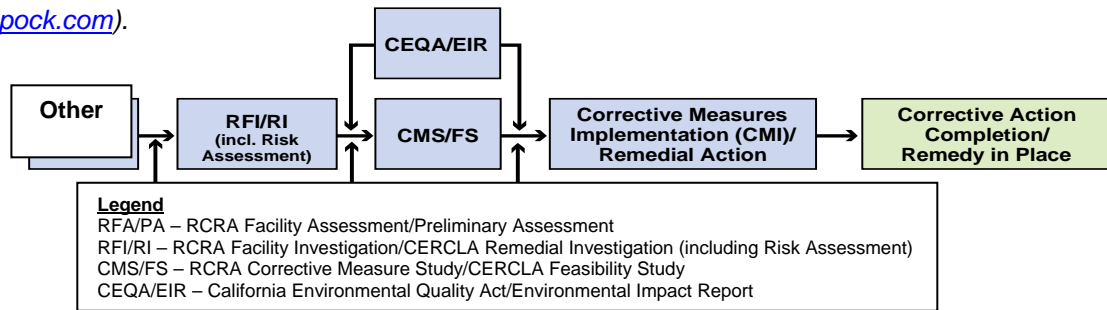


# Topock Project Executive Abstract

<p>Document Title:</p> <p>Topock IM3 WDR Third Quarter 2010 Monitoring Report</p> <p>Submitting Agency/Author: Regional Water Quality Control Board</p> <p>Final Document? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>	<p>Date of Document: October 15, 2010</p> <p>Who Created this Document?: (i.e. PG&amp;E, DTSC, DOI, Other)</p> <p>PG&amp;E</p> <p>Document ID: PGE20101015A</p>
<p>Priority Status: <input type="checkbox"/> <b>HIGH</b> <input type="checkbox"/> <b>MED</b> <input checked="" type="checkbox"/> <b>LOW</b></p> <p>Is this time critical? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>Action Required:</p> <p><input checked="" type="checkbox"/> Information Only <input type="checkbox"/> Review &amp; Comment</p> <p>Return to: _____</p> <p>By Date: _____</p> <p><input type="checkbox"/> Other / Explain:</p>
<p>Type of Document:</p> <p><input type="checkbox"/> Draft <input checked="" type="checkbox"/> Report <input type="checkbox"/> Letter <input type="checkbox"/> Memo</p> <p><input type="checkbox"/> Other / Explain:</p>	<p>What does this information pertain to?</p> <p><input type="checkbox"/> Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA)/Preliminary Assessment (PA)</p> <p><input type="checkbox"/> RCRA Facility Investigation (RFI)/Remedial Investigation (RI) (including Risk Assessment)</p> <p><input type="checkbox"/> Corrective Measures Study (CMS)/Feasibility Study (FS)</p> <p><input type="checkbox"/> Corrective Measures Implementation (CMI)/Remedial Action</p> <p><input type="checkbox"/> California Environmental Quality Act (CEQA)/Environmental Impact Report (EIR)</p> <p><input checked="" type="checkbox"/> Interim Measures</p> <p><input type="checkbox"/> Other / Explain:</p>
<p>What is the consequence of NOT doing this item? What is the consequence of DOING this item?</p> <p>Submittal of this report is a compliance requirement of Regional Water Board Waste Discharge Requirements/Order No. R7-2006-0060</p>	<p>Is this a Regulatory Requirement?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If no, why is the document needed?</p>
<p>Other Justification/s:</p> <p><input type="checkbox"/> Permit <input type="checkbox"/> Other / Explain:</p>	
<p>Brief Summary of attached document:</p> <p>This report covers the Interim Measure No. 3 (IM3) groundwater treatment system monitoring activities during the Third Quarter 2010 period. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.</p> <p>Written by: PG&amp;E</p>	
<p>Recommendations:</p> <p>This report is for your information only.</p>	
<p>How is this information related to the Final Remedy or Regulatory Requirements:</p> <p>The IM3 WDR Third Quarter 2010 Monitoring Report is related to the Interim Measure, and is designed to monitor compliance with Regional Water Board Waste Discharge Requirements/Order No. R7-2006-0060.</p>	
<p>Other requirements of this information?</p> <p>None.</p>	

Related Reports and Documents:

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





**Pacific Gas and  
Electric Company**

**Curt Russell**  
Topock Site Manager  
GT&D Remediation

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October 15, 2010

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

**Subject: Third Quarter 2010 Monitoring Report – Board Order No. R7-2006-0060  
PG&E Topock Compressor Station, Needles, California  
Interim Measure No. 3 Groundwater Treatment System  
(Document ID: PGE20101015A)**

Dear Mr. Perdue:

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

This report is being submitted in compliance with the Waste Discharge Requirements (WDRs) issued September 20, 2006 by the California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) under Order No. R7-2006-0060 and in compliance with the revised Monitoring and Reporting Program for Order No. R7-2006-0060, issued August 28, 2008. The WDRs apply to IM3 Treatment System discharge by subsurface injection.

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

If you have any questions regarding this report, please call me at (760) 326-5582.

Sincerely,

Curt Russell  
Topock Site Manager

Enclosures:

Third Quarter 2010 Monitoring Report for the IM3 Groundwater Treatment System

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

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# **Third Quarter 2010 Monitoring Report**

## **Interim Measure No. 3 Groundwater Treatment System**

Document ID: PGE20101015A

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

Prepared for  
**California Regional Water Quality Control Board  
Colorado River Basin Region**

on behalf of  
**Pacific Gas and Electric Company**

October 15, 2010

**CH2MHILL**  
155 Grand Avenue, Suite 800  
Oakland, CA 94612

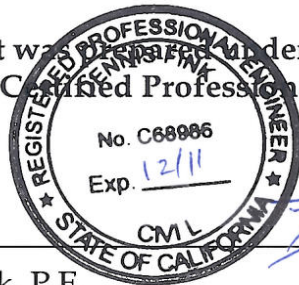


**Third Quarter 2010 Monitoring Report  
for Interim Measure No. 3 Groundwater Treatment System  
Waste Discharge Requirements Order No. R7-2006-0060  
PG&E Topock Compressor Station  
Needles, California**

Prepared for  
Pacific Gas and Electric Company

October 15, 2010

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



Dennis Fink, P.E.  
Project Engineer

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## Appendix

A	Third Quarter 2010 Laboratory Analytical Reports
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# Acronyms and Abbreviations

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

# 1.0 Introduction

---

Pacific Gas and Electric Company (PG&E) is implementing an Interim Measure (IM) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The IM consists of groundwater extraction for hydraulic control of the plume boundaries in the Colorado River floodplain and management of extracted groundwater. The groundwater extraction, treatment, and injection systems collectively are referred to as IM3. Figure 1 provides a map of the project area. All figures are located at the end of this report.

California Regional Water Quality Control Board, Colorado River Basin Region (Regional Water Board) Order No. R7-2006-0060 authorizes PG&E to inject treated groundwater into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. Order No. R7-2006-0060 was issued September 20, 2006 and is the successor to Order No. R7-2004-0103. The revised Monitoring and Reporting Program (MRP) under the Order, issued August 28, 2008, requires quarterly monitoring reports to be submitted by the fifteenth day of the month following the end of the quarter.

**This report covers monitoring activities related to operation of the IM3 groundwater treatment system during the Third Quarter 2010.** The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

## 2.0 Sampling Station Locations

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Table 1 lists the locations of sampling stations. (All tables are located at the end of this report.) Sampling station locations are shown on the process and instrumentation diagrams, Figures TP-PR-10-10-04, TP-PR-10-10-08, and TP-PR-10-10-06, provided at the end of this report.

## 3.0 Description of Activities

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The treatment system was initially operated between July 25 and July 28, 2005 for the Waste Discharge Requirement (WDR)-mandated startup phase. Discharge to the injection wells was initiated July 31, 2005 after successfully completing the startup phase in accordance with Order No. R7-2004-0103. Full-time operation of the treatment system commenced in August 2005.

Influent to the treatment facility, permitted by Order No. R7-2006-0060 (successor to Order No. R7-2004-0103), includes:

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

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

- 96.6 percent during July 2010
- 89.6 percent during August 2010
- 99.1 percent during September 2010

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

- **Treated effluent:** Treated water that is discharged to the injection well(s).
- **Reverse osmosis (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 2010 included planned shutdowns in July, August, and September as detailed in Section 4.

## 4.0 Groundwater Treatment System Flow Rates

---

The Third Quarter 2010 treatment system monthly average flow rates (influent, effluent, and reverse osmosis concentrate) are presented in Table 2.

The system influent flow rate was measured by flow meters at groundwater extraction wells TW-2S, TW-2D, TW-3D, and PE-1 (Figure TP-RP-10-10-03). The treatment system effluent flow rate was measured by flow meters in the piping into injection wells IW-2 and IW-3 (Figure TP-RP-10-10-11). The 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 TP-RP-10-10-08).

The IM3 facility treated approximately 16,792,389 gallons of extracted groundwater during the Third Quarter 2010. The IM3 facility also treated approximately 3,530 gallons of water generated from the groundwater monitoring program and 28,800 gallons of injection well backwashing/re-development water.

Two containers of solids (sludge) were transported offsite from the IM3 facility during Third Quarter 2010 (August 23, 2010 and September 9, 2010).

Periods of planned and unplanned extraction system downtime (that together resulted in approximately 4.9 percent of downtime during Third Quarter 2010) are summarized below. The times shown are in Pacific Standard Time to be consistent with other data collected (e.g., water level data) at the site.

### 4.1 July 2010

The operational run time for the IM3 groundwater extraction system (combined or individual pumping) was 96.6 percent during the July 2010 reporting period.

The IM3 facility treated approximately 5,566,352 gallons of extracted groundwater during July 2010. The IM3 facility also treated approximately 930 gallons of water generated from the groundwater monitoring program and 10,800 gallons of injection well backwashing/re-development water. No containers of solids from the IM3 facility were transported offsite during July 2010.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 3.4 percent of downtime during July 2010) 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.

- **July 1, 2010 (planned):** The extraction well system was offline from 9:40 a.m. to 1:04 p.m. and 1:24 p.m. to 7:12 p.m. for iron oxidation tank T301B maintenance. Extraction system downtime was 9 hours and 12 minutes.
- **July 1, 2010 (planned):** The extraction well system was offline from 11:00 p.m. to 11:54 p.m. for microfilter bank switch. Extraction system downtime 54 minutes.



- **July 6, 2010 (planned):** The extraction well system was offline from 1:44 p.m. to 3:16 p.m. for microfilter bank switch. Extraction system downtime was 1 hour and 32 minutes.
- **July 7, 2010 (planned):** The extraction well system was offline from 9:54 a.m. to 9:56 a.m., 10:18 a.m. to 10:22 a.m., 10:32 a.m. to 10:34 a.m. and 10:38 a.m. to 10:42 a.m. for testing of the pipeline leak detection alarm system. Extraction system downtime was 12 minutes.
- **July 10, 2010 (unplanned):** The extraction well system was offline from 12:16 a.m. to 12:18 a.m. due to reduced microfilter performance. Extraction system downtime was 2 minutes.
- **July 11, 2010 (unplanned):** The extraction well system was offline from 1:40 p.m. to 2:18 p.m. due to low ferrous chloride flow. Extraction system downtime was 38 minutes.
- **July 13, 2010 (planned):** The extraction well system was offline from 7:20 a.m. to 9:14 for microfilter bank switch and maintenance. Extraction system downtime was 1 hour and 54 minutes.

## 4.2 August 2010

The operational run time for the IM3 groundwater extraction system (combined or individual pumping) was 89.6 percent during the August 2010 reporting period.

The IM3 facility treated approximately 5,425,523 gallons of extracted groundwater during August 2010. The IM3 facility did not treat any water generated from the groundwater monitoring program and treated 3,600 gallons of injection well backwashing/re-development water. One container of solids from the IM3 facility was transported offsite during August 2010.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 10.4 percent of downtime during August 2010) are summarized below.

- **August 3, 2010 (unplanned):** The extraction well system was offline from 4:18 p.m. to 5:46 p.m. due to high water level in the raw water storage tank, T-100. Extraction system downtime was 1 hour and 28 minutes.
- **August 5, 2010 (planned):** The extraction well system was offline from 11:02 a.m. to 11:04 a.m. and 11:10 a.m. to 12:04 p.m. for microfilter maintenance and testing of the pipeline leak detection alarm system. Extraction system downtime 56 minutes.
- **August 15, 2010 (planned):** The extraction well system was offline from 10:46 a.m. to 10:58 a.m. and 11:00 a.m. to 11:02 a.m. for cleaning of T-100 strainer. Extraction system downtime was 14 minutes.
- **August 17, 2010 (unplanned):** The extraction well system was offline from 3:10 p.m. to 3:28 p.m. when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 18 minutes.

- **August 23 - 26, 2010 (planned):** The extraction well system was offline from 11:48 a.m. to 1:44 p.m. on August 23<sup>rd</sup>, 2:48 p.m. on August 23<sup>rd</sup> to 12:40 p.m. on August 26<sup>th</sup>, and 12:48 p.m. to 3:34 p.m. on August 26<sup>th</sup> for biannual plant outage. Extraction system downtime was 3 days 2 hours and 24 minutes.
- **August 31, 2010 (unplanned):** The extraction well system was offline from 11:08 a.m. to 11:24 a.m. for service of the polymer system. Extraction system downtime was 16 minutes.

## 4.3 September 2010

The operational run time for the IM3 groundwater extraction system (combined or individual pumping) was 99.1 percent during the September 2010 reporting period.

The IM3 facility treated approximately 5,800,514 gallons of extracted groundwater during September 2010. The IM3 facility treated 2,600 gallons of water generated from the groundwater monitoring program and 14,400 gallons of injection well backwashing/re-development water. One container of solids from the IM3 facility was transported offsite during September 2010.

The periods of planned and unplanned extraction system downtime (that together resulted in approximately 0.9 percent of downtime during September 2010) are summarized below.

- **September 2, 2010 (planned):** The extraction well system was offline from 4:20 p.m. to 4:21 p.m., 4:30 p.m. to 4:31 p.m., 4:34 p.m. to 4:35 p.m., 4:38 p.m. to 4:39 p.m., 4:43 p.m. to 4:44 p.m., and 4:47 p.m. to 4:48 p.m. due to testing of the pipeline leak detection alarm system. Extraction system downtime was 6 minutes.
- **September 16, 2010 (planned):** The extraction well system was offline from 12:44 p.m. to 6:39 p.m. for microfilter bank switch. Extraction system downtime was 5 hours and 55 minutes.
- **September 18, 2010 (unplanned):** The extraction well system was offline from 7:38 p.m. to 7:40 p.m. due to plant alarm that shutdown extraction wells. Extraction system downtime was 2 minutes.
- **September 30, 2010 (unplanned):** The extraction well system was offline from 12:56 p.m. to 1:07 p.m. due to reduced microfilter performance. Extraction system downtime was 11 minutes.

## 5.0 Sampling and Analytical Procedures

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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 2010, analysis of pH was conducted by field method pursuant to the Regional Water Board letter dated October 16, 2007 (subject: Clarification of Monitoring and Reporting Program Requirements), authorizing pH measurements to be conducted in the field. The field method pH samples were collected at the designated sampling locations and field tested within 15 minutes of sampling.

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

Influent, effluent, RO concentrate, and sludge sampling frequency was conducted in accordance with the revised MRP, issued August 28, 2008.

Groundwater quality is being monitored in observation and compliance wells according to Order No. R7-2006-0060, the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* submitted to the Regional Water Board on June 17, 2005, and the revised MRP under Order No. R7-2006-0060 issued August 28, 2008. Quarterly groundwater monitoring analytical results for the injection area (wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D) are reported in a separate document, in conjunction with groundwater level maps of the same monitoring wells.

## 6.0 Analytical Results

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

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

The influent sampling analytical results are presented in Table 4. The effluent sampling analytical results are presented in Table 5. The 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

The RO concentrate sample that was collected September 1, 2010 from the approved sampling station D per standard sampling schedule was considerably less salty than typical RO concentrate. The reason is that this grab sample was collected during an automatic back-flushing procedure (the RO unit runs on/off, with several cycles per day, and each time it stops there is a back-flush to avoid corrosive salty water sitting stagnant in the metal pipes of the RO unit). The back-flushing uses permeate (i.e., water that has had most of the salinity removed by the RO unit). The back-flushing water and the RO concentrate both go to tank T-701, then to the RO concentrate (brine) holding tanks for offsite disposal; therefore the sample is representative of the RO concentrate waste stream at certain times. PG&E will propose to modify the sample collection procedure and/or location to ensure the sample is representative of what is shipped offsite (i.e., a mixture of the back-flush water and the RO concentrate).

## 7.0 Conclusions

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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.

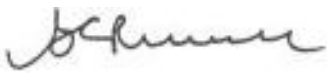
## 8.0 Certification

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

Certification Statement:

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

Signature:  \_\_\_\_\_

Name: \_\_\_\_\_ Curt Russell

Company: \_\_\_\_\_ Pacific Gas and Electric Company

Title: \_\_\_\_\_ Topock Site Manager

Date: \_\_\_\_\_ October 15, 2010

## Tables

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**TABLE 1**  
**Sampling Station Descriptions**  
*Third Quarter 2010 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System*

<b>Sample Station</b>	<b>Sample ID<sup>a</sup></b>	<b>Location</b>
Sampling Station A: Groundwater Treatment System Influent	SC-100B-WDR-###	Sample collected from tap on pipe into T-100 (see Figure TP-RP-10-10-04).
Sampling Station B: Groundwater Treatment System Effluent	SC-700B-WDR-###	Sample collected from tap on pipe downstream from T-700 (see Figure TP-RP-10-10-04).
Sampling Station D: Groundwater Treatment System Reverse Osmosis Concentrate	SC-701-WDR-###	Sample collected from tap on pipe into T-701 (see Figure TP-RP-10-10-08).
Sampling Station E: Groundwater Treatment System Sludge	SC-SLUDGE-WDR-###	Sample collected from sludge accumulated in the phase separator used this quarter (see Figure TP-RP-10-10-06).

**Note:**

### = Sequential sample identification number at each sample station.

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



**TABLE 2**  
 Flow Monitoring Results  
*Third Quarter 2010 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System*

<b>Parameter</b>	<b>System Influent<sup>a,b</sup> (gpm)</b>	<b>System Effluent<sup>b</sup> (gpm)</b>	<b>Reverse Osmosis Concentrate<sup>b</sup> (gpm)</b>
July 2010 Average Monthly Flowrate	124.7	120.8	2.9
August 2010 Average Monthly Flowrate	121.5	118.8	2.0
September 2010 Average Monthly Flowrate	134.3	131.2	3.8

**Notes:**

gpm: gallons per minute

<sup>a</sup> Extraction wells TW-3D and PE-1 were operated during the Third Quarter 2010. Extraction wells TW-2D and TW-2S were not operated during the Third Quarter 2010.

<sup>b</sup> The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during the Third Quarter 2010 is approximately 0.67 percent.

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

<b>Parameter</b>	<b>Sample Collection Dates</b>	<b>Results</b>
Influent <sup>a</sup>	July 7, 2010	See Table 4
	August 4, 2010	
	September 1, 2010	
	September 29, 2010	
Effluent <sup>b</sup>	July 7, 2010	See Table 5
	July 13, 2010	
	July 21, 2010	
	July 28, 2010	
	August 4, 2010	
	August 11, 2010	
	August 17, 2010	
	August 23, 2010	
	August 27, 2010	
	September 1, 2010	
	September 8, 2010	
	September 14, 2010	
	September 22, 2010	
	September 29, 2010	
Reverse Osmosis Concentrate <sup>c</sup>	September 1, 2010	See Table 6
Sludge <sup>d</sup>	September 1, 2010	See Table 7

**Notes:**

- <sup>a</sup> Influent sampling is required monthly.  
<sup>b</sup> Effluent sampling is required weekly.  
<sup>c</sup> Reverse Osmosis Concentrate sampling is required quarterly.  
<sup>d</sup> Sludge samples analysis is required quarterly by composite.

