M. M	Yes	
146859	21	2	8/22/11	WK.	No	VRS @ 1 pm
996893(1-91	slid		1/23/11	MM	Xes	TILCI
<u>996742(1-3/</u>	lignil	<u> </u>	8/23/11	<u> </u>		
<u>096950</u>	solid	81	8125/11	<u>(</u> ,	Yes	TTLC
996951-2	22	Z2	8125/11	Min	yes	<u> </u>
996948-		V		 		
936913-1461	V	29		- V		-
99693411-10	22	22	8 126/4	MM	1 yes	
996941						
796993-14	1 Solit	~	08/29/0	μЦ	Yes	TTGC
996912	Z1	72	8 29/11	ES	NO	TTLC yus a 3:00 p.m Htic
	Anil		8 25 11	ES	Yus	4416
996539(1-8)	Soil	- - 2			Ves	1100
997023		2	08/3/14	MA		
997024/1.5			- Alu	<u>¥</u> _		-
997022	21	72	9/2/11	<u> </u>	NO	ула) 11: 30 Ca ула) 11: 00 G
997095(1-2)	21	72	9/7/11	ES	No	- yu a 11:00 G
997096 (1-2)	21	72	L L			ľ v
197097 1121	c/	<2	917/11	M.M	Jes-	<u> </u>
99709911-4			L	<u> </u>	11	<u> </u>
99700811-21	~1	×2	9/8/11	M.M.	yes.	-
99113911-11		1	.sk		V.	
996083(16.23	41	72	9711	ES	NU	MAN 10:00 an
99719011-11)	21	72	9/13/1	ES	Yes	ZNA
107923111	c1	12	9115111	MM	Yes Yes	415 N 10:00 an 2010A 3710 H
062226111		+			<u> / / / / </u>	
997 FZ 91-11					++	
19 22 1-81						
99122611-31	,				· · · · · · · · · · · · · · · · · · ·	
997242 (1-10	4	·				
997243 1-10	<u> </u>	<u> </u>		<u> </u>	<u> </u>	K V
967227	41	72	9/15/11	ts	No	yu a zivop.
997260	<1	CE.	J	Min	Yes Yes	`
99726711-5	1		9/16/11	MM	Vrš	-
99126811-9			1			<u> </u>
	// · · · ·				·	-
199226511-4	/ 1	1 1 1	4 I			
<u>6972691-4</u> 99724011-	1				1-1-1	-



Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E D</u>	Lab # <u>_997 </u>
Date	Delivered: <u>09/13</u> /11 Time: <u>&:0</u> 0 By: □Mail &Fi	ield Service
1.	Was a Chain of Custody received and signed?	⊠áYes ⊡No ⊡N/A
2.	Does Customer require an acknowledgement of the COC?	□Yes □No 🛋N/A
З.	Are there any special requirements or notes on the COC?	□Yes □No @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?	ØYes □No □N/A
6.	Were samples received in a chilled condition? Temperature (if yes)?4 <u>• 4° C</u>	X⊄Yes ⊐No ⊐N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	ØYes □No □N/A
8.	Were sample custody seals intact?	□Yes □No 🗖N/A
9 .	Does the number of samples received agree with 0000	¥Yes □No □N/A
10.	Did sample labels correspond with the client ID's	AYes INO IN/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	Yes INO QN/A
12.	Were samples pH checked? pH = <u>See C</u> . O. C.	AfYes □No □N/A
13.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	¢LYes □No □N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): I RUSH A Std	∞(Yes □No □N/A
15.	<u>Sample Matrix:</u> □Liquid □Drinking Water □Ground V □Sludge □Soil □Wipe □Paint □Solid A	· · · · · · · · · · · · · · · · · · ·
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	Luda

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

October 6, 2011

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-327 PROJECT, GROUNDWATER MONITORING, TLI NO.: 997370

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-327 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 September 20, 2011, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

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

Respectfully Submitted, TRUESDAIL LABORATORIES, INC.

For Mona Nassimi Manager, Analytical Services

flachael

Michael Ngo Quality Assurance/Quality Control Officer

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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.: 997370 Date: October 4, 2011 Collected: September 20, 2011 Received: September 20, 2011

ANALYST LIST

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

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Laboratory No.: 997370 Date Received: September 20, 2011 Revision 1: October 6, 2011

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

		Analysis	Extraction		Sample				
Lab Sample ID	Field ID	Method	Method	Sample Date	Time	Parameter	Result	Units	RL
997370-001	SC-700B-WDR-327	E120.1	NONE	9/20/2011	13:0	0 EC	7440	umhos/cm	2.00
997370-001	SC-700B-WDR-327	E200.8	NONE	9/20/2011	13:0	0 Chromium	ND	ug/L	1.0
997370-001	SC-700B-WDR-327	E200.8	NONE	9/20/2011	13:0	0 Manganese	2.4	ug/L	1.0
997370-001	SC-700B-WDR-327	E218.6	LABFLT	9/20/2011	13:0	0 Chromium, hexavalent	ND	ug/L	1.0
997370-001	SC-700B-WDR-327	SM2130B	NONE	9/20/2011	13:0	0 Turbidity	0.104	NTU	0.100
997370-001	SC-700B-WDR-327	SM2540C	NONE	9/20/2011	13:0	0 Total Dissolved Solids	4240	mg/L	125

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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REPORT