TABLE 4  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Influent Monitoring Results <sup>a</sup>  
Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																								
<div>Sample ID</div>	<div>Date</div>	<div>Analytes Units <sup>b</sup>  MDL</div>	TDS	Turbidity	Specific Conductance	Field <sup>c</sup> pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc	
			mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
			0.434	0.0140	0.0380	---	0.0950	2.00	0.472	0.0020	0.0990	0.0520	0.185	0.0042	0.104	0.0600	0.0150	0.0600	0.300	0.0410	0.0950	0.00020	1.00	3.00	0.263	
SC-100B-WDR-264	7/7/2010		4920	0.108	7780	7.3	961	1010	ND (50.0)	ND (0.500)	ND (10.0)	4.10	24.4	1.02	ND (5.00)	2.84	ND (10.0)	10.0	19.6	ND (10.0)	2.99	ND (0.0050)	552	ND (20.0)	ND (10.0)	
RL			250	0.100	2.00	---	1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	50.0	20.0	10.0	
SC-100B-WDR-268	8/4/2010		5040	0.112	7960	7.4	890	981	ND (50.0)	ND (0.500)	ND (10.0)	3.60	26.1	1.29	ND (5.00)	2.57	ND (10.0)	10.0	30.4	ND (10.0)	2.93	ND (0.0050)	538	ND (20.0)	ND (10.0)	
RL			250	0.100	2.00	---	1.00	21.0	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	25.0	20.0	10.0	
SC-100B-WDR-272	9/1/2010		5550	0.109	7930	7.3	995	1200	ND (50.0)	ND (0.500)	ND (10.0)	ND (10.0)	26.0	1.14	ND (5.00)	2.58	ND (10.0)	10.3	22.4	ND (10.0)	3.18	---	553	ND (20.0)	ND (10.0)	
RL			250	0.100	2.00	---	10.0	21.0	50.0	0.500	10.0	10.0	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	---	12.5	20.0	10.0	
SC-100B-WDR-276	9/29/2010		---	---	---	7.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	ND (0.0050)	---	---	---	
RL			---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.0050	---	---	---	

NOTES:

(---) = not required by the WDR Monitoring and Reporting Program  
J = concentration or reporting limits estimated by laboratory or validation  
MDL = method detection limit  
mg/L = milligrams per liter  
N = nitrogen  
ND = parameter not detected at the listed value  
NTU = nephelometric turbidity units  
RL = project reporting limit  
µg/L = micrograms per liter  
µmhos/cm = micromhos per centimeter

<sup>a</sup> 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).  
<sup>b</sup> Units reported in this table are those units required in the WDRs.  
<sup>c</sup> Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

TABLE 5  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Effluent Monitoring Results<sup>a</sup>  
Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

WDRs Effluent Limits <sup>b</sup>	Ave. Monthly Max Daily	NA	NA	NA	6.5-8.4	25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	NA	NA	6.5-8.4	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Required Sampling Frequency		Weekly						Monthly																	
<div><div></div><div>Analytes Units<sup>c</sup></div><div>MDL<sup>d</sup></div></div>	Date	TDS	Turbidity	Specific Conductance	Field pH <sup>e</sup>	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc	
		mg/L	NTU	µmhos/cm	pH units	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	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
		0.434	0.0140	0.0380	---	0.0150	0.0200	0.472	0.0020	0.0990	0.0520	0.185	0.0042	0.104	0.0600	0.0150	0.0120	0.300	0.0410	0.0950	0.00020	2.00	3.00	0.263	
SC-700B-WDR-264	7/7/2010	4550	0.106	7540	7.30	ND (1.00)	0.240	ND (50.0)	ND (0.500)	ND (10.0)	ND (1.00)	ND (10.0)	0.932	ND (5.00)	2.22	ND (10.0)	1.00	15.7	ND (10.0)	2.79	ND (0.0050)	540	ND (20.0)	ND (10.0)	
RL		250	0.100	2.00	---	1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	0.0050	50.0	20.0	10.0	
SC-700B-WDR-265	7/13/2010	4370	ND (0.100)	7300	7.20	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	ND (1.00)	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-266	7/21/2010	4130	ND (0.100)	6980	7.10	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	ND (1.00)	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-267	7/28/2010	4120	ND (0.100)	7010	7.60	ND (1.00)	0.200	---	---	---	---	---	---	---	---	---	ND (1.00)	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-268	8/4/2010	4840	ND (0.100)	7490	7.40	ND (1.00)	0.200	ND (50.0)	ND (0.500)	ND (10.0)	1.00	13.3	0.952	ND (5.00)	2.17	ND (10.0)	ND (10.0)	35.3	ND (10.0)	2.79	ND (0.0050)	530	ND (20.0)	ND (10.0)	
RL		250	0.100	2.00	---	1.00	0.200	50.0	0.500	10.0	1.00	10.0	0.200	5.00	0.500	10.0	10.0	10.0	10.0	1.00	0.0050	50.0	20.0	10.0	
SC-700B-WDR-269	8/11/2010	5680	ND (0.100)	7200	7.70	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	2.20	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-270	8/17/2010	4100	ND (0.100)	7400	7.10	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	1.20	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-271A	8/23/2010	5070	ND (0.100)	7720	7.30	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	3.20	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-271B	8/27/2010	4490	0.170 J	7260	7.80	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	14.6	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-272	9/1/2010	4550	0.117	7360	6.80	ND (1.00)	0.480	ND (50.0)	ND (0.500)	ND (10.0)	ND (10.0)	ND (10.0)	1.10	ND (5.00)	2.03	ND (10.0)	ND (1.00)	16.5	ND (10.0)	2.92	---	522	ND (20.0)	ND (10.0)	
RL		250	0.100	2.00	---	1.00	0.200	50.0	0.500	10.0	10.0	10.0	0.200	5.00	0.500	10.0	1.00	10.0	10.0	1.00	---	25.0	20.0	10.0	
SC-700B-WDR-273	9/8/2010	4460	0.114	7160	6.90	1.30	ND (0.200)	---	---	---	---	---	---	---	---	---	2.10	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-274	9/14/2010	4020	0.106	7190	7.30	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	4.10	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-275	9/22/2010	4030	ND (0.100)	7130	7.00	ND (1.00)	0.210	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	---	---	---	---	
SC-700B-WDR-276	9/29/2010	4100	0.119	7100	7.00	ND (1.00)	0.320	---	---	---	---	---	---	---	---	---	1.10	---	---	---	ND (0.0050)	---	---	---	
RL		250	0.100	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	1.00	---	---	---	0.0050	---	---	---	

TABLE 5  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Effluent Monitoring Results<sup>a</sup>  
*Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System*

NOTES:

(---) = not required by the WDR Monitoring and Reporting Program  
J = concentration or reporting limits estimated by laboratory or validation  
MDL = method detection limit  
mg/L = milligrams per liter  
N = nitrogen  
NA = not applicable  
ND = parameter not detected at the listed value  
NTU = nephelometric turbidity units  
RL = project reporting limit  
µg/L = micrograms per liter  
µmhos/cm = micromhos per centimeter

- <sup>a</sup> 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).
- <sup>b</sup> In addition to the listed effluent limits, the WDRs state that the effluent shall not contain heavy metals, chemicals, pesticides or other constituents in concentrations toxic to human health.
- <sup>c</sup> Units reported in this table are those units required in the WDRs.
- <sup>d</sup> 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.
- <sup>e</sup> Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

TABLE 6  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Reverse Osmosis Concentrate Monitoring Results <sup>a</sup>  
Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																						
<div>Sample ID</div>	<div>Date</div>	<div>Analytes Units <sup>b</sup> MDL</div>	TDS	Specific Conductance	Field <sup>c</sup> pH	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
			mg/L	µmhos/cm	pH units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			0.434	0.0380	---	0.000019	0.000022	0.000099	0.000052	0.00019	0.000030	0.000012	0.000075	0.00010	0.0600	0.000015	0.00066	0.00020	0.000041	0.00015	0.00020	0.000017	0.000012	0.00026
SC-701-WDR-272	9/1/2010		804	1210	6.5	0.00200	ND (0.00020)	ND (0.0100)	ND (0.0100)	ND (0.0100)	ND (0.0010)	ND (0.0030)	ND (0.0050)	ND (0.0050)	ND (0.50)	ND (0.0100)	ND (0.0100)	ND (0.0010)	ND (0.0100)	ND (0.0100)	ND (0.0050)	ND (0.0010)	ND (0.0050)	ND (0.0100)
RL			50.0	2.00	---	0.0010	0.00020	0.0100	0.0100	0.0100	0.0010	0.0030	0.0050	0.0050	0.500	0.0100	0.0100	0.0010	0.0100	0.0100	0.0050	0.0010	0.0050	0.0100

NOTES:  
(---) = not required by the WDR Monitoring and Reporting Program  
J = concentration or reporting limits estimated by laboratory or validation  
MDL = method detection limit  
mg/L = milligrams per liter  
ND = parameter not detected at the listed value  
RL = project reporting limit  
µg/L = micrograms per liter  
µmhos/cm = micromhos per centimeter

<sup>a</sup> Sampling location for all reverse osmosis samples is tap on pipe T-701 (see attached P&ID TP-PR-10-10-08).  
<sup>b</sup> Units reported in this table are those units required in the WDRs.  
<sup>c</sup> Starting 11/20/2007, analysis of pH was switched from California certified laboratory analysis to field method pursuant to the Water Board letter dated October 16, 2007 – Clarification of Monitoring and Reporting Program Requirements, stating that pH measurements may be conducted in the field.

TABLE 7  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Sludge Monitoring Results<sup>a</sup>  
Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Required Sampling Frequency		Quarterly																			
<div>Required Sampling Frequency</div>	<div>Analytes Units<sup>b</sup> MDL</div>	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Bioassay
		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	% Survival
		0.123	0.236	0.0021	0.0021	0.0021	0.00062	0.00021	0.00021	0.0021	0.0247	0.0021	0.00062	0.00025	0.00062	0.0041	0.0041	0.0411	0.00062	0.0041	at 750 mg/L <sup>c</sup>
Sample ID	Date																				
SC-Sludge-WDR-272	9/1/2010	3410	22.1	25.5	3.93	52.9	ND (1.00)	7.93	6.04	50.2	97.7	5.46	3.33	0.140	19.8	ND (1.00)	ND (1.00)	ND (17.0)	76.1	27.5	100
RL		17.0	4.11	2.00	0.851	1.00	1.00	0.851	1.00	1.00	4.11	1.00	1.00	0.100	1.00	1.00	1.00	17.0	1.00	2.00	100

NOTES:  
(---) = not required by the WDR Monitoring and Reporting Program  
J = concentration or reporting limits estimated by laboratory or validation  
mg/kg = milligrams per killogram  
mg/L = milligrams per liter  
MDL = method detection limit  
ND = parameter not detected at the listed reporting limit  
RL = project reporting limit

<sup>a</sup> Sampling location for all sludge samples is the sludge collection bin (see attached P&ID TP-PR-10-10-06).  
<sup>b</sup> Units reported in this table are those units required in the WDRs.  
<sup>c</sup> Concentration of sludge per 1 liter of water. Pass/Fail test, with pass result if % Survival is >60%.

TABLE 8

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

Monitoring Information

Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-264	J. Aide	7/7/2010	8:00:00 AM	TLI	EPA 120.1	SC	7/9/2010	Gautam Savani
					TLI	EPA 200.7	AL	7/15/2010	Hope Trinidad
					TLI	EPA 200.7	B	7/15/2010	Hope Trinidad
					TLI	EPA 200.7	FE	7/15/2010	Hope Trinidad
					TLI	EPA 200.7	MO	7/15/2010	Hope Trinidad
					TLI	EPA 200.8	AS	7/9/2010	Daniel Kang
					TLI	EPA 200.8	BA	7/9/2010	Daniel Kang
					TLI	EPA 200.8	CR	7/9/2010	Daniel Kang
					TLI	EPA 200.8	CU	7/9/2010	Daniel Kang
					TLI	EPA 200.8	MN	7/9/2010	Daniel Kang
					TLI	EPA 200.8	NI	7/9/2010	Daniel Kang
					TLI	EPA 200.8	PB	7/9/2010	Daniel Kang
					TLI	EPA 200.8	SB	7/9/2010	Daniel Kang
					TLI	EPA 200.8	ZN	7/9/2010	Daniel Kang
					TLI	EPA 218.6	CR6	7/8/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	7/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	7/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	7/8/2010	Giawad Ghenniwa
					FIELD	HACH	PH	7/7/2010	J. Aide
					TLI	SM2130B	TRB	7/8/2010	Gautam Savani
					TLI	SM2540C	TDS	7/7/2010	Ethel Suico
					TLI	SM4500NH3D	NH3N	7/14/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	7/8/2010	Ethel Suico
SC-100B	SC-100B-WDR-268	Ron Phelps	8/4/2010	8:00:00 AM	TLI	EPA 120.1	SC	8/5/2010	Iordan Stavrev
					TLI	EPA 200.7	FE	8/11/2010	Ethel Suico
					TLI	EPA 200.8	AL	8/11/2010	Linda Saetern
					TLI	EPA 200.8	AS	8/11/2010	Linda Saetern
					TLI	EPA 200.8	B	8/18/2010	Linda Saetern
					TLI	EPA 200.8	BA	8/18/2010	Linda Saetern
					TLI	EPA 200.8	CR	8/16/2010	Linda Saetern
					TLI	EPA 200.8	CU	8/11/2010	Linda Saetern
					TLI	EPA 200.8	MN	8/11/2010	Linda Saetern
					TLI	EPA 200.8	MO	8/18/2010	Linda Saetern
					TLI	EPA 200.8	NI	8/11/2010	Linda Saetern
					TLI	EPA 200.8	PB	8/11/2010	Linda Saetern
					TLI	EPA 200.8	SB	8/18/2010	Linda Saetern



TABLE 8

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

Monitoring Information

Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-100B	SC-100B-WDR-268	Ron Phelps	8/4/2010	8:00:00 AM	TLI	EPA 200.8	ZN	8/11/2010	Linda Saetern
					TLI	EPA 218.6	CR6	8/5/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	8/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	8/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	8/5/2010	Giawad Ghenniwa
					FIELD	HACH	PH	8/4/2010	Ron Phelps
					TLI	SM2130B	TRB	8/5/2010	Gautam Savani
					TLI	SM2540C	TDS	8/9/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	8/6/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	8/5/2010	Jenny Tankunakorn
SC-100B	SC-100B-WDR-272	J.Aide	9/1/2010	8:00:00 AM	TLI	EPA 120.1	SC	9/2/2010	Iordan Stavrev/Gautam Savani
					TLI	EPA 200.7	CR	9/29/2010	Ethel Suico
					TLI	EPA 200.7	FE	9/3/2010	Ethel Suico
					TLI	EPA 200.8	AL	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	AS	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	B	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	BA	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CU	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MN	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MO	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	NI	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	PB	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	SB	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	ZN	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 218.6	CR6	9/3/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	9/2/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	9/2/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	9/2/2010	Giawad Ghenniwa
					FIELD	HACH	PH	9/1/2010	J.Aide
					TLI	SM2130B	TRB	9/2/2010	Gautam Savani
					TLI	SM2540C	TDS	9/7/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	9/3/2010	Iordan Stavrev
SC-100B	SC-100B-WDR-276	J.Aide	9/29/2010	12:00:00 PM	FIELD	HACH	PH	9/29/2010	J.Aide
					TLI	SM4500NO2B	NO2N	9/30/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-264	J. Aide	7/7/2010	8:00:00 AM	TLI	EPA 120.1	SC	7/9/2010	Gautam Savani

TABLE 8

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

Monitoring Information

Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-264	J. Aide	7/7/2010	8:00:00 AM	TLI	EPA 200.7	AL	7/15/2010	Hope Trinidad
					TLI	EPA 200.7	B	7/15/2010	Hope Trinidad
					TLI	EPA 200.7	FE	7/15/2010	Hope Trinidad
					TLI	EPA 200.7	MO	7/15/2010	Hope Trinidad
					TLI	EPA 200.8	AS	7/9/2010	Daniel Kang
					TLI	EPA 200.8	BA	7/9/2010	Daniel Kang
					TLI	EPA 200.8	CR	7/9/2010	Daniel Kang
					TLI	EPA 200.8	CU	7/9/2010	Daniel Kang
					TLI	EPA 200.8	MN	7/9/2010	Daniel Kang
					TLI	EPA 200.8	NI	7/9/2010	Daniel Kang
					TLI	EPA 200.8	PB	7/9/2010	Daniel Kang
					TLI	EPA 200.8	SB	7/9/2010	Daniel Kang
					TLI	EPA 200.8	ZN	7/9/2010	Daniel Kang
					TLI	EPA 218.6	CR6	7/8/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	7/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	7/8/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	7/8/2010	Giawad Ghenniwa
					FIELD	HACH	PH	7/7/2010	J. Aide
					TLI	SM2130B	TRB	7/8/2010	Gautam Savani
					TLI	SM2540C	TDS	7/7/2010	Ethel Suico
SC-700B	SC-700B-WDR-265	Ron Phelps	7/13/2010	8:00:00 AM	TLI	SM4500NH3D	NH3N	7/14/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	7/8/2010	Ethel Suico
					TLI	EPA 120.1	SC	7/15/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	7/15/2010	Linda Saetern
					TLI	EPA 200.8	MN	7/15/2010	Linda Saetern
					TLI	EPA 218.6	CR6	7/14/2010	Sonya Bersudsky
					FIELD	HACH	PH	7/13/2010	Ron Phelps
SC-700B	SC-700B-WDR-266	C. Knight	7/21/2010	8:00:00 AM	TLI	SM2130B	TRB	7/14/2010	Iordan Stavrev
					TLI	SM2540C	TDS	7/15/2010	Ethel Suico
					TLI	EPA 120.1	SC	7/22/2010	Gautam Savani
					TLI	EPA 200.8	CR	7/23/2010	Daniel Kang
					TLI	EPA 200.8	MN	7/23/2010	Daniel Kang
					TLI	EPA 218.6	CR6	7/22/2010	Sonya Bersudsky
					FIELD	HACH	PH	7/21/2010	C. Knight
SC-700B	SC-700B-WDR-266	C. Knight	7/21/2010	8:00:00 AM	TLI	SM2130B	TRB	7/22/2010	Gautam Savani
					TLI	SM2540C	TDS	7/22/2010	Ethel Suico

TABLE 8

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

Monitoring Information

Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-267	J. Aide	7/28/2010	8:00:00 AM	TLI	EPA 120.1	SC	7/30/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	7/30/2010	Linda Saetern
					TLI	EPA 200.8	MN	7/30/2010	Linda Saetern
					TLI	EPA 218.6	CR6	8/5/2010	Sonya Bersudsky
					FIELD	HACH	PH	7/25/2010	J. Aide
					TLI	SM2130B	TRB	7/29/2010	Gautam Savani
					TLI	SM2540C	TDS	8/2/2010	Ethel Suico
SC-700B	SC-700B-WDR-268	Ron Phelps	8/4/2010	8:00:00 AM	TLI	EPA 120.1	SC	8/5/2010	Iordan Stavrev
					TLI	EPA 200.7	FE	8/11/2010	Ethel Suico
					TLI	EPA 200.8	AL	8/11/2010	Linda Saetern
					TLI	EPA 200.8	AS	8/11/2010	Linda Saetern
					TLI	EPA 200.8	B	8/13/2010	Linda Saetern
					TLI	EPA 200.8	BA	8/18/2010	Linda Saetern
					TLI	EPA 200.8	CR	8/16/2010	Linda Saetern
					TLI	EPA 200.8	CU	8/11/2010	Linda Saetern
					TLI	EPA 200.8	MN	8/11/2010	Linda Saetern
					TLI	EPA 200.8	MO	8/18/2010	Linda Saetern
					TLI	EPA 200.8	NI	8/11/2010	Linda Saetern
					TLI	EPA 200.8	PB	8/11/2010	Linda Saetern
					TLI	EPA 200.8	SB	8/18/2010	Linda Saetern
					TLI	EPA 200.8	ZN	8/11/2010	Linda Saetern
					TLI	EPA 218.6	CR6	8/5/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	8/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	8/5/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	8/5/2010	Giawad Ghenniwa
					FIELD	HACH	PH	8/4/2010	Ron Phelps
					TLI	SM2130B	TRB	8/5/2010	Gautam Savani
					TLI	SM2540C	TDS	8/9/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	8/6/2010	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	8/5/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-269	J. Aide	8/11/2010	8:00:00 AM	TLI	EPA 120.1	SC	8/13/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	8/22/2010	Linda Saetern
					TLI	EPA 200.8	MN	8/22/2010	Linda Saetern
					TLI	EPA 218.6	CR6	8/12/2010	Sonya Bersudsky
					FIELD	HACH	PH	8/11/2010	J. Aide

TABLE 8

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

Monitoring Information

Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-269	J. Aide	8/11/2010	8:00:00 AM	TLI	SM2130B	TRB	8/13/2010	Gautam Savani
					TLI	SM2540C	TDS	8/16/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-270	J. Aide	8/17/2010	8:00:00 AM	TLI	EPA 120.1	SC	8/20/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	8/22/2010	Linda Saetern
					TLI	EPA 200.8	MN	8/22/2010	Linda Saetern
					TLI	EPA 218.6	CR6	8/18/2010	Sonya Bersudsky
					FIELD	HACH	PH	8/17/2010	J. Aide
					TLI	SM2130B	TRB	8/18/2010	Gautam Savani
					TLI	SM2540C	TDS	8/23/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-271A	Ron Phelps	8/23/2010	1:20:00 PM	TLI	EPA 120.1	SC	8/25/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	9/3/2010	Linda Saetern
					TLI	EPA 200.8	MN	9/3/2010	Linda Saetern
					TLI	EPA 218.6	CR6	8/24/2010	Sonya Bersudsky
					FIELD	HACH	PH	8/23/2010	Ron Phelps
					TLI	SM2130B	TRB	8/24/2010	Gautam Savani
					TLI	SM2540C	TDS	8/26/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-271B	C. Knight	8/27/2010	8:00:00 AM	TLI	EPA 120.1	SC	8/30/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	9/3/2010	Linda Saetern
					TLI	EPA 200.8	MN	9/3/2010	Linda Saetern
					TLI	EPA 218.6	CR6	9/2/2010	Sonya Bersudsky
					FIELD	HACH	PH	8/27/2010	C. Knight
					TLI	SM2130B	TRB	8/30/2010	Gautam Savani
					TLI	SM2540C	TDS	8/30/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-272	J.Aide	9/1/2010	8:00:00 AM	TLI	EPA 120.1	SC	9/2/2010	Iordan Stavrev/Gautam Savani
					TLI	EPA 200.7	FE	9/3/2010	Ethel Suico
					TLI	EPA 200.8	AL	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	AS	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	B	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	BA	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CR	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CU	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MN	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MO	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	NI	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	PB	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad

TABLE 8

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

Monitoring Information

Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-272	J.Aide	9/1/2010	8:00:00 AM	TLI	EPA 200.8	SB	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	ZN	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 218.6	CR6	9/3/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	9/2/2010	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	9/2/2010	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	9/2/2010	Giawad Ghenniwa
					FIELD	HACH	PH	9/1/2010	J.Aide
					TLI	SM2130B	TRB	9/2/2010	Gautam Savani
					TLI	SM2540C	TDS	9/7/2010	Jenny Tankunakorn
					TLI	SM4500NH3D	NH3N	9/3/2010	Iordan Stavrev
SC-700B	SC-700B-WDR-273	J. Aide	9/8/2010	8:00:00 AM	TLI	EPA 120.1	SC	9/13/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	9/16/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MN	9/16/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 218.6	CR6	9/10/2010	Sonya Bersudsky
					FIELD	HACH	PH	9/8/2010	J.Aide
					TLI	SM2130B	TRB	9/9/2010	Gautam Savani
					TLI	SM2540C	TDS	9/13/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-274	Ron Phelps	9/14/2010	2:45:00 PM	TLI	EPA 120.1	SC	9/15/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	9/16/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MN	9/16/2010	Daniel Kang/Hope Trinidad
					TLI	EPA 218.6	CR6	9/17/2010	Sonya Bersudsky
					FIELD	HACH	PH	9/14/2010	Ron Phelps
					TLI	SM2130B	TRB	9/15/2010	Gautam Savani
					TLI	SM2540C	TDS	9/16/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-275	C.Knight	9/22/2010	8:00:00 AM	TLI	EPA 120.1	SC	9/24/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	10/5/2010	Hope Trinidad
					TLI	EPA 200.8	MN	10/5/2010	Hope Trinidad
					TLI	EPA 218.6	CR6	10/1/2010	Sonya Bersudsky
					FIELD	HACH	PH	9/22/2010	C.Knight
					TLI	SM2130B	TRB	9/23/2010	Gautam Savani
					TLI	SM2540C	TDS	9/24/2010	Jenny Tankunakorn
SC-700B	SC-700B-WDR-276	J.Aide	9/29/2010	8:00:00 AM	TLI	EPA 120.1	SC	9/30/2010	Iordan Stavrev
					TLI	EPA 200.8	CR	10/1/2010	Daniel Kang
					TLI	EPA 200.8	MN	10/1/2010	Daniel Kang
					TLI	EPA 218.6	CR6	10/1/2010	Sonya Bersudsky

TABLE 8

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

Monitoring Information

Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
SC-700B	SC-700B-WDR-276	J.Aide	9/29/2010	8:00:00 AM	FIELD	HACH	PH	9/29/2010	J.Aide
					TLI	SM2130B	TRB	9/30/2010	Gautam Savani
					TLI	SM2540C	TDS	9/30/2010	Jenny Tankunakorn
					TLI	SM4500NO2B	NO2N	9/30/2010	Jenny Tankunakorn
SC-701	SC-701-WDR-272	J.Aide	9/1/2010	1:30:00 PM	TLI	EPA 120.1	SC	9/2/2010	Iordan Stavrev/Gautam Savani
					TLI	EPA 200.8	AG	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	AS	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	BA	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	BE	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CD	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CO	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CR	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	CU	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	HG	9/8/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	MO	9/22/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	NI	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	PB	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	SB	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	SE	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	TL	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	V	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 200.8	ZN	9/3/2010	Linda Saetern/Daniel Kang/Hope Trinidad
					TLI	EPA 218.6	CR6	9/3/2010	Sonya Bersudsky
					TLI	EPA 300.0	FL	9/2/2010	Giawad Ghenniwa
Phase Separator	SC-Sludge-WDR-272	J.Aide	9/1/2010	8:00:00 AM	FIELD	HACH	PH	9/1/2010	J.Aide
					TLI	SM2540C	TDS	9/7/2010	Jenny Tankunakorn
					TLI	EPA 300.0	FL	9/2/2010	Giawad Ghenniwa
					TLI	EPA 6010B	AG	9/13/2010	Ethel Suico
					TLI	EPA 6010B	AS	9/13/2010	Ethel Suico
					TLI	EPA 6010B	BA	9/13/2010	Ethel Suico
					TLI	EPA 6010B	BE	9/13/2010	Ethel Suico
					TLI	EPA 6010B	CD	9/13/2010	Ethel Suico
					TLI	EPA 6010B	CO	9/13/2010	Ethel Suico
					TLI	EPA 6010B	CR	9/15/2010	Ethel Suico
Phase Separator	SC-Sludge-WDR-272	J.Aide	9/1/2010	8:00:00 AM	TLI	EPA 6010B	CU	9/13/2010	Ethel Suico
					TLI	EPA 6010B	MO	9/13/2010	Ethel Suico

TABLE 8

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

Monitoring Information

*Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System*

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Separator	SC-Sludge-WDR-272	J.Aide	9/1/2010	8:00:00 AM	TLI	EPA 6010B	NI	9/13/2010	Ethel Suico
					TLI	EPA 6010B	PB	9/13/2010	Ethel Suico
					TLI	EPA 6010B	SB	9/13/2010	Ethel Suico
					TLI	EPA 6010B	SE	9/27/2010	Ethel Suico
					TLI	EPA 6010B	TL	9/15/2010	Ethel Suico
					TLI	EPA 6010B	V	9/13/2010	Ethel Suico
					TLI	EPA 6010B	ZN	9/13/2010	Ethel Suico
					TLI	SM2540B	MOIST	9/15/2010	Gautam Savani
					TLI	SW 6020A	HG	9/15/2010	Daniel Kang/Hope Trinidad
					TLI	SW 7199	CR6	9/9/2010	Sonya Bersudsky

TABLE 8

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

Monitoring Information

*Third Quarter 2010 Monitoring Report for Interim Measure No.3 Groundwater Treatment System*

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Separator	SC-Sludge-WDR-272	J. Aide	09/1/2010	8:00:00 AM	ATL	96-Hour Acute Aquatic Toxicity Screening Test	BIO	9/4/2010 - 09/8/2010	Joe LeMay

**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&amp;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&amp;ID TP-PR-10-10-04).

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

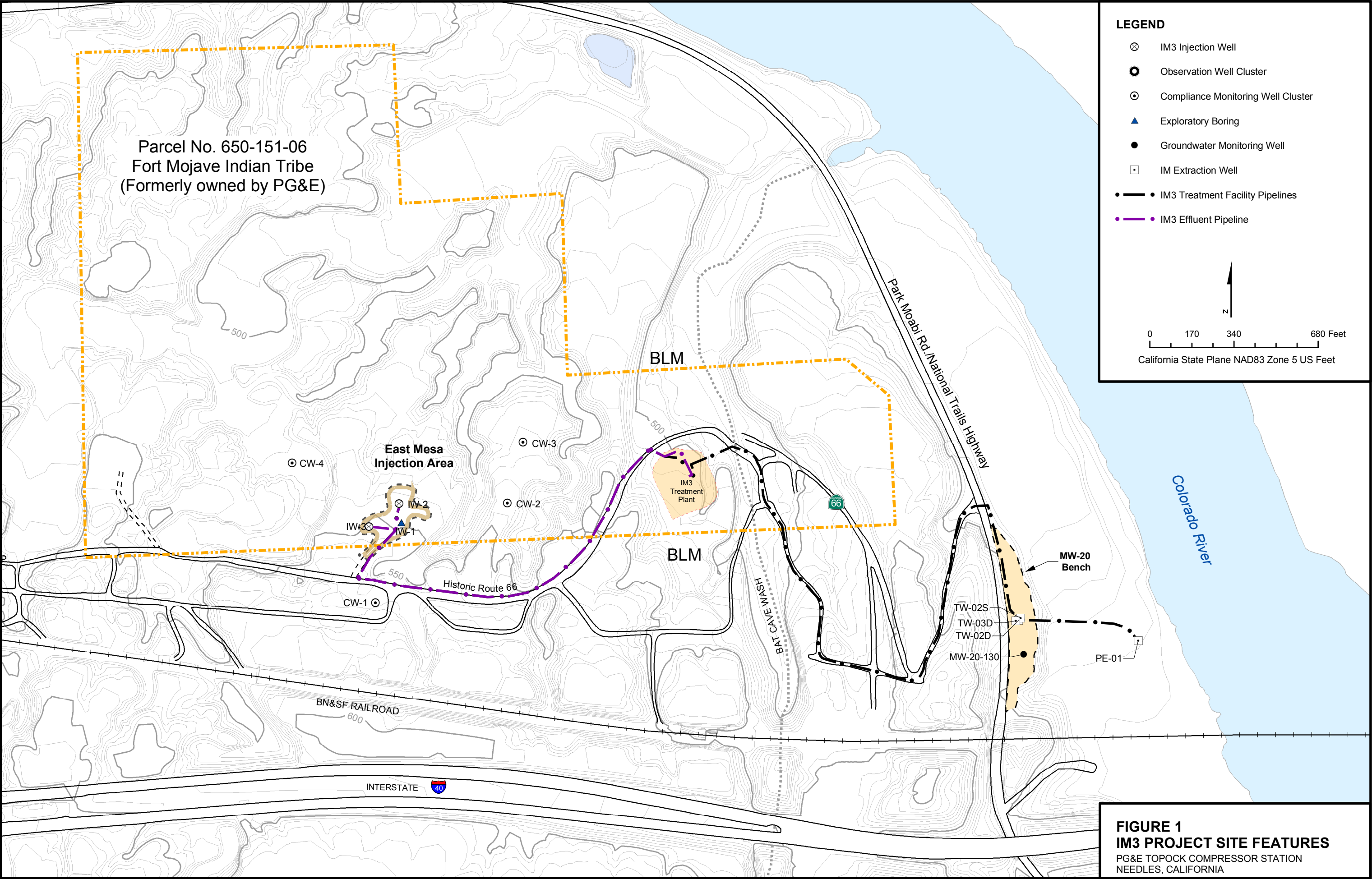
Prior to April 11, 2007 the analytical methods listed in the 40 CFR Part 136 for pH and TDS were E150.1 and E160.1, respectively. Per EPA and Department of Health Services guidelines, the analytical methods listed in the current 40 CFR Part 136 have changed to SM4500-H B and SM2540C as shown on the table.

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

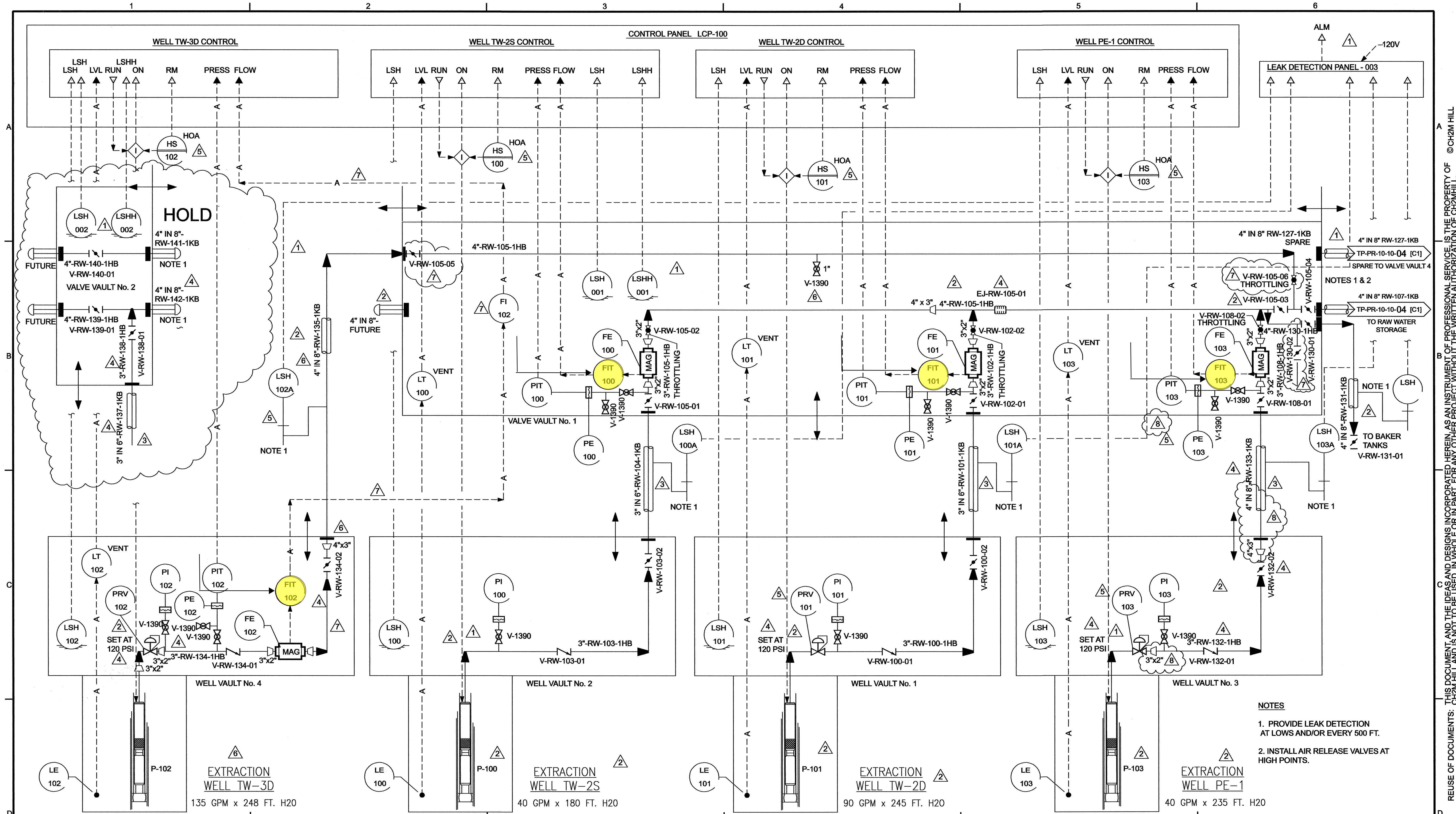


## Figures

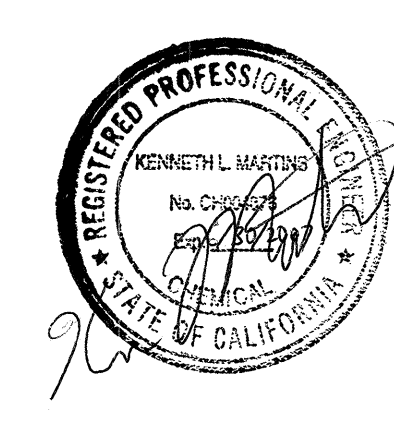
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- NOTES**
1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.
  2. INSTALL AIR RELEASE VALVES AT HIGH POINTS.