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

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800 Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 424973.01.DM

Project Number: 424973.01.DM

Laboratory No. 997370 Page 1 of 6 Printed 10/5/2011

Samples Received on 9/20/2011 9:30:00 PM

Field ID				Lab ID	Col	lected	Matri	x
SC-700B-WDR-327				997370-001	09/20	/2011 13:00	Wate	er
Specific Conductivity - E	PA 120.1	· .	Batch	09EC11E	e te. Te fan te		9/22/2011	
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
997370-001 Specific Conduct	ivity	umhos	/cm 09/22	2/2011	1.00	0.0380	2.00	7440
Method Blank				······································				<u> </u>
Parameter Specific Conductivity Duplicate	Unit umhos	DF 1.00	Result ND				Lab ID -	997370-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7430	Expected 7440	F	RPD 0.134		nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 705	Expected 706	F	Recovery 99.8	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 706	Expected 706	F	Recovery 100.	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 992	Expected 998	F	Recovery 99.4	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting En	gnivero, II		roject Name: roject Numbe	ct	Page 2 of 6 Printed 10/6/2011 Revised			
Chrome VI by EPA 218.6 Parameter		Unit		1 09CrH11G Ilyzed	DF	MDL	RL	Result
997370-001 Chromium, Hexa	avalent	ug/L	09/21	1/2011 09:07	5.25	0.110	1.0	ND
Method Blank								
Parameter Chromium, Hexavalent Duplicate	Unit ug/L	DF 1.00	Result ND				Lab ID =	997370-001
Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result ND	Expected 0.0940	R	RPD 0		ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.94	Expected 5.00	R	ecovery 98.9	90 - 110	ince Range) 997370-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 5.25	Result 5.32	Expected/Adde 5.25(5.25)	d R	lecovery 101.	90 - 110	ince Range) 997370-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.15	Expected/Adde 1.15(1.06)	d R	ecovery 99.9	Accepta 90 - 110	ince Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.89	Expected 5.00		ecovery 97.8	Accepta 90 - 110	nce Range
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 10.3	Expected 10.0	R	ecovery 103.	Accepta 95 - 105	nce Range
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.0	Expected 10.0		ecovery 100.	Accepta 95 - 105	nce Range

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

Page 3 of 6 Printed 10/5/2011

Parameter		Unit	Ana	lyzed E	DF MDL	RL	Result
997370-001 Chromium		ug/L	10/04	/2011 15:44 5.	00 0.110	1.0	ND
Manganese		ug/L	10/04	/2011 15:44 5.	00 0.285	1.0	2.4
Method Blank							
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab ID =	997370-001
Parameter	Unit	DF	Result	Expected	RPD	Accepta	nce Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20	-
Manganese	ug/L	5.00	2.57	2.44	5.15	0 - 20	
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	53.7	50.0	107.	85 - 115	-
Manganese	ug/L	1.00	52.2	50.0	104.	85 - 115	
Matrix Spike						Lab ID = :	997370-001
Parameter	Unit	DF	Result	Expected/Added	d Recovery	Accepta	nce Range
Chromium	ug/L	5.00	248.	250.(250.)	99.3	75 - 125	-
Manganese	ug/L	5.00	263.	252.(250.)	104.	75 - 125	
Matrix Spike Duplicate						Lab ID =	997370-001
Parameter	Unit	DF	Result	Expected/Added	d Recovery	Accepta	nce Range
Chromium	ug/L	5.00	254.	250.(250.)	101.	75 - 125	-
Manganese	ug/L	5.00	246.	252.(250.)	97.6	75 - 125	
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	51.2	50.0	102.	90 - 110	-
Manganese	ug/L	1.00	50.0	50.0	100.0	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	51.2	50.0	102.	90 - 110	-
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	49.9	50.0	99.8	90 - 110	-



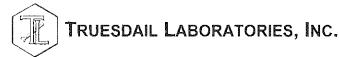
Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

Page 5 of 6 Printed 10/5/2011

Total Dissolved Solids I	oy SM 254	0 C	Batch	09TDS11D	i.	9/26/2011			
Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result	
997370-001 Total Dissolved	Solids	mg/L	09/26	/2011	1.00	0.400	125	4240	
Method Blank									
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND						
Duplicate							Lab ID =	997445-004	
Parameter Total Dissolved Solids Lab Control Sample	Unit mg/L	DF 1.00	Result 1250	Expected 1270			Accepta 0 - 5	ance Range	
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result 496	Expected 500.	F	Recovery 99.2	Accepta 90 - 110	ance Range)	
Turbidity by SM 2130 B Parameter		Unit NTU	Ana	09TUC11G lyzed	DF	MDL	9/21/201 RL	Result	
997370-001 Turbidity Method Blank		NIU	09/21	/2011	1.00	0.0140	0.100	0.104	
Parameter Turbidity	Unit NTU	DF 1.00	Result ND						
Duplicate							Lab ID =	997370-001	
Parameter Turbidity Lab Control Sample	Unit NTU	DF 1.00	Result 0.105	Expected 0.104	j	RPD 0.957	Accepta 0 - 20	ance Range	
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.22	Expected 8.00	j	Recovery 103.	Accepta 90 - 110	ance Range)	
Lab Control Sample [Duplicate								
Parameter Turbidity	Unit NTU	DF 1.00	Result 8.05	Expected 8.00	F	Recovery 101.	Accepta 90 - 110	ance Range)	



Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM Page 6 of 6 Printed 10/5/2011

Respectfully submitted, TRUESDAIL LABORATORIES, INC.

con (for Mona Nassimi

Manager, Analytical Services

EZ Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 09TOS110 Date Calculated: 9/27/11

Laboratory Number	Sample volume, ml	Initial weight,g	1st Final weight,g	2nd Final weight,g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight,g	Filterable residue, ppm	RL, ppm	Reported Value, . ppm	DF
BLANK	100	78.3848	78.3850	78.3849	0.0001	No	0.0001	1.0	25.0	ND	1
997370	20	49.3597	49.4449	49,4445	0.0004	No	0.0848	4240.0	125.0	4240.0	1
997388	50	69.2173	69.2683	69.2683	0.0000	No	0.0510	1020.0	50.0	1020.0	1
997421-1	50	75.9778	76.0908	76.0905	0.0003	No	0,1127 :	2254.0	50.0	2254.0	1
997421-2	50	47.6224	47.7375	47.7374	0.0001	No	0.1150	2300.0	50.0	2300.0	1
997445-1	200	112.9785	112.9899	112.9898	0.0001	No	0.0113	56.5	12,5	56.5	1
997445-2	50	70.9006	70.96	70.96	0.0000	No	0.0594	1188.0	50.0	1188.0	1
997445-3	50	51.4252	51,4978	51.4973	0.0005	No	0.0721	1442.0	50,0	1442.0	1
997#45-4	50	75.4489	75.5124	75.5123	0.0001	No	0.0634	1268.0	50.0	1268.0	1
997445-4D	50	68 6089 :	68.6714	68.6714	0.0000	No	0.0625	1250.0	50,0	1250.0	1
LCS	100	76.5186	76.5682	78.5682	0.0000	Na	0.0496	496.0	25.0	496.0	1
					· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · ·		·
LCSD				in in the state of the second							

Calculation as follows:

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

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)

Analys Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

* COC - Signed J. Wetchem TOS_0810.xls

Total Dissolved Solids by SM 2540 C

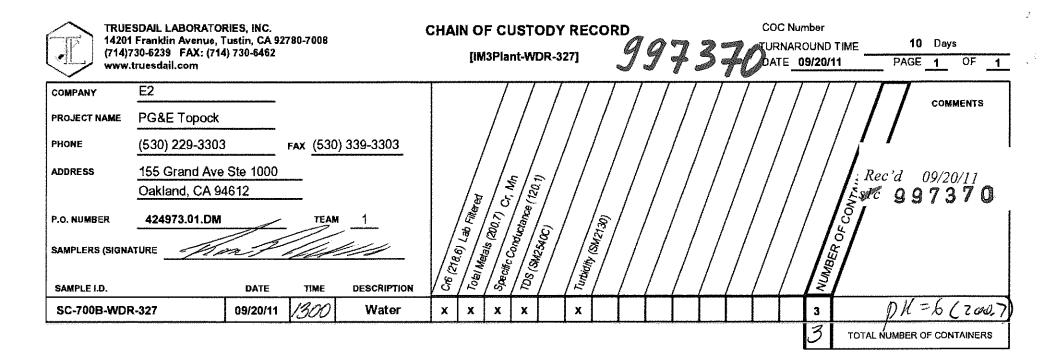
TDS/EC CHECK

Batch: 09TDS11D Date Calculated: 9/27/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
997370	7430	0.57	4829.5	0.00
997388	1570			0.88
		0.65	1020.5	1.00
997421-1	3800	0.59	2470	0,91
997421-2	3940	0.58	2561	0.90
997445-1	91.1	0.62	59.215	0.95
997445-2	1488	0.80	967.2	1.23
997445-3	2130	0.68	1384.5	1.04
997445-4	2040	0.62	1326	0.96
997445-4D	2040	0.61	1326	0.94
LCS			÷	
		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·



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For Sample Conditions See Form Attached

	22	CHAIN OF CUSTODY SIG	uu, ja piikki kuudaada ka kannon minimminin kuuda kuuda kuuda kannon kannon kuuda kuuda kuuda kuuda kuuda kuuda					
	Signature (Relinquished)	Printed Name House Helps	Company/ Agency OMI	Date/ 9-20-11 Time 1530	RECEIVED COOL 🗹 WARM 🗆 4 C °F			
	Signature / / /)	, Printed Rafad	Company/ Agency T. L. I	Date/ 9 - 20 - 11 Time / 5	CUSTODY SEALED YES D NO			
	Signature (Relinquished) Addul Do	Printed Paralel	Company/	Date/ 2/20-11	SPECIAL REQUIREMENTS:			
ະນ	Signature (Received) Ludu	Printed Name Shabumng	Company/ TL_ Agency TL_	Date/ Time 9/20/11 21:3c				
ות	Signature (Relinguished)	Printed Name	Company/ Agency	Date/ Time				
	Signature (Received)	Printed Name	Company/ Agency	Date/ Time				

Subject: Topock WDR SDGs 997370 and 997490, hexavalent chromium From: "Trudy.Scott@CH2M.com" <Trudy.Scott@CH2M.com> Date: Thu, 6 Oct 2011 16:12:58 -0400 To: Sean Condon <seanc@truesdail.com> CC: "Erlene.Contreras@CH2M.com" <Erlene.Contreras@CH2M.com>, "Shawn.Duffy@CH2M.com" <Shawn.Duffy@CH2M.com>

Sean,

Please report the hexavalent chromium results for the sample and MS in SDGs 997370 and 997490 from the 5x dilution. The original undiluted sample results and MS were both outside the RT window and the hexavalent chromium peaks are non-Gaussian.

Thanks

Trudy Scott Chemist 5 CH2M HILL 9191 South Jamaica Street Englewood, CO 80112 (720)-286-5728 trudy.scott@ch2m.com

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
09/16/11	997272	9.5	N/A .	N/A	N/A	SB
09/16/11	997313-1	9.5	N/A	N/A	N/A	SB
	1 2			<u> </u>	L	1
	3					
V	V -Y	¥	↓	ł	J	_1
09/16/11	<u>997314-1</u>	9.5	N/A	N/A	NA	Sha A
	-2			<u> </u>		1
	-2 -3 -4					
	-4					
	¥ -5	7	1	4		ų,
4 /21/11	997370	7.0	5 mL	915	8:40 am	al.
					·	
			· · · · · · · · · · · · · · · · · · ·			

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

Turbidity/pH Check

	1	10	rbidity/pH (JNECK		
Sample Number	Turbidity	pН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)
997272	<i>21</i>	22	9/16/11	M.M.	Yes	
997313/124			1 1	1	1-1	
997 314 (1-4/	ł		V			
99746017-51	<1	<u>د گ</u>	9/27/4	y.M	Yes	
997461111	V	V	J	·····	U	
937 406	solit		09/28/11	MM	yes	STLC/TTLC
997 506 (1-21	e 1	c/	105/11	MM	1 xes	- L'IL
997507(+-51		\checkmark	03/24/1	2	1	~
997 370	61	72	9/29/11	ES	No	GUS a) 10:00 a.
997490	21	72	1	L.	L	V
997504	Solid		91294	M.N	Yes	
997505 1-21	-V					
997459	<u> </u>	C2	9/29/11	Mh	No	
997543(12)	0,13] ~1	62	10/3/11	KK	NO	ND
	5 '	<u> </u>				
997548	4-1	42	Ψ	<u> </u>	V	\mathbf{V}
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Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E 2</u>	Lab # _ <u>9973</u> 20
Date	e Delivered: <u>09</u> 1 <u>40</u> 111 Time: <u>4.'80</u> By: □Mail ⊠F	ield Service
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 ゑĺN/A
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No "Ę́N/A
5.	Were all requested analyses understood and acceptable?	a⊉Yes ⊡No ⊡N/A
6.	Were samples received in a chilled condition? Temperature (if yes)? <u> </u>	⊉Yes □No □N/A
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	QYes □No □N/A
8.	Were sample custody seals intact?	□Yes □No ☑N/A
9.	Does the number of samples received agree with COC?	AYes □No □N/A
10.	Did sample labels correspond with the client (D's?	⊈Yes □No □N/A
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □Truesdail □Client	□Yes □No /ŹN/A
12.	Were samples pH checked? pH = <u>Str</u> C. C.	∑¤qÍÝes ⊡No ⊡N/A
13.	Were all analyses within holding time at time of receipt?	∕ &a‡Yes ⊡No ⊡N/A
14.	Have Project due dates been checked and accepted? Turn Around Time (TAT): D RUSH Std	,⊉Yes □No □N/A
15.	<u>Sample Matrix:</u> □Liquid □Drinking Water □Ground V □Sludge □Soil □Wipe □Paint □Solid A	Vater 🗆 Waste Water Other Walter
16.	Comments:	
17.	Sample Check-In completed by Truesdail Log-In/Receiving:	fuda

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

October 6, 2011

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-328 PROJECT, GROUNDWATER MONITORING, TLI NO.: 997490

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-328 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 September 27, 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

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Michael Ngo Quality Assurance/Quality Control Officer

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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.: 997490 Date: October 4, 2011 Collected: September 27, 2011 Received: September 27, 2011

ANALYST LIST

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

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

Laboratory No.: 997490 Date Received: September 27, 2011 Revision 1: October 6, 2011

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

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
997490-001	SC-700B-WDR-328 SC-700B-WDR-328 SC-700B-WDR-328 SC-700B-WDR-328 SC-700B-WDR-328 SC-700B-WDR-328	E120.1 E200.8 E200.8 E218.6 SM2130B SM2540C	NONE NONE NONE LABFLT NONE NONE	9/27/2011 9/27/2011 9/27/2011 9/27/2011 9/27/2011 9/27/2011	10:0 10:0 10:0 10:0	0 EC 0 Chromium 0 Manganese 0 Chromium, hexavalent 0 Turbidity 0 Total Dissolved Solids	7490 ND 8.0 ND 0.109 4380	umhos/cm ug/L ug/L ug/L NTU mg/L	2.00 1.0 1.0 1.0 0.100 125

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 6

REPORT

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

Printed 10/5/2011

Laboratory No. 997490

Client: E2 Consulting Engineers, Inc. 155 Grand Avenue, Suite 800

Oakland, CA 94612 Attention: Shawn Duffy Project Name: PG&E Topock Project P.O. Number: 424973.01.DM Project Number: 424973.01.DM