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

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

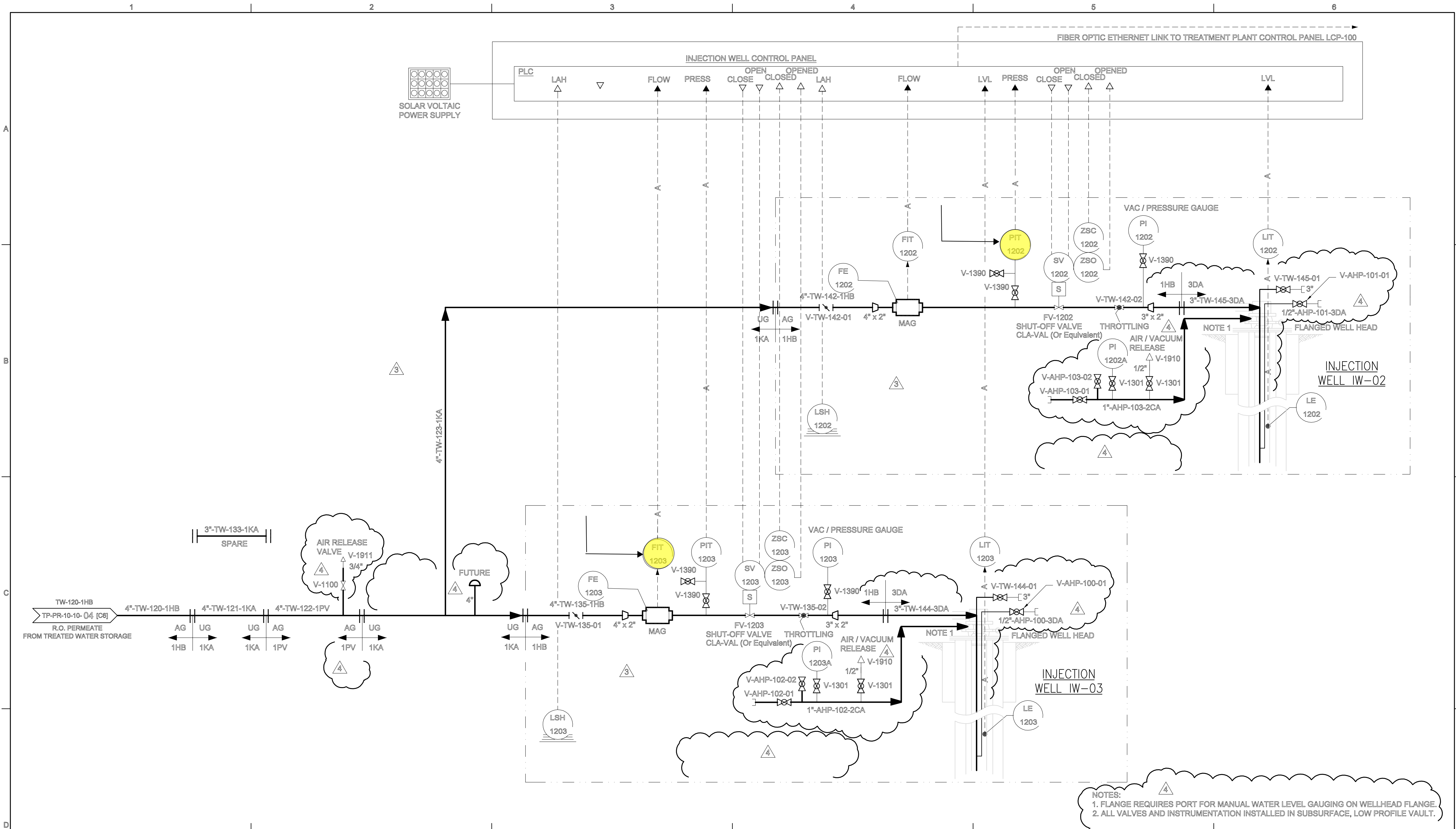
SCALE NONE

PACIFIC GAS & ELECTRIC CO.  
TOPOCK COMPRESSOR STATION  
INTERIM MEASURE 3  
EXPANDED GROUNDWATER EXTRACTION  
AND TREATMENT SYSTEM  
PROJ. NO. 315994  
**CH2MHILL**

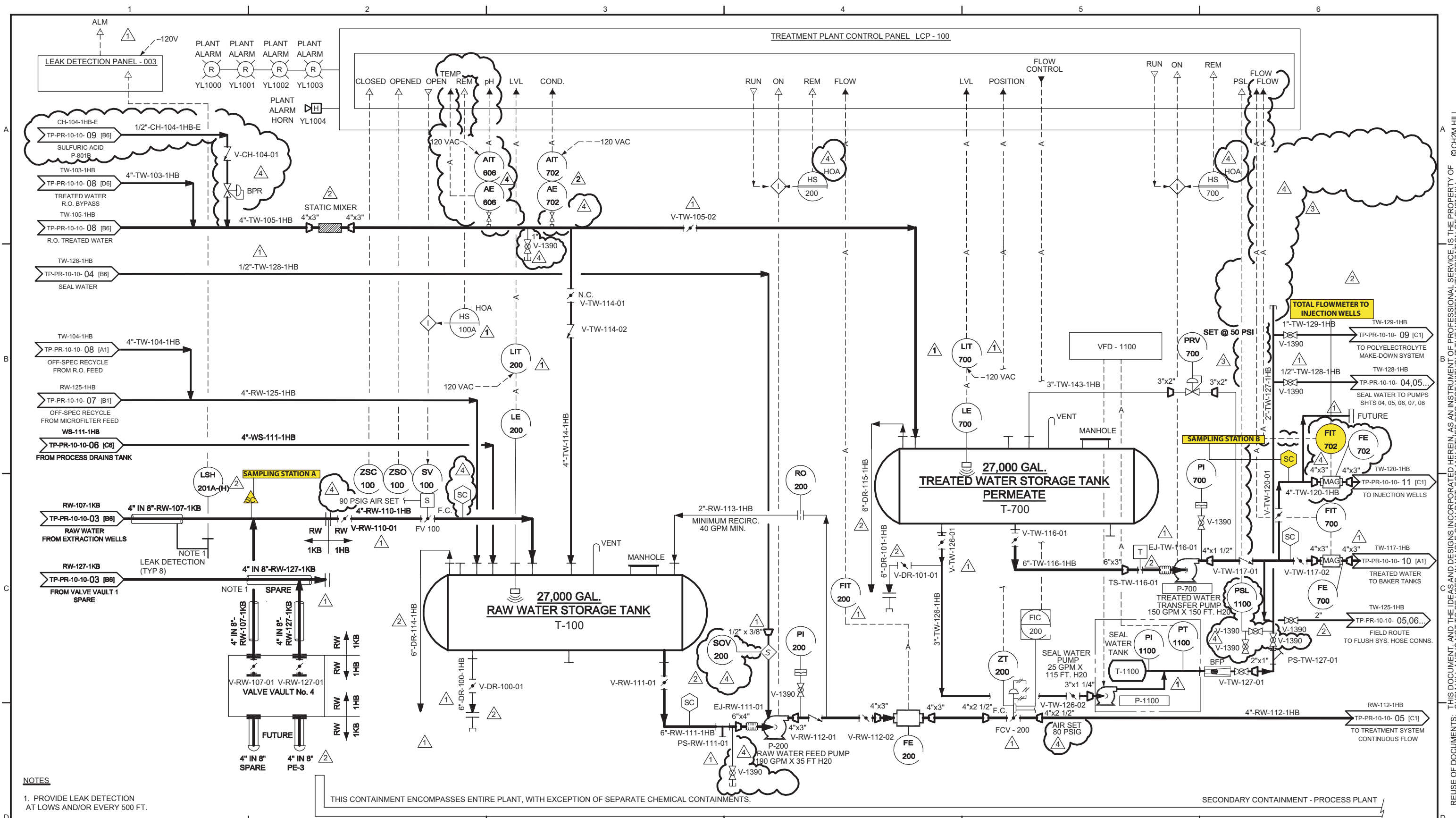
PROCESS AND INSTRUMENTATION DIAGRAM  
SHEET 03  
EXTRACTION WELLS  
PE-1, TW-2D, TW-2S AND TW-3D  
DWG. NO. TP-PR-10-10-03 REV. 8

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





RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH4876 Exp. 5-30-05	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 4	DATE 03/10/05	PRINT DISTRIBUTION	STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM PROJ NO. 315994	PROCESS AND INSTRUMENTATION DIAGRAM SHEET 11 INJECTION WELLS	
	A	07/28/04	FOR INTERNAL REVIEW	EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE	ISSUED	REV	DATE	SDE	PEM		
	0	09/03/04	APPROVED FOR CONSTRUCTION	EFC	AJ	CIVIL		ELECTRICAL		STATUS	PRELIMINARY						
	1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST & CONTROL		REV.	FOR REVIEW AND APPROVAL	A	07/28/04				
	2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT	APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP		
	3	02/14/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD	REVISED & APPROVED FOR CONSTRUCTION	4	/ /				
	4	03/10/05	REMOVED HOLD AND APPROVED FOR CONSTRUCTION	EFC	AJ	PIPING		GEN. ARRANG.		INTRA CO.						DWG. NO. TP-PR-10-10-11	REV. 4
										SCALE NONE		CH2MHILL					

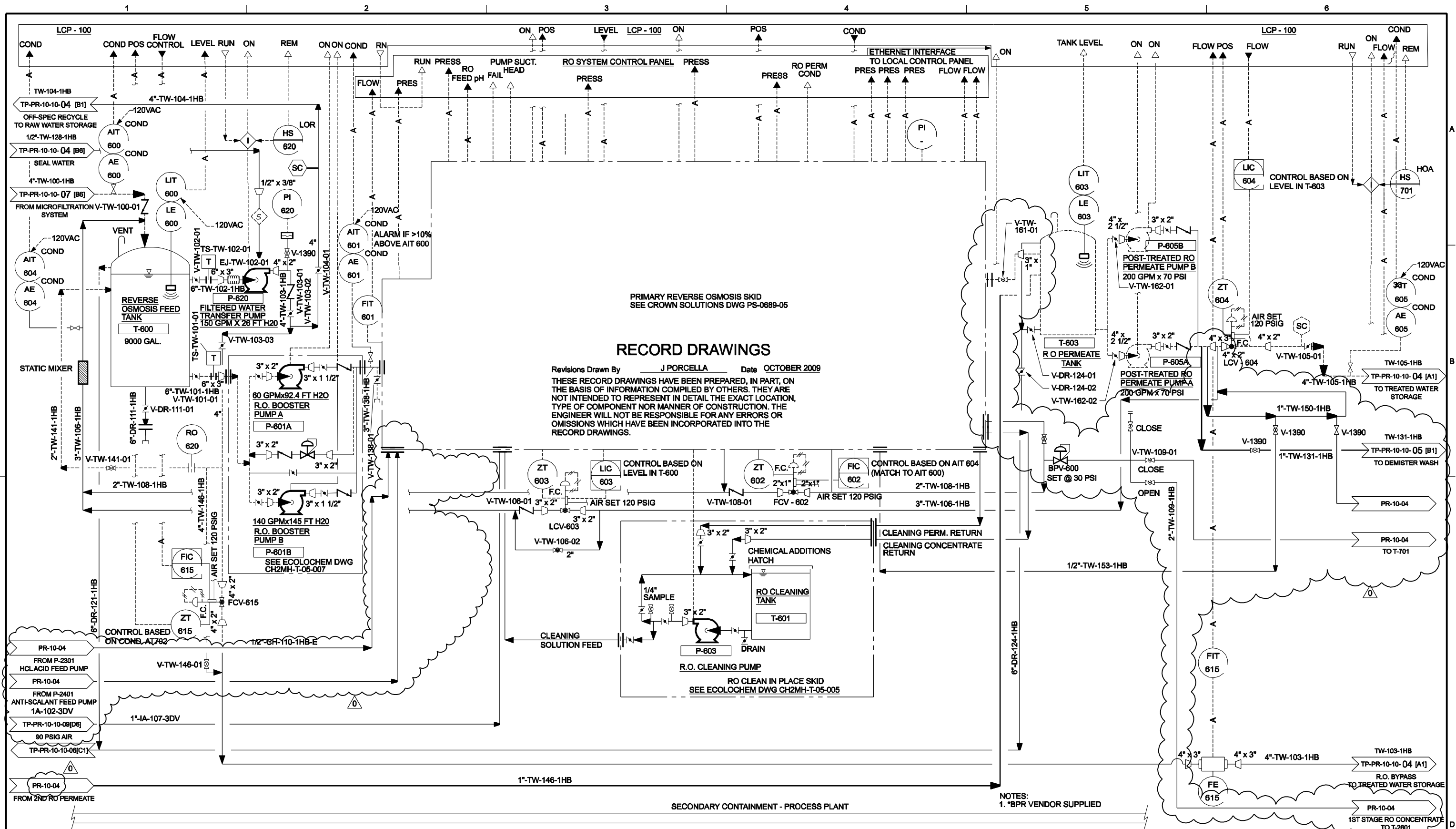


NOTES  
1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.

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

SECONDARY CONTAINMENT - PROCESS PLANT

NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 4	DATE 09/21/05	PRINT DISTRIBUTION	STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM PROJ NO. 315994	PROCESS AND INSTRUMENTATION DIAGRAM SHEET 04 STORAGE AREA	
									ISSUED	REV	DATE	SDE	PEM			
									PRELIMINARY							
									FOR REVIEW AND APPROVAL	D	07/28/04					
									APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP			
1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL			REV.								
2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL			CLIENT								
3	02/14/05	ADDED RECIRC. LINE AND PRV VALVE TO T-700 - APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS			FIELD								
4	09/21/05	REVISED PER AS-BUILT CONDITIONS	EFC	AJ	PIPING			INTRA CO.								
										SCALE NONE		CH2MHILL		DWG. NO. TP-PR-10-10-04		REV. 4



** ORIGINALLY STAMPED AND SIGNED BY: JOHN PORCELLA CALIFORNIA PE NO. C70145 ON 04-01-2009 **	RESPONSIBLE ENGINEER: John Porcella C70145 PE #	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 0	DATE 10/02/09	PRINT DISTRIBUTION	STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 PLANT PERFORMANCE IMPROVEMENTS	PROCESS AND INSTRUMENTATION DIAGRAM REVERSE OSMOSIS SYSTEM SHEET ONE OF TWO			
		A	2/12/09	INTERNAL REVIEW			DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE		ISSUED	REV	DATE	SDE					PEM
		B	2/12/09	CLIENT REVIEW			CIVIL	SJ	ELECTRICAL	FH	STATUS		PRELIMINARY	A	2/12/09	JP					JP
		C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP	STRUCTURAL		INST & CONTROL	JG	REV.		FOR REVIEW AND APPROVAL	C	4/01/09	JP					JP
		D	11/17/09	FINAL RECORD ISSUE	JR	JP	MECHANICAL	SJ	ARCHITECTURAL		CL INT		APPROVED FOR CONSTRUCTION								
									PROCESS	DF	ENVIRONMENTAL		FIELD	REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP	PROJ NO. 362032		
									PIPING	SJ	GEN. ARRANG.	SJ	INTRA CO.								

SCALE

NONE

CH2MHILL

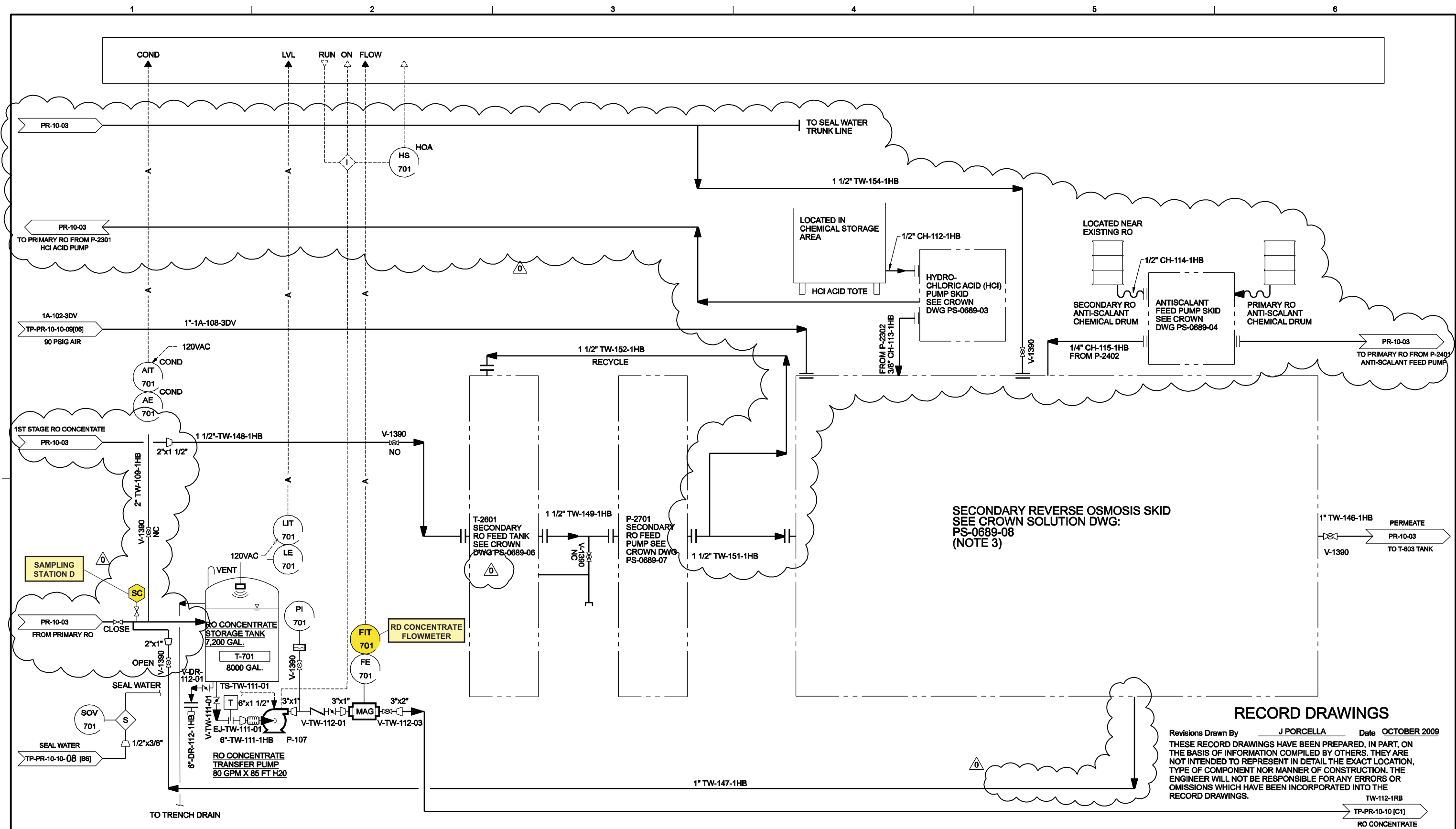
DWG. NO.

PR-10-03

REV.

0





## RECORD DRAWINGS

Revisions Drawn By J PORCELLA Date OCTOBER 2009  
THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

** ORIGINALLY STAMPED AND SIGNED BY: JOHN PORCELLA CALIFORNIA PE NO. C70145 ON 04-01-2009 **	RESPONSIBLE ENGINEER: John Porcella PE # C70145 Exp. 03-04-10	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL		REV 0	DATE 10/02/09	PRINT DISTRIBUTION	STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 PLANT PERFORMANCE IMPROVEMENTS  PROJ NO. 362032	PROCESS AND INSTRUMENTATION DIAGRAM REVERSE OSMOSIS SYSTEM SHEET TWO OF TWO			
		A	2/12/09	INTERNAL REVIEW			DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE		ISSUED	REV	DATE	SDE					PEM
		B	2/12/09	CLIENT REVIEW			CIVIL	SJ	ELECTRICAL	FH	STATUS		PRELIMINARY	A	2/12/09	JP					JP
		C	4/01/09	FOR REVIEW AND APPROVAL	JR	JP	STRUCTURAL		INST & CONTROL	JG	REV.		FOR REVIEW AND APPROVAL	C	4/01/09	JP					JP
		D	11/17/09	FINAL RECORD ISSUE	JR	JP	MECHANICAL	SJ	ARCHITECTURAL		CLIENT		APPROVED FOR CONSTRUCTION								
									PROCESS	OF	ENVIRONMENTAL	FIELD		REVISED & APPROVED FOR CONSTRUCTION	0	10/02/09	JP	JP			
									PIPING	SJ	GEN. ARRANG.	SJ	INTRA CO.								
												SCALE NONE					CH2MHILL	DWG. NO. PR-10-04	REV. 0		

BAR IS ONE INCH ON ORIGINAL DRAWING.  
0 1"

FILENAME: PR-10-04.dgn

PLOT DATE: 11/19/2009

PLOT TIME: 10:28:26 AM

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**Appendix A**  
**Third Quarter 2010 Laboratory Analytical Reports**

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

July 20, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-264 PROJECT, GROUNDWATER  
MONITORING,  
TLI No.: 990068

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-264 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 7, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

The straight run for sample SC-700B-WDR-264 and the associated matrix spike for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the straight run agree with those from the 5x dilution, the data from the straight run is reported.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services



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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

**Attention:** Shawn Duffy

**Sample:** Two (2) Groundwaters

**Project Name:** PG&E Topock Project

**Project No.:** 392895.AA.DM

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

**Laboratory No.:** 990068

**Date:** July 20, 2010

**Collected:** July 7, 2010

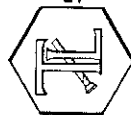
**Received:** July 7, 2010

## ANALYST LIST

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

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

**Attention:** Shawn Duffy

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

**Laboratory No.:** 990068

**Date Received:** July 7, 2010

Revision 1: July 21, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990068-001	SC-700B-WDR-264	E120.1	NONE	7/7/10	8:00	EC	7540	umhos/cm	2.00
990068-001	SC-700B-WDR-264	E200.7	NONE	7/7/10	8:00	Aluminum	ND	ug/L	50.0
990068-001	SC-700B-WDR-264	E200.7	NONE	7/7/10	8:00	BORON	932	ug/L	200
990068-001	SC-700B-WDR-264	E200.7	NONE	7/7/10	8:00	Iron	ND	ug/L	20.0
990068-001	SC-700B-WDR-264	E200.7	NONE	7/7/10	8:00	Molybdenum	15.7	ug/L	10.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Antimony	ND	ug/L	10.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Arsenic	ND	ug/L	1.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Barium	ND	ug/L	10.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Chromium	ND	ug/L	1.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Copper	ND	ug/L	5.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Lead	ND	ug/L	10.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Manganese	1.0	ug/L	1.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Nickel	ND	ug/L	10.0
990068-001	SC-700B-WDR-264	E200.8	NONE	7/7/10	8:00	Zinc	ND	ug/L	10.0
990068-001	SC-700B-WDR-264	E218.6	LABFLT	7/7/10	8:00	Chromium, hexavalent	0.24	ug/L	0.20
990068-001	SC-700B-WDR-264	E300	NONE	7/7/10	8:00	Fluoride	2.22	mg/L	0.500
990068-001	SC-700B-WDR-264	E300	NONE	7/7/10	8:00	Nitrate as N	2.79	mg/L	1.00
990068-001	SC-700B-WDR-264	E300	NONE	7/7/10	8:00	Sulfate	540	mg/L	50.0
990068-001	SC-700B-WDR-264	SM2130B	NONE	7/7/10	8:00	Turbidity	0.106	NTU	0.100
990068-001	SC-700B-WDR-264	SM2540C	NONE	7/7/10	8:00	Total Dissolved Solids	4550	mg/L	250
990068-001	SC-700B-WDR-264	SM4500NH3D	NONE	7/7/10	8:00	Ammonia-N	ND	mg/L	0.500
990068-001	SC-700B-WDR-264	SM4500NO2B	NONE	7/7/10	8:00	Nitrite as N	ND	mg/L	0.0050

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 these laboratories.



# TRUESDAIL LABORATORIES, INC.

Report Continued

Revision 1; July 21, 2010

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990068-002	SC-100B-WDR-264	E120.1	NONE	7/7/10	8:00	EC	7780	umhos/cm	2.00
990068-002	SC-100B-WDR-264	E200.7	NONE	7/7/10	8:00	Aluminum	ND	ug/L	50.0
990068-002	SC-100B-WDR-264	E200.7	NONE	7/7/10	8:00	BORON	1020	ug/L	200
990068-002	SC-100B-WDR-264	E200.7	NONE	7/7/10	8:00	Iron	ND	ug/L	20.0
990068-002	SC-100B-WDR-264	E200.7	NONE	7/7/10	8:00	Molybdenum	19.6	ug/L	10.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Antimony	ND	ug/L	10.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Arsenic	4.1	ug/L	1.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Barium	24.4	ug/L	10.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Chromium	961	ug/L	1.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Copper	ND	ug/L	5.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Lead	ND	ug/L	10.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Manganese	10.0	ug/L	1.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Nickel	ND	ug/L	10.0
990068-002	SC-100B-WDR-264	E200.8	NONE	7/7/10	8:00	Zinc	ND	ug/L	10.0
990068-002	SC-100B-WDR-264	E218.6	LABFLT	7/7/10	8:00	Chromium, hexavalent	1010	ug/L	21.0
990068-002	SC-100B-WDR-264	E300	NONE	7/7/10	8:00	Fluoride	2.84	mg/L	0.500
990068-002	SC-100B-WDR-264	E300	NONE	7/7/10	8:00	Nitrate as N	2.99	mg/L	1.00
990068-002	SC-100B-WDR-264	E300	NONE	7/7/10	8:00	Sulfate	552	mg/L	50.0
990068-002	SC-100B-WDR-264	SM2130B	NONE	7/7/10	8:00	Turbidity	0.108	NTU	0.100
990068-002	SC-100B-WDR-264	SM2540C	NONE	7/7/10	8:00	Total Dissolved Solids	4920	mg/L	250
990068-002	SC-100B-WDR-264	SM4500NH3D	NONE	7/7/10	8:00	Ammonia-N	ND	mg/L	0.500
990068-002	SC-100B-WDR-264	SM4500NO2B	NONE	7/7/10	8:00	Nitrite as N	ND	mg/L	0.0050

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

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

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

## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**P.O. Number:** 392895.AA.DM

**Project Number:** 392895.AA.DM

**Laboratory No.** 990068

**Page 1 of 14**

**Printed** 7/20/10

**Samples Received on** 7/7/10 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-264	990068-001	07/07/2010 08:00	Water
SC-100B-WDR-264	990068-002	07/07/2010 08:00	Water

### Anions By I.C. - EPA 300.0

Batch 07AN10 D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Fluoride	mg/L	07/08/2010 10:14	5.00	0.0600	0.500	2.22
Nitrate as Nitrogen	mg/L	07/08/2010 10:14	5.00	0.0950	1.00	2.79
Sulfate	mg/L	07/08/2010 11:00	100	4.00	50.0	540.
990068-002 Fluoride	mg/L	07/08/2010 10:49	5.00	0.0600	0.500	2.84
Nitrate as Nitrogen	mg/L	07/08/2010 10:49	5.00	0.0950	1.00	2.99
Sulfate	mg/L	07/08/2010 10:34	100	4.00	50.0	552.

### Method Blank

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

### Duplicate

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	2.19	2.22	1.36	0 - 20
Nitrate as Nitrogen	mg/L	5.00	2.76	2.79	1.08	0 - 20
Sulfate	mg/L	100	524.	540.	3.01	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.99	4.00	99.8	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.96	4.00	99.0	90 - 110
Sulfate	mg/L	1.00	19.7	20.0	98.5	90 - 110

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008



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 14

Project Number: 392895.AA.DM

Printed 7/20/10

## Matrix Spike

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.6	22.2(20.0)	102	85 - 115
Nitrate as Nitrogen	mg/L	5.00	23.2	22.8(20.0)	102	85 - 115
Sulfate	mg/L	100	1040	1040(500)	100.	85 - 115

## MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.09	4.00	102	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.99	4.00	99.8	90 - 110
Sulfate	mg/L	1.00	20.0	20.0	100.	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.12	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
Fluoride	mg/L	1.00	3.14	3.00	105	90 - 110
Nitrate as Nitrogen	mg/L	1.00	2.99	3.00	99.7	90 - 110
Sulfate	mg/L	1.00	15.1	15.0	101	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 3 of 14

Project Number: 392895.AA.DM

Printed 7/20/10

## Nitrite SM 4500-NO2 B

Batch 07NO210D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Nitrite as Nitrogen	mg/L	07/08/2010 15:46	1.00	0.000200	0.0050	ND
990068-002 Nitrite as Nitrogen	mg/L	07/08/2010 15:50	1.00	0.000200	0.0050	ND

### Method Blank

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

### Duplicate

Lab ID = 990068-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0453	0.0450	101	90 - 110

### Matrix Spike

Lab ID = 990068-001

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

### Matrix Spike Duplicate

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0200	0.0200(0.0200)	100.	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0284	0.0270	105	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0199	0.0200	99.5	90 - 110





# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

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## Specific Conductivity - EPA 120.1

Batch 07EC10C

7/9/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Specific Conductivity	umhos/cm	07/09/2010	1.00	0.0380	2.00	7540
990068-002 Specific Conductivity	umhos/cm	07/09/2010	1.00	0.0380	2.00	7780

### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

### Duplicate

Lab ID = 990070-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	952.	951.	0.105	0 - 10

### Lab Control Sample

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

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	696.	706.	98.6	90 - 110

### MRCCS - Secondary

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

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	985.	1000	98.5	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	981.	1000	98.1	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 392895.AA.DM

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## Chrome VI by EPA 218.6

Batch 07CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Chromium, Hexavalent	ug/L	07/08/2010 13:05	1.05	0.0190	0.20	0.24
990068-002 Chromium, Hexavalent	ug/L	07/08/2010 13:46	105	2.00	21.0	1010

### Method Blank

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

### Duplicate

Lab ID = 990068-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	1020	1010	0.985	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.90	5.00	98.0	90 - 110

### Matrix Spike

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.26	1.30(1.06)	96.2	90 - 110

### Matrix Spike

Lab ID = 990068-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2020	2060(1050)	96.2	90 - 110

### Matrix Spike

Lab ID = 990069-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	29.9	30.1(16.4)	98.8	90 - 110

### Matrix Spike

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.53	5.25(5.25)	105	90 - 110

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.97	5.00	99.4	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.83	10.0	98.3	95 - 105

### MRCVS - Primary

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 392895.AA.DM

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## Metals by EPA 200.7, Total

Batch 071510A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Aluminum	ug/L	07/15/2010 15:18	1.00	1.00	50.0	ND
Boron	ug/L	07/15/2010 15:18	1.00	5.00	200.	932.
Iron	ug/L	07/15/2010 15:18	1.00	3.00	20.0	ND
Molybdenum	ug/L	07/15/2010 15:18	1.00	0.300	10.0	15.7
990068-002 Aluminum	ug/L	07/15/2010 15:39	1.00	1.00	50.0	ND
Boron	ug/L	07/15/2010 15:39	1.00	5.00	200.	1020
Iron	ug/L	07/15/2010 15:39	1.00	3.00	20.0	ND
Molybdenum	ug/L	07/15/2010 15:39	1.00	0.300	10.0	19.6

### Method Blank

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

### Duplicate

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	ND	0	0	0 - 20
Boron	ug/L	1.00	921.	932.	1.19	0 - 20
Iron	ug/L	1.00	ND	0	0	0 - 20
Molybdenum	ug/L	1.00	14.9	15.7	5.23	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	5140	5000	103	90 - 110
Boron	ug/L	1.00	4640	5000	92.8	90 - 110
Iron	ug/L	1.00	4920	5000	98.4	90 - 110
Molybdenum	ug/L	1.00	4860	5000	97.2	90 - 110

### Matrix Spike

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2050	2000(2000)	102	75 - 125
Boron	ug/L	1.00	2630	2930(2000)	84.9	75 - 125
Iron	ug/L	1.00	2000	2000(2000)	100.	75 - 125
Molybdenum	ug/L	1.00	1680	2020(2000)	83.2	75 - 125

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**TRUESDAIL LABORATORIES, INC.***Report Continued***Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 7 of 14****Project Number: 392895.AA.DM****Printed 7/20/10****MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	5000	5000	100.	90 - 110
Boron	ug/L	1.00	4920	5000	98.4	90 - 110
Iron	ug/L	1.00	5090	5000	102	90 - 110
Molybdenum	ug/L	1.00	4990	5000	99.8	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	5020	5000	100	90 - 110
Boron	ug/L	1.00	4630	5000	92.6	90 - 110
Iron	ug/L	1.00	4920	5000	98.4	90 - 110
Molybdenum	ug/L	1.00	4500	5000	90.0	90 - 110

**Interference Check Standard A**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1920	2000	96.0	80 - 120
Boron	ug/L	1.00	ND	0		
Iron	ug/L	1.00	2090	2000	104	80 - 120
Molybdenum	ug/L	1.00	ND	0		

**Interference Check Standard A**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2100	2000	105.	80 - 120
Boron	ug/L	1.00	ND	0		
Iron	ug/L	1.00	2060	2000	103.	80 - 120
Molybdenum	ug/L	1.00	ND	0		

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	1920	2000	96.0	80 - 120
Boron	ug/L	1.00	ND	0		
Iron	ug/L	1.00	2100	2000	105.	80 - 120
Molybdenum	ug/L	1.00	ND	0		

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	2110	2000	106	80 - 120
Boron	ug/L	1.00	ND	0		
Iron	ug/L	1.00	2080	2000	104.	80 - 120
Molybdenum	ug/L	1.00	ND	0		

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# TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 392895.AA.DM

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## Metals by EPA 200.8, Total

Batch 070910A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Antimony	ug/L	07/09/2010 15:38	5.00	0.495	10.0	ND
Arsenic	ug/L	07/09/2010 15:38	5.00	0.140	1.0	ND
Barium	ug/L	07/09/2010 15:38	5.00	0.210	10.0	ND
Chromium	ug/L	07/09/2010 15:38	5.00	0.0960	1.0	ND
Copper	ug/L	07/09/2010 15:38	5.00	0.520	5.0	ND
Lead	ug/L	07/09/2010 15:38	5.00	0.0750	10.0	ND
Manganese	ug/L	07/09/2010 15:38	5.00	0.0600	1.0	1.0
Nickel	ug/L	07/09/2010 15:38	5.00	0.205	10.0	ND
Zinc	ug/L	07/09/2010 15:38	5.00	1.32	10.0	ND
990068-002 Antimony	ug/L	07/09/2010 15:59	5.00	0.495	10.0	ND
Arsenic	ug/L	07/09/2010 15:59	5.00	0.140	1.0	4.1
Barium	ug/L	07/09/2010 15:59	5.00	0.210	10.0	24.4
Chromium	ug/L	07/09/2010 15:59	5.00	0.0960	1.0	96.1
Copper	ug/L	07/09/2010 15:59	5.00	0.520	5.0	ND
Lead	ug/L	07/09/2010 15:59	5.00	0.0750	10.0	ND
Manganese	ug/L	07/09/2010 15:59	5.00	0.0600	1.0	10.0
Nickel	ug/L	07/09/2010 15:59	5.00	0.205	10.0	ND
Zinc	ug/L	07/09/2010 15:59	5.00	1.32	10.0	ND

## Method Blank

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

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**TRUESDAIL LABORATORIES, INC.***Report Continued***Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 9 of 14****Project Number: 392895.AA.DM****Printed 7/20/10****Duplicate****Lab ID = 990068-001**

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Antimony	ug/L	5.00	ND	0	0	0 - 20
Arsenic	ug/L	5.00	ND	0	0	0 - 20
Barium	ug/L	5.00	ND	5.66	0	0 - 20
Chromium	ug/L	5.00	ND	0	0	0 - 20
Copper	ug/L	5.00	ND	0	0	0 - 20
Lead	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	1.1	1.0	9.52	0 - 20
Nickel	ug/L	5.00	ND	0	0	0 - 20
Zinc	ug/L	5.00	ND	0	0	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	52.1	50.0	104	90 - 110
Arsenic	ug/L	1.00	53.5	50.0	107.	90 - 110
Barium	ug/L	1.00	52.5	50.0	105.	90 - 110
Chromium	ug/L	1.00	51.8	50.0	104	90 - 110
Copper	ug/L	1.00	53.8	50.0	108	90 - 110
Lead	ug/L	1.00	51.9	50.0	104	90 - 110
Manganese	ug/L	1.00	52.3	50.0	105	90 - 110
Nickel	ug/L	1.00	53.9	50.0	108	90 - 110
Zinc	ug/L	1.00	54.0	50.0	108.	90 - 110

**Matrix Spike****Lab ID = 990068-001**

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Antimony	ug/L	5.00	247.	250.(250)	98.8	75 - 125
Arsenic	ug/L	5.00	269.	250.(250)	108	75 - 125
Barium	ug/L	5.00	252.	256(250)	98.5	75 - 125
Chromium	ug/L	5.00	250.	250.(250)	100.	75 - 125
Copper	ug/L	5.00	250.	250.(250)	100.	75 - 125
Lead	ug/L	5.00	227.	250.(250)	90.8	75 - 125
Manganese	ug/L	5.00	246.	251.(250)	98.0	75 - 125
Nickel	ug/L	5.00	250.	250.(250)	100.	75 - 125
Zinc	ug/L	5.00	247.	250.(250)	98.8	75 - 125

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 392895.AA.DM

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## Matrix Spike Duplicate

Lab ID = 990068-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Antimony	ug/L	5.00	251.	250.(250)	100	75 - 125
Arsenic	ug/L	5.00	270.	250.(250)	108.	75 - 125
Barium	ug/L	5.00	255.	256(250)	99.7	75 - 125
Chromium	ug/L	5.00	247.	250.(250)	98.8	75 - 125
Copper	ug/L	5.00	248.	250.(250)	99.2	75 - 125
Lead	ug/L	5.00	230.	250.(250)	92.0	75 - 125
Manganese	ug/L	5.00	248.	251(250)	98.8	75 - 125
Nickel	ug/L	5.00	249.	250.(250)	99.6	75 - 125
Zinc	ug/L	5.00	247.	250.(250)	98.8	75 - 125

## MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	52.3	50.0	105	90 - 110
Arsenic	ug/L	1.00	54.3	50.0	109	90 - 110
Barium	ug/L	1.00	52.7	50.0	105	90 - 110
Chromium	ug/L	1.00	52.0	50.0	104.	90 - 110
Copper	ug/L	1.00	54.0	50.0	108.	90 - 110
Lead	ug/L	1.00	51.5	50.0	103.	90 - 110
Manganese	ug/L	1.00	52.1	50.0	104	90 - 110
Nickel	ug/L	1.00	54.6	50.0	109	90 - 110
Zinc	ug/L	1.00	54.7	50.0	109	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	48.2	50.0	96.4	90 - 110
Arsenic	ug/L	1.00	51.4	50.0	103	90 - 110
Barium	ug/L	1.00	48.5	50.0	97.0	90 - 110
Chromium	ug/L	1.00	50.0	50.0	100.	90 - 110
Copper	ug/L	1.00	51.7	50.0	103	90 - 110
Lead	ug/L	1.00	47.0	50.0	94.0	90 - 110
Manganese	ug/L	1.00	49.8	50.0	99.6	90 - 110
Nickel	ug/L	1.00	52.2	50.0	104	90 - 110
Zinc	ug/L	1.00	50.6	50.0	101	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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## Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		
Arsenic	ug/L	1.00	ND	0		
Barium	ug/L	1.00	ND	0		
Chromium	ug/L	1.00	ND	0		
Copper	ug/L	1.00	ND	0		
Lead	ug/L	1.00	ND	0		
Manganese	ug/L	1.00	ND	0		
Nickel	ug/L	1.00	ND	0		
Zinc	ug/L	1.00	ND	0		

## Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		
Arsenic	ug/L	1.00	ND	0		
Barium	ug/L	1.00	ND	0		
Chromium	ug/L	1.00	ND	0		
Copper	ug/L	1.00	ND	0		
Lead	ug/L	1.00	ND	0		
Manganese	ug/L	1.00	ND	0		
Nickel	ug/L	1.00	ND	0		
Zinc	ug/L	1.00	ND	0		

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		80 - 120
Arsenic	ug/L	1.00	50.5	50.0	101.	80 - 120
Barium	ug/L	1.00	ND	0		80 - 120
Chromium	ug/L	1.00	48.4	50.0	96.8	80 - 120
Copper	ug/L	1.00	50.8	50.0	102	80 - 120
Lead	ug/L	1.00	ND	0		80 - 120
Manganese	ug/L	1.00	48.4	50.0	96.8	80 - 120
Nickel	ug/L	1.00	50.6	50.0	101	80 - 120
Zinc	ug/L	1.00	49.7	50.0	99.4	80 - 120

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**TRUESDAIL LABORATORIES, INC.**

Report Continued

Client: **E2 Consulting Engineers, Inc.**Project Name: **PG&E Topock Project**  
Project Number: **392895.AA.DM**Page 12 of 14  
Printed 7/20/10**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	ND	0		80 - 120
Arsenic	ug/L	1.00	51.8	50.0	104	80 - 120
Barium	ug/L	1.00	ND	0		80 - 120
Chromium	ug/L	1.00	49.9	50.0	99.8	80 - 120
Copper	ug/L	1.00	52.8	50.0	106	80 - 120
Lead	ug/L	1.00	ND	0		80 - 120
Manganese	ug/L	1.00	50.0	50.0	100.	80 - 120
Nickel	ug/L	1.00	52.3	50.0	105	80 - 120
Zinc	ug/L	1.00	51.8	50.0	104	80 - 120

**Total Dissolved Solids by SM 2540 C**

Batch 07TDS10C

7/7/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Total Dissolved Solids	mg/L	07/07/2010	1.00	0.434	250.	4550
990068-002 Total Dissolved Solids	mg/L	07/07/2010	1.00	0.434	250.	4920

**Method Blank**

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

**Duplicate**

Lab ID = 990069-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	5140	5280	2.69	0 - 5

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	491.	500.	98.2	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project  
Project Number: 392895.AA.DM

Page 13 of 14  
Printed 7/20/10

## Ammonia Nitrogen by SM4500-NH3D

Batch 07NH3-E10A

7/14/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Ammonia as N	mg/L	07/14/2010	1.00	0.00200	0.500	ND
990068-002 Ammonia as N	mg/L	07/14/2010	1.00	0.00200	0.500	ND

### Method Blank

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

### Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Lab ID = 990068-002 Acceptance Range
Ammonia as N	mg/L	1.00	ND	0	0	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	10.2	10.0	102.	90 - 90

### Matrix Spike

Parameter	Unit	DF	Result	Expected/Added	Recovery	Lab ID = 990068-002 Acceptance Range
Ammonia as N	mg/L	1.00	6.03	6.00(6.00)	100	75 - 125

### Matrix Spike Duplicate

Parameter	Unit	DF	Result	Expected/Added	Recovery	Lab ID = 990068-002 Acceptance Range
Ammonia as N	mg/L	1.00	5.99	6.00(6.00)	99.8	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.84	6.00	97.3	90 - 110

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.97	6.00	99.5	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.85	6.00	97.5	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project  
Project Number: 392895.AA.DM

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Printed 7/20/10

## Turbidity by SM 2130 B

Batch 07TUC10F

7/8/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990068-001 Turbidity	NTU	07/08/2010	1.00	0.0140	0.100	0.106
990068-002 Turbidity	NTU	07/08/2010	1.00	0.0140	0.100	0.108

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990068-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.107	0.108	0.930	0 - 20

### Lab Control Sample


Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.76	8.00	97.0	90 - 110

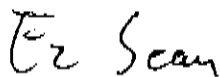
### Lab Control Sample Duplicate

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

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi  
Manager, Analytical Services



4

## Calculations

Batch: 07TD\$10C

Date Calculated: 7/12/10

[illegible]

Calculation as follows:

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

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

B = weight of dish in grams.


C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

E. J. R. L.  
Analyst Printed Name

Analyst Signature B

  
Reviewer Printed Name

  
\_\_\_\_\_  
Reviewer Signature

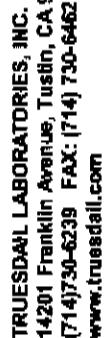
**TDS/EC CHECK**

Date Calculated: 7/12/10

[illegible]

ES 7/12/64





**[IM3Plant-WDR-264]**

COC Number

**TURNAROUND TIME**

DATE 07/07/10

990068

[illegible]

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	°F
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
SPECIAL REQUIREMENTS:							
The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn							
For Sample Conditions							

## For Sample Conditions

**See Form Attached**



TRUESDAIL LABORATORIES, INC.

**ALERT !!**  
**Level III QC**

## Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL

Lab # 990068

Date Delivered: 7/7/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

16. Comments: \_\_\_\_\_

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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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

July 27, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-265 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 990169

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-265 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 13, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


The result from the matrix spike for sample SC-700B-WDR-265 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

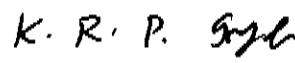
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services

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



# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 392895.AA.DM

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[www.truesdail.com](http://www.truesdail.com)

**Laboratory No.:** 990169

**Date:** July 27, 2010

**Collected:** July 13, 2010

**Received:** July 13, 2010

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Ethel Suico
SM 2130B	Turbidity	Iordan Stavrev
EPA 200.8	Total Metals	Linda Saetern
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1937

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

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

**Laboratory No.:** 990169  
**Date Received:** July 13, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990169-001	SC-700B-WDR-265	E120.1	NDNE	7/13/10	8:00	EC	7300	umhos/cm	2.00
990169-001	SC-700B-WDR-265	E200.8	NONE	7/13/10	8:00	Chromium	ND	ug/L	1.0
990169-001	SC-700B-WDR-265	E200.8	NONE	7/13/10	8:00	Manganese	ND	ug/L	1.0
990169-001	SC-700B-WDR-265	E218.6	LABFLT	7/13/10	8:00	Chromium, hexavalent	ND	ug/L	0.20
990169-001	SC-700B-WDR-265	SM2130B	NONE	7/13/10	8:00	Turbidity	ND	NTU	0.100
990169-001	SC-700B-WDR-265	SM2540C	NONE	7/13/10	8:00	Total Dissolved Solids	4370	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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

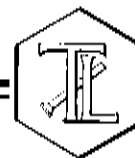
Result above or equal to 0.01ppm will have three (3) significant figures.

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

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**P.O. Number:** 392895.AA.DM

**Project Number:** 392895.AA.DM

**Laboratory No.** 990169

**Page 1 of 6**

**Printed** 7/27/10

**Samples Received on** 7/13/10 9:15:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-265	990169-001	07/13/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch 07EC10E

7/15/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990169-001 Specific Conductivity	umhos/cm	07/15/2010	1.00	0.0380	2.00	7300

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 990169-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7330	7300	0.410	0 - 10

#### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	695.	706.	98.4	90 - 110

#### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110

#### MRCCS - Secondary

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

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	990.	1000	99.0	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 6

Project Number: 392895.AA.DM

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## Chrome VI by EPA 218.6

Batch: 07CrH10D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990169-001 Chromium, Hexavalent	ug/L	07/14/2010 13:13	1.05	0.0190	0.20	ND

### Method Blank

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

### Duplicate

Lab ID = 990128-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.0	90 - 110

### Matrix Spike

Lab ID = 990128-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	105	90 - 110

### Matrix Spike

Lab ID = 990128-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.08	1.06(1.06)	102	90 - 110

### Matrix Spike

Lab ID = 990128-005

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.06(1.06)	106	90 - 110

### Matrix Spike

Lab ID = 990128-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	105	90 - 110

### Matrix Spike

Lab ID = 990128-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.04	1.06(1.06)	98.1	90 - 110

### Matrix Spike

Lab ID = 990169-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.08	1.06(1.06)	102	90 - 110

### Matrix Spike

Lab ID = 990169-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.34	5.25(5.25)	102	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project  
Project Number: 392895.AA.DM

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## Matrix Spike

Lab ID = 990128-010

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.10	1.06(1.06)	104	90 - 110

## Matrix Spike

Lab ID = 990128-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.06(1.06)	103	90 - 110

## Matrix Spike

Lab ID = 990128-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.11	1.06(1.06)	105	90 - 110

## Matrix Spike

Lab ID = 990128-006

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.12	1.06(1.06)	106	90 - 110

## Matrix Spike

Lab ID = 990128-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.15	1.06(1.06)	108	90 - 110

## Matrix Spike

Lab ID = 990128-008

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.13	1.06(1.06)	107	90 - 110

## MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.94	5.00	98.8	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.92	10.0	99.2	95 - 105

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101.	95 - 105

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.63	10.0	96.3	95 - 105



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 392895.AA.DM

Printed 7/27/10

## Metals by EPA 200.8, Total

Batch 071510A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990169-001 Chromium	ug/L	07/15/2010 15:41	5.00	0.0750	1.0	ND
Manganese	ug/L	07/15/2010 15:41	5.00	0.0600	1.0	ND

### Method Blank

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

### Duplicate

Lab ID = 990169-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.1	50.0	102	90 - 110
Manganese	ug/L	1.00	51.6	50.0	103	90 - 110

### Matrix Spike

Lab ID = 990169-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	248.	250.(250)	99.2	75 - 125
Manganese	ug/L	5.00	249.	250.(250)	99.6	75 - 125

### Matrix Spike Duplicate

Lab ID = 990169-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	248.	250.(250)	99.2	75 - 125
Manganese	ug/L	5.00	244.	250.(250)	97.6	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.0	50.0	102.	90 - 110
Manganese	ug/L	1.00	51.6	50.0	103	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110
Manganese	ug/L	1.00	48.0	50.0	96.0	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.2	50.0	98.4	90 - 110
Manganese	ug/L	1.00	49.9	50.0	99.8	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 392895.AA.DM

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## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.2	80 - 120
Manganese	ug/L	1.00	47.5	50.0	95.0	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.0	50.0	100.	80 - 120
Manganese	ug/L	1.00	50.3	50.0	101	80 - 120

## Total Dissolved Solids by SM 2540 C

Batch 07TDS10F

7/15/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990169-001 Total Dissolved Solids	mg/L	07/15/2010	1.00	0.434	250.	4370

## Method Blank

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

## Duplicate

Lab ID = 990169-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4390	4370	0.457	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	499.	500.	99.8	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 6 of 6

Project Number: 392895.AA.DM

Printed 7/27/10

## Turbidity by SM 2130 B

Batch 07TUC10I

7/14/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990169-001 Turbidity	NTU	07/14/2010	1.00	0.0140	0.100	ND

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990169-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.45	8.00	93.1	90 - 110

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.52	8.00	94.0	90 - 110

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

*for* 

Mona Nassimi

Manager, Analytical Services





**Total Dissolved Solids by SM 2540 C**

## Calculations

Batch: 07TD\$10F

Date Calculated: 7/19/20

[illegible]

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered,

RL= reporting limit.

ND = not detected (below the reporting limit)

Estad

Analyst Printed Name

Analyst Signature

Here

Reviewer Printed Name

*[Handwritten signature]*

Reviewer Signature \_\_\_\_\_

**Total Dissolved Solids by SM 2540 C**

TDS/EC CHECK

Batch: 07TDS10F

**Date Calculated: 7/19/20**

[illegible]

ES 7/79(a)

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TRUESDALE LABORATORIES, INC.  
14201 Franklin Avenue, Tustin, CA 92789-7008  
(714) 730-8239 FAX: (714) 730-4462  
www.truesdale.com

# CHAIN OF CUSTODY RECORD

[IM3] Plant-WDR-265

TURNAROUND TIME 10 Days

DATE 07/13/10 PAGE 1 OF 1

COMPANY E2	PROJECT NAME PG&E Topock	PHONE (530) 229-3303	FAX (530) 339-3303	P.O. NUMBER 392896-AA.DM	TEAM 1	SAMPLERS (SIGNATURE)	DATE 07/13/10	TIME 600	DESCRIPTION Water	Cr6 (218.6) Lab Filtered	Tot/M Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2510C)	Turbidity (SM2130)	NUMBER OF CONTAINERS 3	COMMENTS is - 200.7 pu = 4
SC-700B-WDR-265										3		3		TOTAL NUMBER OF CONTAINERS		

Temp - 82.7  
PH - 7.2 - 806  
EC - 7.47  
Cb - .002  
TOTAL - .003

ALERT !!  
Level III QC

For Sample Conditions  
See Form Attached

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



TRUESDAIL LABORATORIES, INC.

## Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 890169

Date Delivered: 07/13/10 Time: 2:15 By: ☐ Mail ☒ Field Service ☐ Client

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

**ALERT!!**  
**Level III QC**

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

July 29, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-266 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 990296

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-266 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 21, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


The result from the matrix spike for sample SC-700B-WDR-266 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

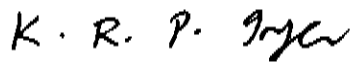
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 392895.AA.DM

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TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 • FAX (714) 730-6462  
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**Laboratory No.:** 990296

**Date:** July 29, 2010

**Collected:** July 21, 2010

**Received:** July 21, 2010

## ANALYST LIST

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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

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

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

**Laboratory No.:** 990296  
**Date Received:** July 21, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990296-001	SC-700B-WDR-266	E120.1	NONE	7/21/10	8:00	EC	6980	umhos/cm	2.00
990296-001	SC-700B-WDR-266	E200.8	NONE	7/21/10	8:00	Chromium	ND	ug/L	1.0
990296-001	SC-700B-WDR-266	E200.8	NONE	7/21/10	8:00	Manganese	ND	ug/L	1.0
990296-001	SC-700B-WDR-266	E218.6	LABFLT	7/21/10	8:00	Chromium, hexavalent	ND	ug/L	0.20
990296-001	SC-700B-WDR-266	SM2130B	NONE	7/21/10	8:00	Turbidity	ND	NTU	0.100
990296-001	SC-700B-WDR-266	SM2540C	NONE	7/21/10	8:00	Total Dissolved Solids	4130	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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

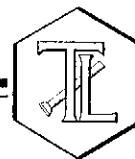
Result above or equal to 0.01ppm will have three (3) significant figures.

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

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 these laboratories.

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**P.O. Number:** 392895.AA.DM

**Project Number:** 392895.AA.DM

Laboratory No. 990296

Page 1 of 5

Printed 8/8/2010

Revision 1

Samples Received on 7/21/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-266	990296-001	07/21/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch 07EC10H

7/22/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990296-001 Specific Conductivity	umhos/cm	07/22/2010	1.00	0.0380	2.00	6980

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 990296-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	6990	6980	0.143	0 - 10

#### Lab Control Sample

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

#### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	696.	706.	98.6	90 - 110

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	950.	1000	95.0	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 5

Project Number: 392895.AA.DM

Printed 7/29/10

## Chrome VI by EPA 218.6

Batch 07CrH10F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990296-001 Chromium, Hexavalent	ug/L	07/22/2010 09:13	1.05	0.0190	0.20	ND

### Method Blank

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

### Duplicate

Lab ID = 990194-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	702.	694.	1.15	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.95	5.00	99.0	90 - 110

### Matrix Spike

Lab ID = 990296-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.25(1.06)	93.4	90 - 110

### Matrix Spike

Lab ID = 990296-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.27	5.55(5.25)	94.7	90 - 110

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.11	5.00	102	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.74	10.0	97.4	95 - 105

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.82	10.0	98.2	95 - 105

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 3 of 5

Project Number: 392895.AA.DM

Printed 7/29/10

## Metals by EPA 200.8, Total

Batch 072310A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990296-001 Chromium	ug/L	07/23/2010 12:04	1.00	0.0150	1.0	ND
Manganese	ug/L	07/23/2010 12:04	1.00	0.0120	1.0	ND

### Method Blank

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

### Duplicate

Lab ID = 990296-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.5	50.0	93.0	90 - 110
Manganese	ug/L	1.00	48.0	50.0	96.0	90 - 110

### Matrix Spike

Lab ID = 990296-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.0	50.0(50.0)	90.0	75 - 125
Manganese	ug/L	1.00	46.7	50.0(50.0)	93.4	75 - 125

### Matrix Spike Duplicate

Lab ID = 990296-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	43.7	50.0(50.0)	87.4	75 - 125
Manganese	ug/L	1.00	46.2	50.0(50.0)	92.4	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.0	50.0	94.0	90 - 110
Manganese	ug/L	1.00	48.3	50.0	96.6	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.2	90 - 110
Manganese	ug/L	1.00	48.0	50.0	96.0	90 - 110

### Interference Check Standard A

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 4 of 5

Project Number: 392895.AA.DM

Printed 7/29/10

## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.8	50.0	93.6	80 - 120
Manganese	ug/L	1.00	48.0	50.0	96.0	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.8	50.0	91.6	80 - 120
Manganese	ug/L	1.00	46.8	50.0	93.6	80 - 120

## Total Dissolved Solids by SM 2540 C

Batch 07TDS10G

7/22/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990296-001 Total Dissolved Solids	mg/L	07/22/2010	1.00	0.434	250.	4130

## Method Blank

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

## Duplicate

Lab ID = 990296-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4040	4130	2.20	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	494.	500.	98.8	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 5

Project Number: 392895.AA.DM

Printed 7/29/10

## Turbidity by SM 2130 B

Batch 07TUC10P

7/22/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990296-001 Turbidity	NTU	07/22/2010	1.00	0.0140	0.100	ND

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990296-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.95	8.00	99.4	90 - 110

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.90	8.00	98.8	90 - 110

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**



Mona Nassimi

Manager, Analytical Services

3



**Total Dissolved Solids by SM 2540 C**

## Calculations

Batch: 07TDS10G

Date Calculated: 7/23/10

[illegible]

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL = reporting limit.

ND = not detected (below the reporting limit)

Ethel  
Analyst Printed Name

  
\_\_\_\_\_  
Analyst Signature

\_\_\_\_\_  
Reviewer Printed Name

  
\_\_\_\_\_  
Reviewer Signature

Total Dissolved Solids by SM 2540 C

### TDS/EC CHECK

Batch: 07TDS10G

Date Calculated: 7/23/10

[illegible]

7/27/16





TRUESDAIL LABORATORIES, INC.  
14201 Franklin Avenue, Tustin, CA 92788-7008  
(714) 730-6239 FAX: (714) 730-4462  
www.truesdail.com

# CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-266]

COC Number

10 Days

TURNAROUND TIME

DATE 07/21/10 PAGE 1 OF 1

990296

COMPANY E2	PROJECT NAME PG&E Topock	PHONE (530) 229-3303	FAX (530) 339-3303	ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER 392895.AA.DM	TEAM 1	SAMPLERS (SIGNATURE) C. Knight	DATE 07/21/10	TIME 08:00	DESCRIPTION Water	Cr (2186) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.7)	TDS (SM2540C)	Turbidity (SM2130)	Rec'd 07/21/10 990296	COMMENTS		
SAMPLE I.D. SC-700B-WDR-266											3	NUMBER OF CONTAINERS 200.7						TOTAL NUMBER OF CONTAINERS 3	

Temp. 81.9°F

pH - 7.1 @ 8:11

EC - 7.19

Cr(6) - .004

Cr(T) - .004

ALERT!!  
Level III QC

For Sample Condition  
See Form Attached

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	C. Knight	Company/Agency	DM/CH2M Hill	Date/Time	7-21-10 15:30
Signature (Received)	Printed Name	Rafael Dominguez	Company/Agency	T.K.I.	Date/Time	7-21-10 15:30
Signature (Relinquished)	Printed Name	Rafael Dominguez	Company/Agency	T.K.I.	Date/Time	7-21-10 15:30
Signature (Received)	Printed Name	Shelby Murray	Company/Agency	TLF	Date/Time	7/21/10 21:30
Signature (Relinquished)	Printed Name		Company/Agency		Date/Time	
Signature (Received)	Printed Name		Company/Agency		Date/Time	

## SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

## SPECIAL REQUIREMENTS:



TRUESDAIL LABORATORIES, INC.

## Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 99 029 6

Date Delivered: 07/21/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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



# 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

August 9, 2010

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-267 PROJECT,  
GROUNDWATER MONITORING, TLI NO.: 990410

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-267 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 28, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


The sample date on the chain of custody is July 25, 2010 but the date on the sample containers was July 28, 2010. Mr. Shawn Duffy was notified and confirmed that the correct sample date was July 28, 2010.


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

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 392895.AA.DM

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**Laboratory No.:** 990410

**Date:** August 6, 2010

**Collected:** July 28, 2010

**Received:** July 28, 2010

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Ethel Suico
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Linda Saetern
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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

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

**Laboratory No.:** 990410  
**Date Received:** July 28, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990410-001	SC-700B-WDR-267	E120.1	NONE	7/28/10	8:00	EC	7010	umhos/cm	2.00
990410-001	SC-700B-WDR-267	E200.8	NONE	7/28/10	8:00	Chromium	ND	ug/L	1.0
990410-001	SC-700B-WDR-267	E200.8	NONE	7/28/10	8:00	Manganese	ND	ug/L	1.0
990410-001	SC-700B-WDR-267	E218.6	LABFLT	7/28/10	8:00	Chromium, hexavalent	0.20	ug/L	0.20
990410-001	SC-700B-WDR-267	SM2130B	NONE	7/28/10	8:00	Turbidity	ND	NTU	0.100
990410-001	SC-700B-WDR-267	SM2540C	NONE	7/28/10	8:00	Total Dissolved Solids	4120	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter

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

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

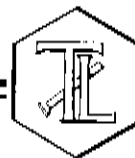
Results above or equal to 0.01ppm will have three (3) significant figures.

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

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

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**P.O. Number:** 392895.AA.DM

**Project Number:** 392895.AA.DM

**Laboratory No.** 990410

Page 1 of 6

Printed 8/6/10

Samples Received on 7/28/10 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-267	990410-001	07/28/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch 07EC10J

7/30/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990410-001 Specific Conductivity	umhos/cm	07/30/2010	1.00	0.0380	2.00	7010

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 990410-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7020	7010	0.143	0 - 10

#### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	708.	706.	100	90 - 110

#### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	709.	706.	100	90 - 110

#### MRCCS - Secondary

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

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	980.	1000	98.0	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 6

Project Number: 392895.AA.DM

Printed 8/6/10

## Chrome VI by EPA 218.6

Batch 08CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990410-001 Chromium, Hexavalent	ug/L	08/05/2010 09:08	1.05	0.0210	0.20	0.20
Method Blank						
Parameter	Unit	DF	Result			
Chromium, Hexavalent	ug/L	1.00	ND			
Duplicate				Lab ID = 990498-001		
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	12.8	12.4	3.17	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.83	5.00	96.6	90 - 110
Matrix Spike				Lab ID = 990410-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.36	1.26(1.06)	109	90 - 110
Matrix Spike				Lab ID = 990512-001		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.95	8.80(5.30)	103	90 - 110
Matrix Spike				Lab ID = 990512-002		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.42	9.00(5.30)	108	90 - 110
Matrix Spike				Lab ID = 990512-003		
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.06	8.80(5.30)	105	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.78	10.0	97.8	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.82	10.0	98.2	95 - 105

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 3 of 6

Project Number: 392895.AA.DM

Printed 8/6/10

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.74	10.0	97.4	95 - 105

## MRCVS - Primary

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

---



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 4 of 6

Project Number: 392895.AA.DM

Printed 8/6/10

## Metals by EPA 200.8, Total

Batch 073010B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990410-001 Chromium	ug/L	07/30/2010 18:01	5.00	0.0960	1.0	ND
Manganese	ug/L	07/30/2010 18:01	5.00	0.210	1.0	ND

### Method Blank

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

### Duplicate

Lab ID = 990410-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.0	50.0	92.0	90 - 110
Manganese	ug/L	1.00	48.9	50.0	97.8	90 - 110

### Matrix Spike

Lab ID = 990410-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	225.	250.(250)	90.0	75 - 125
Manganese	ug/L	5.00	230.	250.(250)	92.0	75 - 125

### Matrix Spike Duplicate

Lab ID = 990410-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	224.	250.(250)	89.6	75 - 125
Manganese	ug/L	5.00	229.	250.(250)	91.6	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.6	50.0	93.2	90 - 110
Manganese	ug/L	1.00	48.6	50.0	97.2	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.4	90 - 110
Manganese	ug/L	1.00	49.9	50.0	99.8	90 - 110

### Interference Check Standard A

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

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**TRUESDAIL LABORATORIES, INC.***Report Continued***Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 5 of 6****Project Number: 392895.AA.DM****Printed 8/6/10****Interference Check Standard A**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.0	50.0	94.0	80 - 120
Manganese	ug/L	1.00	48.7	50.0	97.4	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.8	50.0	91.6	80 - 120
Manganese	ug/L	1.00	47.4	50.0	94.8	80 - 120

**Total Dissolved Solids by SM 2540 C**

Batch 08TDS10A

8/2/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990410-001 Total Dissolved Solids	mg/L	08/02/2010	1.00	0.434	250.	4120

**Method Blank**

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

**Duplicate**

Lab ID = 990410-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	3990	4120	3.21	0 - 5

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	481.	500.	96.2	90 - 110





# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 6 of 6

Project Number: 392895.AA.DM

Printed 8/6/10

## Turbidity by SM 2130 B

Batch 07TUC10S.

7/29/10

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990410-001 Turbidity	NTU	07/29/2010	1.00	0.0140	0.100	ND

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990410-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.85	8.00	98.1	90 - 110

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.65	8.00	95.6	90 - 110

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services



### Total Dissolved Solids by SM 2540 C

**TDS/EC CHECK**

Batch: 08TDS10A

**Date Calculated: 8/3/10**

[illegible]

ES 8/2/10

ht



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# CHAIN OF CUSTODY RECORD

[M3] Plant-WDR-267

990410

COC Number

10 Days

TURNAROUND TIME

DATE 07/25/10

PAGE 1 OF 1

COMPANY	E2	DATE	07/25/10	TIME	0800	DESCRIPTION	Water
PROJECT NAME	PG&E Topock						
PHONE	(530) 229-3303	FAX	(530) 339-3303				
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612						
P.O. NUMBER	392895.AA.DM	TEAM	1				
SAMPLERS (SIGNATURE)							
SAMPLE I.D.	SC-700B-WDR-267						
ANALYSIS	C16	TOTAL	1002				
PH	7.6	TEMP	82.4				
EC	7.14						
TIME	0800						
NUMBER OF CONTAINERS							
3							
PH=7							
200.7							
TOTAL NUMBER OF CONTAINERS							
3							
COMMENTS							
Rec'd 07/28/10 990410							
C6 (218.6) Lab Filled							
Total Metals (200.7) Cr, Mn							
Specific Conductance (120.1)							
TDS (SM2540C)							
Turbidity (SM2130)							

ALERT !!  
Level III QC

For Sample Condition  
See Form AL10

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL	WARM	°F
	Rafael Davila	Company/Agency	7-28-10 15:30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED	YES	NO	
	Rafael Davila	Company/Agency	7-28-10 15:30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:			
	Rafael Davila	Company/Agency	7-28-10 15:30				
Signature (Received)	Printed Name	Company/Agency	Date/Time				
	Shobhna	Company/Agency	7/28/10 21:30				
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time				
	Rafael Davila	Company/Agency	7/28/10 21:30				
Signature (Received)	Printed Name	Company/Agency	Date/Time				
	Rafael Davila	Company/Agency	7/28/10 21:30				



TRUESDAIL LABORATORIES, INC.

## Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 990410

Date Delivered: 07/28/10 Time: 2:30 By: ☐ Mail ☒ Field Service ☐ Client

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

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September 24, 2010

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

Dear Mr. Duffy:

SUBJECT: REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-264 PROJECT,  
GROUNDWATER MONITORING,  
TLI No.: 990497

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-268 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 4, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


The result for sample SC-700B-WDR-268 for Hexavalent Chromium analysis by EPA 218.6 was less than a second outside the retention time window. Because the matrix spike result was within the retention time window and the recovery was within acceptable limits, the data is reported.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

*for*   
Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

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Oakland, CA 94612

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**Attention:** Shawn Duffy

**Laboratory No.:** 990497

**Sample:** Two (2) Groundwaters

**Date:** September 10, 2010

**Project Name:** PG&E Topock Project

**Collected:** August 4, 2010

**Project No.:** 408401.01.DM

**Received:** August 4, 2010

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 D	Ammonia	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Jenny Tankunakorn
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Linda Saetern
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

**Attention:** Shawn Duffy

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

**Laboratory No.:** 990497

**Date Received:** August 4, 2010

Revision 1; September 24, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990497-001	SC-700B-WDR-268	E120.1	NONE	8/4/2010	8:00	EC	7490	umhos/cm	2.00
990497-001	SC-700B-WDR-268	E200.7	NONE	8/4/2010	8:00	Iron	ND	ug/L	20.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Aluminum	ND	ug/L	50.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Antimony	ND	ug/L	10.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Arsenic	1.0	ug/L	1.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Barium	13.3	ug/L	10.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	BORON	952	ug/L	200
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Chromium	ND	ug/L	1.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Copper	ND	ug/L	5.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Lead	ND	ug/L	10.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Manganese	ND	ug/L	10.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Molybdenum	35.3	ug/L	10.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Nickel	ND	ug/L	10.0
990497-001	SC-700B-WDR-268	E200.8	NONE	8/4/2010	8:00	Zinc	ND	ug/L	10.0
990497-001	SC-700B-WDR-268	E218.6	LABFLT	8/4/2010	8:00	Chromium, hexavalent	0.20	ug/L	0.20
990497-001	SC-700B-WDR-268	E300	NONE	8/4/2010	8:00	Fluoride	2.17	mg/L	0.500
990497-001	SC-700B-WDR-268	E300	NONE	8/4/2010	8:00	Nitrate as N	2.79	mg/L	1.00
990497-001	SC-700B-WDR-268	E300	NONE	8/4/2010	8:00	Sulfate	530	mg/L	50.0
990497-001	SC-700B-WDR-268	SM2130B	NONE	8/4/2010	8:00	Turbidity	ND	NTU	0.100
990497-001	SC-700B-WDR-268	SM2540C	NONE	8/4/2010	8:00	Total Dissolved Solids	4840	mg/L	250
990497-001	SC-700B-WDR-268	SM4500NH3D	NONE	8/4/2010	8:00	Ammonia-N	ND	mg/L	0.500
990497-001	SC-700B-WDR-268	SM4500NO2B	NONE	8/4/2010	8:00	Nitrite as N	ND	mg/L	0.0050





# TRUESDAIL LABORATORIES, INC.

Report Continued

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990497-002	SC-100B-WDR-268	E120.1	NONE	8/4/2010	8:00	EC	7960	umhos/cm	2.00
990497-002	SC-100B-WDR-268	E200.7	NONE	8/4/2010	8:00	Iron	ND	ug/L	20.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Aluminum	ND	ug/L	50.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Antimony	ND	ug/L	10.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Arsenic	3.6	ug/L	1.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Barium	26.1	ug/L	10.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	BORON	1290	ug/L	200
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Chromium	890	ug/L	1.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Copper	ND	ug/L	5.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Lead	ND	ug/L	10.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Manganese	10.0	ug/L	10.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Molybdenum	30.4	ug/L	10.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Nickel	ND	ug/L	10.0
990497-002	SC-100B-WDR-268	E200.8	NONE	8/4/2010	8:00	Zinc	ND	ug/L	10.0
990497-002	SC-100B-WDR-268	E218.6	LABFLT	8/4/2010	8:00	Chromium, hexavalent	981	ug/L	21.0
990497-002	SC-100B-WDR-268	E300	NONE	8/4/2010	8:00	Fluoride	2.57	mg/L	0.500
990497-002	SC-100B-WDR-268	E300	NONE	8/4/2010	8:00	Nitrate as N	2.93	mg/L	1.00
990497-002	SC-100B-WDR-268	E300	NONE	8/4/2010	8:00	Sulfate	538	mg/L	25.0
990497-002	SC-100B-WDR-268	SM2130B	NONE	8/4/2010	8:00	Turbidity	0.112	NTU	0.100
990497-002	SC-100B-WDR-268	SM2540C	NONE	8/4/2010	8:00	Total Dissolved Solids	5040	mg/L	250
990497-002	SC-100B-WDR-268	SM4500NH3D	NONE	8/4/2010	8:00	Ammonia-N	ND	mg/L	0.500
990497-002	SC-100B-WDR-268	SM4500NO2B	NONE	8/4/2010	8:00	Nitrite as N	ND	mg/L	0.0050

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

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

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 990497

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Printed 9/10/2010

Samples Received on 8/4/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-268	990497-001	08/04/2010 08:00	Water
SC-100B-WDR-268	990497-002	08/04/2010 08:00	Water

### Anions By I.C. - EPA 300.0

Batch 08AN10 D

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Fluoride	mg/L	08/05/2010 10:57	5.00	0.0600	0.500	2.17
Nitrate as Nitrogen	mg/L	08/05/2010 10:57	5.00	0.0950	1.00	2.79
Sulfate	mg/L	08/05/2010 11:43	100	4.00	50.0	530.
990497-002 Fluoride	mg/L	08/05/2010 11:32	5.00	0.0600	0.500	2.57
Nitrate as Nitrogen	mg/L	08/05/2010 11:32	5.00	0.0950	1.00	2.93
Sulfate	mg/L	08/05/2010 12:17	50.0	2.00	25.0	538.

### Method Blank

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

### Duplicate

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	2.17	2.17	0	0 - 20
Sulfate	mg/L	100	516.	530.	2.68	0 - 20
Nitrate as Nitrogen	mg/L	5.00	2.77	2.79	0.719	0 - 20

### Duplicate

Lab ID = 990507-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chloride	mg/L	25.0	85.2	88.2	3.46	0 - 20

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.95	4.00	98.8	90 - 110
Fluoride	mg/L	1.00	4.04	4.00	101.	90 - 110
Sulfate	mg/L	1.00	20.4	20.0	102.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.01	4.00	100	90 - 110

## Matrix Spike

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.0	22.2(20.0)	99.2	85 - 115
Sulfate	mg/L	100	1570	1530(1000)	104.	85 - 115
Nitrate as Nitrogen	mg/L	5.00	23.6	22.8(20.0)	104	85 - 115

## Matrix Spike

Lab ID = 990507-011

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chloride	mg/L	25.0	192.	188(100.)	104	85 - 115

## MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	3.94	4.00	98.5	90 - 110
Fluoride	mg/L	1.00	4.02	4.00	100	90 - 110
Sulfate	mg/L	1.00	20.4	20.0	102.	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.00	4.00	100.	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.98	3.00	99.3	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.96	3.00	98.7	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.07	3.00	102	90 - 110
Sulfate	mg/L	1.00	15.3	15.0	102.	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.4	15.0	103	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.00	3.00	100.	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Project Number: 408401.01.DM

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Printed 9/24/2010

Revision 1

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	3.00	3.00	100.	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chloride	mg/L	1.00	2.94	3.00	98.0	90 - 110
Sulfate	mg/L	1.00	15.4	15.0	103	90 - 110
Nitrate as Nitrogen	mg/L	1.00	3.01	3.00	100	90 - 110

## Nitrite SM 4500-NO2 B

Batch 08NO210C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Nitrite as Nitrogen	mg/L	08/05/2010 13:01	1.00	0.000200	0.0050	ND
990497-002 Nitrite as Nitrogen	mg/L	08/05/2010 13:02	1.00	0.000200	0.0050	ND

## Method Blank

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

## Duplicate

Lab ID = 990497-002

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

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0481	0.0450	107	90 - 100

## Matrix Spike

Lab ID = 990497-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0216	0.0200(0.0200)	108.	75 - 125

## Matrix Spike Duplicate

Lab ID = 990497-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0214	0.0200(0.0200)	107.	75 - 125

## MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0277	0.0270	103	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0182	0.0200	91.0	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## Specific Conductivity - EPA 120.1

Batch 08EC10B

8/5/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Specific Conductivity	umhos/cm	08/05/2010	1.00	0.0380	2.00	7490
990497-002 Specific Conductivity	umhos/cm	08/05/2010	1.00	0.0380	2.00	7960

### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

### Duplicate

Lab ID = 990498-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	5490	5490	0	0 - 10

### Lab Control Sample

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

### Lab Control Sample Duplicate

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

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	711.	706.	101	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	1000	99.5	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## Chrome VI by EPA 218.6

Batch 08CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Chromium, Hexavalent	ug/L	08/05/2010 09:51	1.05	0.0210	0.20	0.20
990497-002 Chromium, Hexavalent	ug/L	08/05/2010 10:01	105	2.20	21.0	981.