Samples Received on 9/27/2011 9:30:00 PM

Field ID				Lab ID	Col	lected	Matr	ix
SC-700B-WDR-328	1			997490-001	09/27	/2011 10:00	Wat	er
Specific Conductivity - E	PA 120.1		Batcl	1 09EC11G			9/28/201	
Parameter	en en la calificación de la cal	Unit	Ana	lyzed	DF	MDL	RL	Result
997490-001 Specific Conduct	tivity	umhos/	/cm 09/28	3/2011	1.00	0.0380	2.00	7490
Method Blank								
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result ND					
Duplicate							Lab ID =	997490-001
Parameter Specific Conductivity Lab Control Sample	Unit umhos	DF 1.00	Result 7500	Expected 7490	F	RPD 0.133	Accepta 0 - 10	nce Range
Parameter Specific Conductivity MRCCS - Secondary	Unit umhos	DF 1.00	Result 703	Expected 706	F	ecovery 99.6	Accepta 90 - 110	nce Range
Parameter Specific Conductivity MRCVS - Primary	Unit umhos	DF 1.00	Result 704	Expected 706	F	ecovery 99.7	Accepta 90 - 110	nce Range
Parameter Specific Conductivity	Unit umhos	DF 1.00	Result 975	Expected 998	R	ecovery 97.7	Accepta 90 - 110	nce Range

Report Continued

Client: E2 Consulting Eng	ineers, Ind		oject Name: oject Numbe	PG&E Topock P r: 424973.01.DM	roject	P Printed 1 Revised	age 2 of 6 0/6/2011
Chrome VI by EPA 218.6 Parameter		Unit		09CrH11I lyzed C	DF MDL	- RL	Result
997490-001 Chromium, Hexay	valent	ug/L	09/28	/2011 10:59 5.	25 0.136	1.0	ND
Method Blank							
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result ND				997461-001
Duplicate Parameter Chromium, Hexavalent Lab Control Sample	Unit ug/L	DF 1.05	Result 6.17	Expected 6.36	RPD 2.98		ance Range
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.00	Result 4.69	Expected 5.00	Recovery 93.8	90 - 11	ance Range) 997461-001
Parameter Chromium, Hexavalent Matrix Spike	Unit ug/L	DF 1.06	Result 16.1	Expected/Adde 17.0(10.6)	d Recovery 91.9	90 - 11	ance Range) 997490-001
Parameter Chromium, Hexavalent Matríx Spike	Unit ug/L	DF 5.25	Result 4.90	Expected/Adde 5.42(5.25)	d Recovery 90.1	90 - 11	ance Range 0 997490-001
Parameter Chromium, Hexavalent MRCCS - Secondary	Unit ug/L	DF 1.06	Result 1.04	Expected/Adde 1.06(1.06)	d Recovery 98.1	Accept 90 - 11	ance Range 0
Parameter Chromium, Hexavalent MRCVS - Primary	Unit ug/L	DF 1.00	Result 4.65	Expected 5.00	Recovery 93.0	Accept 90 - 11	ance Range 0
Parameter Chromium, Hexavalent	Unit ug/L	DF 1.00	Result 10.4	Expected 10.0	Recovery 104.	Accept 95 - 10	ance Range 5

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project Project Number: 424973.01.DM

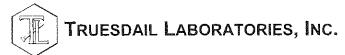
Page 3 of 6 Printed 10/5/2011

Parameter		Unit	Ana	alyzed D	F MDL	RL	Result
997490-001 Chromium		ug/L	10/04	4/2011 16:22 5.0	00 0.110	1.0	ND
Manganese		ug/L	10/04	4/2011 16:22 5.0		1.0	8.0
Method Blank							
Parameter	Unit	DF	Result				
Chromium	ug/L	1.00	ND				
Manganese	ug/L	1.00	ND				
Duplicate						Lab (D =	997370-001
Parameter	Unit	DF	Result	Expected	RPD	Accenta	ince Range
Chromium	ug/L	5.00	ND	0.00	0	0 - 20	nioo nange
Manganese	ug/L	5.00	2.57	2.44	5,15	0 ~ 20	
Lab Control Sample							
Parameter	Unit	DF	Result	Expected	Recovery	Accenta	nce Range
Chromium	ug/L	1.00	53.7	50.0	107,	85 - 115	
Manganese	ug/L	1.00	52.2	50.0	104.	85 - 115	
Matrix Spike							997370-001
Parameter	Unit	DF	Result	Expected/Added	Recovery		nce Range
Chromium	ug/L	5.00	248.	250.(250.)	99.3	75 - 125	-
Manganese	ug/L	5.00	263.	252.(250.)	104.	75 - 125	
Matrix Spike Duplicate	Э						997370-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Accepta	nce Range
Chromium	ug/L	5.00	254.	250.(250.)	101.	75 - 125	
Manganese	ug/L	5.00	246.	252.(250.)	97.6	75 - 125	
MRCCS - Secondary							
Parameter	Unit	DF	Result	Expected	Recovery	Accenta	nce Range
Chromium	ug/L	1.00	51.2	50.0	102.	90 - 110	noe range
Manganese	ug/L	1.00	50.0	50.0	100.0	90 - 110	
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accepta	nce Range
Chromium	ug/L	1.00	51.2	50.0	102.	90 - 110	.ee range
MRCVS - Primary							
Parameter	Unit	DF	Result	Expected	Recovery	Accentar	nce Range
Chromium	ug/L	1.00	49.9	50.0	99.8	90 - 110	ise i tange

Report Continued

Client: E2 Consulting Engineers, Inc.	•	PG&E Topock Project : 424973.01.DM	Page 5 of 6 Printed 10/5/2011

Parameter		Unit	Ana	lyzed	DF	MDL	RL	Result
997490-001 Total Dissolved	Solids	mg/L	09/29	/2011	1.00	0.400	125	4380
Method Blank								
Parameter Total Dissolved Solids	Unit mg/L	DF 1.00	Result ND					
Duplicate	mg/L	1.00	ND				Lab ID =	997490-001
Parameter	Unit	DF	Result	Expected	l	RPD	Accepta	ince Range
Total Dissolved Solids Lab Control Sample	mg/L	1.00	4400	4380		0.342	0 - 5	
Parameter	Unit	DF	Result	Expected	1	Recovery	Accepta	ance Range
Total Dissolved Solids	mg/L	1.00	496	500.		99.2	90 - 110	-
Turbidity by SM 2130 B Parameter		Unit	사람이 가장 감독하는 것	09TUC11M lyzed	DF	MDL	9/28/201 RL	1 Result
Turbidity by SM 2130 B Parameter		Unit	사람이 가장 감독하는 것		DF	MDL		
Parameter		Unit NTU	Ana		DF 1.00	MDL 0.0140		
Parameter			Ana	lyzed		••••	RL	Result
Parameter 997490-001 Turbidity	Unit	NTU DF	Ana 09/28 Result	lyzed		••••	RL	Result
Parameter 997490-001 Turbidity Method Blank		NTU	Ana 09/28	lyzed		••••	RL	Result
Parameter 997490-001 Turbidity Method Blank Parameter	Unit	NTU DF	Ana 09/28 Result	lyzed		••••	RL 0.100	Result
Parameter 997490-001 Turbidity Method Blank Parameter Turbidity	Unit	NTU DF	Ana 09/28 Result	lyzed	1.00	••••	RL 0.100 Lab ID =	Result 0.109 997490-00
Parameter 997490-001 Turbidity Method Blank Parameter Turbidity Duplicate	Unit NTU	NTU DF 1.00	Ana 09/28 Result ND	lyzed 3/2011	1.00	0.0140	RL 0.100 Lab ID =	Result 0.109
Parameter 997490-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter	Unit NTU Unit	NTU DF 1.00 DF	Ana 09/28 Result ND Result	lyzed 3/2011 Expected	1.00	0.0140 RPD	RL 0.100 Lab ID = Accepta	Result 0.109 997490-00
Parameter 997490-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity	Unit NTU Unit	NTU DF 1.00 DF	Ana 09/28 Result ND Result	lyzed 3/2011 Expected	1.00	0.0140 RPD	RL 0.100 Lab ID = Accepta 0 - 20	Result 0.109 997490-00
Parameter 997490-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample	Unit NTU Unit NTU	NTU DF 1.00 DF 1.00	Ana 09/28 Result ND Result 0.110	lyzed 3/2011 Expected 0.109	1.00	0.0140 RPD 0.913	RL 0.100 Lab ID = Accepta 0 - 20	Result 0.109 997490-00 ance Rang
Parameter 997490-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter	Unit NTU Unit NTU Unit NTU	NTU DF 1.00 DF 1.00 DF	Ana 09/28 Result ND Result 0.110 Result	lyzed 3/2011 Expected 0.109 Expected	1.00	0.0140 RPD 0.913 Recovery	RL 0.100 Lab ID = Accepta 0 - 20 Accepta	Result 0.109 997490-00 ance Rang
Parameter 997490-001 Turbidity Method Blank Parameter Turbidity Duplicate Parameter Turbidity Lab Control Sample Parameter Turbidity	Unit NTU Unit NTU Unit NTU	NTU DF 1.00 DF 1.00 DF	Ana 09/28 Result ND Result 0.110 Result	lyzed 3/2011 Expected 0.109 Expected	1.00	0.0140 RPD 0.913 Recovery	RL 0.100 Lab ID = Accepta 0 - 20 Accepta 90 - 110	Result 0.109 997490-00 ance Rang ance Rang



Report Continued

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.**

for Mona Nassimi

Manager, Analytical Services

E2 Condon

Total Dissolved Solids by SM 2540 C

Calculations

Batch: 09TDS11E Date Calculated: 10/3/11

Laboratory Number	Sampie 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	47.9634	47.9635	47.9634	0.0001	No	0.0000	0.0	25.0	ND	1
997490	20	49.2654	49.3535	49.3531	0.0004	No	0.0877	4385.0	125.0	4385.0	1
997494-5	100_	57.4078	67.4386	67.4381	0.0005	No	0,0303	303.0	25.0	303,0	1
997507-1	50	51.2652	51.3371	51.3369	0.0002	No	0.0717	1434.0	50.0	1434.0	1
997507-2	100	68.1680	68.2268	68.2284	0.0004	No	0.0604	604.0	25.0	604.0	1
997507-3	50	75.7682	75.8268	75.8268	0.0000	No	0.0586	1172.0	50.0	1172.0	1
997507-4	100	67.7714	67.8298	67.8295	0.0003	No	0.0581	581.0	25.0	581.0	1
997507-5	100	66.7200	66.7794	66.7791	0.0003	No	0.0591	591.0	25.0	591.0	1
997521-1	50	51.2516	51.3453	51.3453	0.0000	No	0.0937	1874.0	50.0	1874.0	1
997527	100	69.5774	69.6097	69.6094	0.0003	No	0.0320	320.0	25.0	320.0	1
997528-1	100	72.5134	72.5291	72.5289	0.0002	No	0.0155	155.0	25.0	155.0	1
997490D	20	50.7037	50.7919	50.7916	0.0003	No	0,0879	4395.0	125.0	4395.0	1
LCS	100	66.8116	66.8615	66.8612	0.0003	No	0.0496	496.0	25.0	496.0	1
997528-2	100	68.8867	68.902	68.9019	0.0001	No	0.0152	152.0	25.0	152.0	1
LCSD			ام			<u>.</u>			`		1

Calculation as follows:

60.0

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

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)

Analyst Printed Name

Analys Signature

* COC - Signed y.

WetChem TDS_0810.xis

Reviewer Printed Name

Reviewer Signature

TDS/EC CHECK

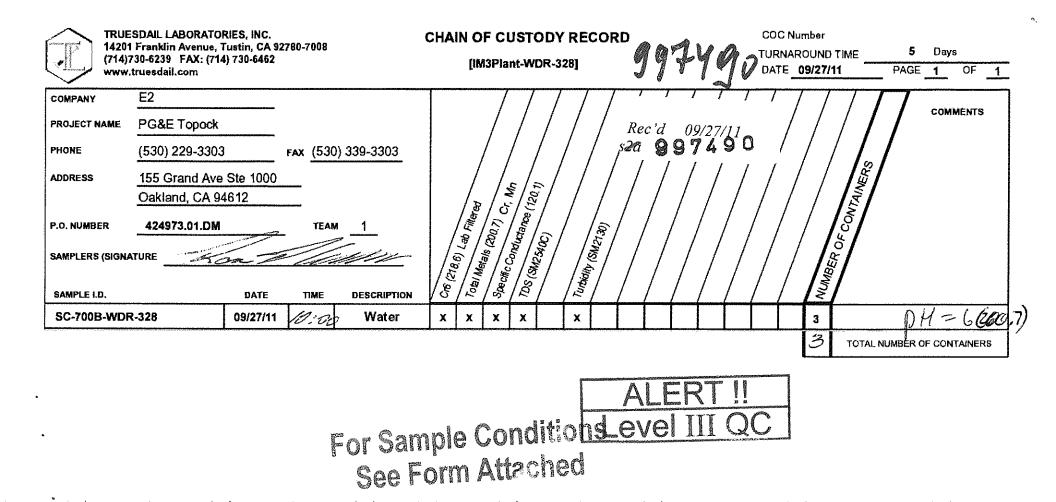
Batch: 09TDS11E Date Calculated: 10/3/11

Date Galculated. 10/0/11

Laboratory Number	EC	TDS/EC Ratio: 0.559	Calculated TDS (EC*0.65)	Measured TDS / Calo TDS <1.3
997490	7500	0.58	4875	0,90
997494-5	542	0.56	352.3	0.86
997507-1	2170	0.66	1410.5	1.02
997507-2	967	0.62	628.55	0.96
997507-3	1830	0.64	1189.5	, 0,99
997507-4	942	0.62	612,3	0.95
997507- 5	946	0.62	614,9	0.96
997521-1	3030	0,62	1969.5	0.95
997527	570	0.56	370.5	0.86
997528-1	283	0.55	183.95	0,84
997490D	7500	0.59	4875	0,90
LCS				
997528-2	277	0.55	180.05	0.84
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	CH	AIN OF CUSTODY SI	SAMPLE CONDITIONS		
	Signature (Relinquished)	Printed Name Kow HELP	Company/ Agency D/3/1/	Date/ 4-27-11 Time 15-30	RECEIVED COOL IV WARM I 3. 6°C °F
	Signature (Received)	Printed Ratow	Company/ T	Date/9-27-1/ Time / 5-20	CUSTODY SEALED YES D NO 🗹
	Signature (Relinquished) Robert (Day)	Printed Name Catal	Company/ Agency T-A-I	Date/9-27-11 Time	SPECIAL REQUIREMENTS:
d	Signature (Received)////	Printed Name Sunbuming	Company/ Agency T4J	Date/ 71:50 Time 9/24/11 21:30	
3	Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	
	Signature (Received)	Printed Name	Company/ Agency	Date/ Time	

Subject: Topock WDR SDGs 997370 and 997490, hexavalent chromium From: "Trudy.Scott@CH2M.com" <Trudy.Scott@CH2M.com> Date: Thu, 6 Oct 2011 16:12:58 -0400 To: Sean Condon <seanc@truesdail.com> CC: "Erlene.Contreras@CH2M.com" <Erlene.Contreras@CH2M.com>, "Shawn.Duffy@CH2M.com" <Shawn.Duffy@CH2M.com>

Sean,

Please report the hexavalent chromium results for the sample and MS in SDGs 997370 and 997490 from the 5x dilution. The original undiluted sample results and MS were both outside the RT window and the hexavalent chromium peaks are non-Gaussian.

Thanks

Trudy Scott Chemist 5 CH2M HILL 9191 South Jamaica Street Englewood, CO 80112 (720)-286-5728 trudy.scott@ch2m.com

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
09/16/11	997272	9.5	NA	N/A	N/A	SB
09/16/11	997313-1	9.5	N/A-	N/A	N/A	SB
	-2			1		1
	3					
	↓ <u>-</u> Y	V		j.	J.	
03/16/11	997314-1	9.5	N/A	N/A	N/A	SR.
	-2)		Ì		1
	-3					
	-4			•		
	¥ -5		Nor I	4	V.	N.
4 121/11	997370	7.0	5 mL MA:	9.5	8:40 am	al
9/27/11	997460	7.0	MA			
1	<u> </u>	۶ ľ				
	\$ \$ -3	9				
	9 5-4	4				
	5 I S	9	,			
	5 5 -6	5/				
9-28-11	9974891	9.5	NIA	9.5	FURACE .	GG.
	-2	1	í	1	I I	
	2					
	-4					
	5					
	-6					
	_7		1			
	-8					+
	-9					1
V	V _lo					
9/21/11	997490	7.0	SmL	9.5	8:45 AM 6	14
9/27/11	I	9,5	N/A	95	, , , , , , , , , , , , , , , , , , , ,	14
		<u> </u>		<u>- 4 -</u>		14

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

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Turbidity/pH Check

Turbidity/pH Check								
Sample Number	Turbidity	рН	Date	Analyst	Need Digest	Adjusted to pH<2 (Y/N)		
997272	c1	22	9/16/11	M.M	Yes			
997313/124		<u> </u>						
997 314 (1-4)	<i>k</i>		V V	V				
9974601451	<u>c1</u>	< 2 V	9/27/4	p.n	yus_			
997461 []	V		V		<u>ک</u>			
997 496 997 50611-21	Jolipt	-	09/28/11	MM	Yes	STLC/TTLC		
997506(1-21		2/ +	03/25/4	MM	1×es	·		
997 970	41	72	9/29/11	e ES				
997490	21	72	10410	<u> </u>	No	yus a 10:00 a.m		
997504	Solid	-	91294	M.N	1 Ves			
997505/1-21	1/2				1 Jes	-		
997459	,<(C2	9/29/11	MG	No			
997543 (1214	0, B < 1	62	10/3/11	KK	No	ND		
- 4.1	5′			<u> </u>	4			
997548	4	42	Ý	↓ ↓	V	\mathbf{V}		
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Sample Integrity & Analysis Discrepancy Form

Clie	nt: <u>E</u> L	Lab #	97490
Date	e Delivered: <u>09/27</u> /11 Time: <u>2/:30</u> By: □Mail മ∕Fie	ld Service	⊐Client
1.	Was a Chain of Custody received and signed?	afYes □No	
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	
4.	If a letter was sent with the COC, does it match the COC?	□Yes □No	
5.	Were all requested analyses understood and acceptable?	Ø q Yes □No	
6.	Were samples received in a chilled condition? Temperature (if yes)? <i>3<mark>. </mark></i>	batres ⊡No	<i>□N/A</i>
7.	Were samples received intact (i.e. broken bottles, leaks, air bubbles, etc)?	¤(Yes □No	<i>□N/A</i>
9.	Were sample custody seals intact?	□Yes □No	N/A
7.	Does the number of samples received agree with COC?	,⊠(Yes □No	
10.	Did sample labels correspond with the client ID	I∉Yes □No	
11.	Did sample labels indicate proper preservation? Preserved (if yes) by: □ Truesdail □Client	□Yes □No	ØN/A
2.	Were samples pH checked? pH = <u>See C. O.</u> C.	Maryes □No	□ <i>N/A</i>
'3.	Were all analyses within holding time at time of receipt? If not, notify Project Manager.	Yes DNO	<i>□N</i> /A
4.	Have Project due dates been checked and accepted? Turn Around Time (TAT): □ RUSH 🖉 Std	Å Yes ⊡No	□ <i>N/A</i>
5.	Sample Matrix: Liquid Drinking Water Ground Wa		e Water
	□Sludge □Soil □Wipe □Paint □Solid XQO	ther_ <i>Wax</i>	er
6.	Comments:		
7.	Sample Check-In completed by Truesdail Log-In/Receiving:	Ludg	,

Analytical Bench Log Book

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Sep

WDR pH Results

If the on site laboratory pH result for T-700 tank is less than pH 6.6 or greater than pH 8.3 the Injection well should be shut down until the problem is fixed. pH Meter Date Date Time Date Time Slope Time **Analyst Name** pH #1, #2, or #3 etc. Semple Name of of of of pH meter pH meter of the (for the pH result) Result See cover Sheet sampling sampling analysis Calibrated Calibrated Curve analysis for Serial Number 9-6-11 9-6-11 S-100B 1:00 1400 4-6-11 1404 7.2 METER# 552 Notes: 9-6-11 1400 9-6-11 9-6-11 1406 METER#1 1:00 7.3 2 5C-700B 55.6 Notes: 9-13-11 1000 9-13-11 1005 METER#1 9-13-11 5C-700B 00 Notes: 9-20-11 1300 9-20-4 1305 METER#1 5C-700B 9-20-11 1:00 -55. intes: 9-22-11 1000 9-22-11 1006 METER#1 9-27-11 SC-RNB 1:00 -537 Notes: ЪÌ Sotes: autes: Reminder: WDR Required pH Range for the Effluent (SC-700B) is: 6.5 - 8.4