### Method Blank

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

### Duplicate

Lab ID = 990498-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	12.8	12.4	3.17	0 - 20

### Lab Control Sample

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

### Matrix Spike

Lab ID = 990410-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.36	1.26(1.06)	109	90 - 110

### Matrix Spike

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.32	1.26(1.06)	106	90 - 110

### Matrix Spike

Lab ID = 990497-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2120	2030(1050)	108	90 - 110

### Matrix Spike

Lab ID = 990498-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	29.4	28.8(16.4)	104	90 - 110

### Matrix Spike

Lab ID = 990501-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	16.7	15.8(10.6)	108	90 - 110

### Matrix Spike

Lab ID = 990501-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.13(1.06)	105	90 - 110

### Matrix Spike

Lab ID = 990504-009

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.01	8.30(5.30)	94.5	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

Matrix Spike						Lab ID = 990506-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	7.87	7.50(5.30)	107	90 - 110
Matrix Spike						Lab ID = 990506-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	16.9	15.9(10.6)	109	90 - 110
Matrix Spike						Lab ID = 990512-001
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	8.95	8.80(5.30)	103	90 - 110
Matrix Spike						Lab ID = 990512-002
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.42	9.00(5.30)	108	90 - 110
Matrix Spike						Lab ID = 990512-003
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	9.06	8.80(5.30)	105	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.06	5.00	101	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.74	10.0	97.4	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104.	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.78	10.0	97.8	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.82	10.0	98.2	95 - 105

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## Metals by EPA 200.7, Total

Batch 081110A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Iron	ug/L	08/11/2010 17:43	1.00	4.00	20.0	ND
990497-002 Iron	ug/L	08/11/2010 18:04	1.00	4.00	20.0	ND

### Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

### Duplicate

Lab ID = 990497-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5030	5000	101	90 - 110

### Matrix Spike

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1860	2000(2000)	93.0	75 - 125

### Matrix Spike Duplicate

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1800	2000(2000)	90.2	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	5130	5000	103	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4800	5000	96.1	90 - 110

### Interference Check Standard A

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

### Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1790	2000	89.4	80 - 120

### Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	2010	2000	100	80 - 120

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1840	2000	92.0	80 - 120

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## Metals by EPA 200.8, Total

Batch 081110A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Aluminum	ug/L	08/11/2010 12:12	5.00	6.02	50.0	ND
Arsenic	ug/L	08/11/2010 12:12	5.00	0.259	1.0	1.0
Copper	ug/L	08/11/2010 12:12	5.00	0.307	5.0	ND
Lead	ug/L	08/11/2010 12:12	5.00	0.0960	10.0	ND
Manganese	ug/L	08/11/2010 12:12	5.00	0.210	10.0	ND
Nickel	ug/L	08/11/2010 12:12	5.00	0.238	10.0	ND
Zinc	ug/L	08/11/2010 12:12	5.00	1.32	10.0	ND
990497-002 Aluminum	ug/L	08/11/2010 12:19	5.00	6.02	50.0	ND
Arsenic	ug/L	08/11/2010 12:19	5.00	0.259	1.0	3.6
Copper	ug/L	08/11/2010 12:19	5.00	0.307	5.0	ND
Lead	ug/L	08/11/2010 12:19	5.00	0.0960	10.0	ND
Manganese	ug/L	08/11/2010 12:19	5.00	0.210	10.0	10.0
Nickel	ug/L	08/11/2010 12:19	5.00	0.238	10.0	ND
Zinc	ug/L	08/11/2010 12:19	5.00	1.32	10.0	ND

## Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Arsenic	ug/L	1.00	ND
Chromium	ug/L	1.00	ND
Nickel	ug/L	1.00	ND
Zinc	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND
Manganese	ug/L	1.00	ND

## Duplicate

Lab ID = 990566-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	9.08	8.99	0.986	0 - 20
Arsenic	ug/L	1.00	2.69	2.62	2.60	0 - 20
Chromium	ug/L	1.00	ND	0	0	0 - 20
Nickel	ug/L	1.00	ND	0	0	0 - 20
Zinc	ug/L	1.00	1.12	1.16	4.21	0 - 20
Copper	ug/L	1.00	1.62	1.68	3.39	0 - 20
Lead	ug/L	1.00	ND	0	0	0 - 20
Manganese	ug/L	1.00	9.05	9.37	3.42	0 - 20

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	48.6	50.0	97.1	90 - 110
Arsenic	ug/L	1.00	51.2	50.0	102	90 - 110
Chromium	ug/L	1.00	49.5	50.0	99.0	90 - 110
Nickel	ug/L	1.00	50.9	50.0	102	90 - 110
Zinc	ug/L	1.00	51.2	50.0	102	90 - 110
Copper	ug/L	1.00	51.5	50.0	103	90 - 110
Lead	ug/L	1.00	49.2	50.0	98.5	90 - 110
Manganese	ug/L	1.00	49.2	50.0	98.5	90 - 110

## Matrix Spike

Lab ID = 990566-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	57.9	59.0(50.0)	97.9	75 - 125
Arsenic	ug/L	1.00	56.4	52.6(50.0)	108	75 - 125
Chromium	ug/L	1.00	49.1	50.0(50.0)	98.2	75 - 125
Nickel	ug/L	1.00	49.3	50.0(50.0)	98.6	75 - 125
Zinc	ug/L	1.00	54.1	51.2(50.0)	106	75 - 125
Copper	ug/L	1.00	50.6	51.7(50.0)	97.9	75 - 125
Lead	ug/L	1.00	46.6	50.0(50.0)	93.1	75 - 125
Manganese	ug/L	1.00	58.1	59.4(50.0)	97.4	75 - 125

## Matrix Spike Duplicate

Lab ID = 990566-004

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	57.2	59.0(50.0)	96.5	75 - 125
Arsenic	ug/L	1.00	54.2	52.6(50.0)	103	75 - 125
Chromium	ug/L	1.00	47.3	50.0(50.0)	94.7	75 - 125
Nickel	ug/L	1.00	47.3	50.0(50.0)	94.5	75 - 125
Zinc	ug/L	1.00	53.4	51.2(50.0)	105	75 - 125
Copper	ug/L	1.00	48.9	51.7(50.0)	94.4	75 - 125
Lead	ug/L	1.00	45.8	50.0(50.0)	91.5	75 - 125
Manganese	ug/L	1.00	57.0	59.4(50.0)	95.2	75 - 125

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**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 11 of 27****Project Number: 408401.01.DM****Printed 9/10/2010****MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	49.0	50.0	98.0	90 - 110
Arsenic	ug/L	1.00	50.8	50.0	102	90 - 110
Chromium	ug/L	1.00	49.6	50.0	99.3	90 - 110
Nickel	ug/L	1.00	51.1	50.0	102	90 - 110
Zinc	ug/L	1.00	52.5	50.0	105	90 - 110
Copper	ug/L	1.00	52.0	50.0	104	90 - 110
Lead	ug/L	1.00	49.7	50.0	99.4	90 - 110
Manganese	ug/L	1.00	50.0	50.0	100.	90 - 110

**MRCVS - Primary**

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

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	51.2	50.0	102	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.3	50.0	105	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	53.4	50.0	107	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	51.8	50.0	104	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.1	50.0	102	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	50.2	50.0	100	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	53.3	50.0	107	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	51.7	50.0	103	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.9	50.0	97.9	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.6	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	50.6	50.0	101	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	51.5	50.0	103	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	52.3	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	50.2	50.0	100	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	53.3	50.0	107	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	52.3	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	51.8	50.0	104	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	49.6	50.0	99.2	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	50.5	50.0	101.	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	52.1	50.0	104	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	50.6	50.0	101	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	49.9	50.0	99.7	90 - 110

## MRCVS - Primary

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	51.6	50.0	103	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	50.2	50.0	100	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.5	50.0	101	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.9	50.0	95.7	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	53.3	50.0	107	0 - 120

## Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	57.8	50.0	116	0 - 120

## Interference Check Standard A

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



**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 15 of 27****Project Number: 408401.01.DM****Printed 9/10/2010****Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	53.3	50.0	107	80 - 120



**Client: E2 Consulting Engineers, Inc.**

**Project Name: PG&E Topock Project**

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**Project Number: 408401.01.DM**

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**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	58.0	50.0	116	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	52.7	50.0	105	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	55.9	50.0	112	80 - 120
Chromium	ug/L	1.00	53.8	50.0	108	80 - 120

**Interference Check Standard AB**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	54.9	50.0	110	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	52.9	50.0	106	80 - 120
Zinc	ug/L	1.00	57.2	50.0	114	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	58.3	50.0	117	80 - 120

**Interference Check Standard AB**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	56.0	50.0	112	80 - 120
Lead	ug/L	1.00	ND	0		

**Interference Check Standard AB**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	54.4	50.0	109	80 - 120



# TRUESDAIL LABORATORIES, INC.

*Report Continued*

**Client: E2 Consulting Engineers, Inc.**

**Project Name: PG&E Topock Project**

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**Project Number: 408401.01.DM**

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## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.3	50.0	103	80 - 120



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## Metals by EPA 200.8, Total

Batch 081610A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Chromium	ug/L	08/16/2010 11:13	5.00	0.0950	1.0	ND
990497-002 Chromium	ug/L	08/16/2010 10:59	5.00	0.0950	1.0	890

### Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

### Duplicate

Lab ID = 990497-001

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

### Lab Control Sample

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

### Matrix Spike

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	218	250.(250.)	87.3	75 - 125

### Matrix Spike Duplicate

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	222	250.(250.)	88.7	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.0	50.0	102	90 - 110

### MRCVS - Primary

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

### MRCVS - Primary

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

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	98.0	90 - 110

### Interference Check Standard A

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.7	50.0	99.4	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	52.9	50.0	106	80 - 120

## Serial Dilution

Lab ID = 990497-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	921	890	3.39	0 - 10



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/10/2010

## Metals by EPA 200.8, Total

Batch 081810A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Antimony	ug/L	08/18/2010 15:22	5.00	0.192	10.0	ND
Barium	ug/L	08/18/2010 15:22	5.00	0.187	10.0	13.3
Molybdenum	ug/L	08/18/2010 15:22	5.00	0.660	10.0	35.3
990497-002 Antimony	ug/L	08/18/2010 15:29	5.00	0.192	10.0	ND
Barium	ug/L	08/18/2010 15:29	5.00	0.187	10.0	26.1
Boron	ug/L	08/18/2010 15:29	5.00	4.70	200.	1290
Molybdenum	ug/L	08/18/2010 15:29	5.00	0.660	10.0	30.4

### Method Blank

Parameter	Unit	DF	Result
Barium	ug/L	1.00	ND
Antimony	ug/L	1.00	ND
Boron	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

### Duplicate

Lab ID = 990598-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	1.00	100	104.	3.42	0 - 20
Antimony	ug/L	1.00	ND	0	0	0 - 20
Boron	ug/L	1.00	146	152	4.50	0 - 20
Molybdenum	ug/L	1.00	ND	0	0	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	50.0	50.0	100	90 - 110
Antimony	ug/L	1.00	48.8	50.0	97.6	90 - 110
Boron	ug/L	1.00	49.1	50.0	98.1	90 - 110
Molybdenum	ug/L	1.00	50.5	50.0	101	90 - 110

### Matrix Spike

Lab ID = 990598-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	1.00	155	154.(50.0)	102	75 - 125
Antimony	ug/L	1.00	55.9	50.0(50.0)	112	75 - 125
Boron	ug/L	1.00	212	202(50.0)	119	75 - 125
Molybdenum	ug/L	1.00	60.6	50.0(50.0)	121	75 - 125

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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## Matrix Spike Duplicate

Lab ID = 990598-007

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	1.00	142.	154.(50.0)	76.0	75 - 125
Antimony	ug/L	1.00	50.4	50.0(50.0)	101	75 - 125
Boron	ug/L	1.00	191	202(50.0)	77.2	75 - 125
Molybdenum	ug/L	1.00	54.9	50.0(50.0)	110	75 - 125

## MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	50.5	50.0	101	90 - 110
Antimony	ug/L	1.00	50.1	50.0	100	90 - 110
Boron	ug/L	1.00	50.7	50.0	101	90 - 110
Molybdenum	ug/L	1.00	52.2	50.0	104	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	47.6	50.0	95.1	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	47.7	50.0	95.3	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	49.8	50.0	99.6	90 - 110
Boron	ug/L	1.00	51.2	50.0	102	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	54.0	50.0	108	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	52.7	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	54.0	50.0	108	90 - 110

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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	49.5	50.0	98.9	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	53.6	50.0	107	90 - 110

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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





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## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Serial Dilution

Lab ID = 990497-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	25.0	26.6	26.1	1.90	0 - 10
Boron	ug/L	25.0	1220	1290	5.41	0 - 10



# TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.

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## Metals by EPA 200.8, Total

Batch 081310A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Boron	ug/L	08/13/2010 11:59	5.00	4.70	200.	952.

### Method Blank

Parameter	Unit	DF	Result
Boron	ug/L	1.00	ND

### Duplicate

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Boron	ug/L	25.0	955	952.	0.283	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	48.4	50.0	96.8	90 - 110

### Matrix Spike

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Boron	ug/L	25.0	2220	2200(1250)	102	75 - 125

### Matrix Spike Duplicate

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Boron	ug/L	25.0	2170	2200(1250)	97.6	75 - 125

### MRCCS - Secondary

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

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	45.7	50.0	91.4	90 - 110

### MRCVS - Primary

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

### Interference Check Standard A

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

### Interference Check Standard A

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

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# TRUESDAIL LABORATORIES, INC.

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## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Serial Dilution

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Boron	ug/L	25.0	933	952.	2.04	0 - 10

## Total Dissolved Solids by SM 2540 C

Batch 08TDS10C

8/9/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Total Dissolved Solids	mg/L	08/09/2010	1.00	0.434	250.	4840
990497-002 Total Dissolved Solids	mg/L	08/09/2010	1.00	0.434	250.	5040

## Method Blank

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

## Duplicate

Lab ID = 990499-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	1010	998.	1.20	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	495.	500.	99.0	90 - 110

## Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	498.	500.	99.6	90 - 110

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Project Name: PG&E Topock Project

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Printed 9/10/2010

## Ammonia Nitrogen by SM4500-NH3D

Batch 08NH3-E10A

8/6/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Ammonia as N	mg/L	08/06/2010	1.00	0.00200	0.500	ND
990497-002 Ammonia as N	mg/L	08/06/2010	1.00	0.00200	0.500	ND

### Method Blank

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

### Duplicate

Lab ID = 990497-001

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

### Lab Control Sample

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

### Matrix Spike

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.80	6.00(6.00)	96.7	75 - 125

### Matrix Spike Duplicate

Lab ID = 990497-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.86	6.00(6.00)	97.7	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.88	6.00	98.0	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.91	6.00	98.5	90 - 110

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Client: E2 Consulting Engineers, Inc.

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Printed 9/10/2010

## Turbidity by SM 2130 B

		Batch 08TUC10E	8/5/2010			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
990497-001 Turbidity	NTU	08/05/2010	1.00	0.0140	0.100	ND
990497-002 Turbidity	NTU	08/05/2010	1.00	0.0140	0.100	0.112

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990497-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.114	0.112	1.77	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.96	8.00	99.5	90 - 110

### Lab Control Sample Duplicate

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

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



## Total Dissolved Solids by SM 2540 C

### Calculations

Batch: 08TDS10C  
Date Calculated: 8/11/10

Laboratory Number	Sample volume, ml	Initial weight, g	1st Final weight, g	2nd Final weight, g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight, g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	111.1485	111.1484	111.1484	0.0000	No	-0.0001	-1.0	25.0	ND	1
990466	50	68.7792	68.8161	68.8161	0.0000	No	0.0369	738.0	50.0	738.0	1
990489-1	100	105.3634	105.4209	105.4209	0.0000	No	0.0575	575.0	25.0	575.0	1
990489-2	100	105.6342	105.6934	105.6931	0.0003	No	0.0589	589.0	25.0	589.0	1
990497-1	10	49.3572	49.4056	49.4056	0.0000	No	0.0484	4840.0	250.0	4840.0	1
990497-2	10	50.5773	50.6277	50.6277	0.0000	No	0.0504	5040.0	250.0	5040.0	1
990493-1	20	72.8350	72.8985	72.8985	0.0000	No	0.0635	3175.0	125.0	3175.0	1
990498-2	10	72.5438	72.5971	72.5971	0.0000	No	0.0533	5330.0	250.0	5330.0	1
990499-6	50	69.3236	69.3950	69.3948	0.0002	No	0.0712	1424.0	50.0	1424.0	1
990499-7	50	69.2465	69.2972	69.2972	0.0000	No	0.0507	1014.0	50.0	1014.0	1
990499-8	50	68.2342	68.2841	68.2841	0.0000	No	0.0499	998.0	50.0	998.0	1
990499-8D	50	72.9865	73.0371	73.0371	0.0000	No	0.0506	1012.0	50.0	1012.0	1
LCS	100	112.1740	112.2235	112.2235	0.0000	No	0.0495	495.0	25.0	495.0	1
LCSD	100	92.1062	92.1566	92.156	0.0000	No	0.0498	498.0	25.0	498.0	1
LCS1	100	115.2493	115.3008	115.3008	0.0000	No	0.0515	515.0	25.0	515.0	1
990505-1	50	76.5591	76.6045	76.6045	0.0000	No	0.0454	908.0	50.0	908.0	1
990507-1	20	47.9741	48.0540	48.054	0.0000	No	0.0799	3995.0	125.0	3995.0	1
990507-2	20	48.1873	48.2762	48.2762	0.0000	No	0.0889	4445.0	125.0	4445.0	1
990507-4	100	110.7179	110.7502	110.7502	0.0000	No	0.0323	323.0	25.0	323.0	1
990507-8	100	114.3506	114.3833	114.3833	0.0000	No	0.0327	327.0	25.0	327.0	1
990507-11	100	102.7363	102.7925	102.7925	0.0000	No	0.0557	557.0	25.0	557.0	1
990566-3	100	66.0735	66.1235	66.1235	0.0000	No	0.0500	500.0	25.0	500.0	1
990566-3D	100	74.7522	74.8022	74.8022	0.0000	No	0.0500	500.0	25.0	500.0	1
LCS2	100	108.6960	108.7430	108.743	0.0000	No	0.0470	470.0	25.0	470.0	1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL = reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 08TDS10C

Date Calculated: 8/11/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990466	1300	0.57	845	0.87
990489-1	930	0.62	604.5	0.95
990489-2	950	0.62	617.5	0.95
990497-1	7490	0.65	4868.5	0.99
990497-2	7960	0.63	5174	0.97
990498-1	5490	0.58	3568.5	0.89
990498-2	8530	0.62	5544.5	0.96
990499-6	2000	0.71	1300	1.10
990499-7	1557	0.65	1012.05	1.00
990499-8	1580	0.63	1027	0.97
990499-8D	1580	0.64	1027	0.99
LCS				
LCSD				
LCS1				
990505-1	1397	0.65	908.05	1.00
990507-1	5300	0.75	3445	1.16
990507-2	5820	0.76	3783	1.17
990507-4	534	0.60	347.1	0.93
990507-8	565	0.58	367.25	0.89
990507-11	927	0.60	602.55	0.92
990566-3	832	0.60	540.8	0.92
990566-3D	832	0.60	540.8	0.92




990497

TRUESDAIL LABORATORIES, INC.  
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(714) 730-6239 FAX: (714) 730-6462  
www.truesdail.com

## CHAIN OF CUSTODY RECORD

[IM3] Plant-WDR-268]

COC Number

TURNAROUND TIME 10 Days

DATE 08/04/10 PAGE 1 OF 1

COMPANY	CH2M HILL /E2	PROJECT NAME	PG&E Topock IM3	PHONE	530-229-3303	FAX	530-339-3303	ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER	408401.01.DM	SAMPLERS (SIGNATURE)	<i>Quil</i>	SAMPLE I.D.	DATE	TIME	DESCRIPTION	CRVI (218.6) Lab Filtered	EC (120.1)	TDS (2540 c)	Turb (2130)	Total Metals (200.7) See List Below	Ammonia (4500-NH3)	Anions (300.0) F	Anions (300.0) F, NO3, NO2, SO4	TOC (5310 C)	Total Metals (200.7) Cr	COMMENTS
SC-700B-WDR-268	08/04/10	0800																X	X	X	X	X	X	X	X	X		
SC-100B-WDR-268	08/04/10	0800																X	X	X	X	X	X	X	X	X		
TE-00B	08/10	0810	7.4	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64	7.64
SC-100B	0800	0813	7.4	8.12	1.015	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6
SC-100B	0800	0813	7.4	8.12	1.015	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time	Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time	Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time
<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>
<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>
<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>
<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>	<i>[Signature]</i>	<i>[Name]</i>	<i>[Company/Agency]</i>	<i>[Date/Time]</i>

## SAMPLE CONDITIONS

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

## SPECIAL REQUIREMENTS:

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



# 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
07/29/10	990410	7.0	5.00	9.5	7:30	SB
07/30/10	990426	7.0	5.00	9.5	15:00	SB
08/05/10	990497-1	7.0	5.00	9.5	7:30	SB
↓	↓ -2	↓	↓	↓	↓	↓
08/05/10	990498-1	7.0	5.00	9.5	7:45	SB
08/05/10	990512-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
08/05/10	990499-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
↓	↓ -10	↓	↓	↓	↓	↓
↓	↓ -11	↓	↓	↓	↓	↓
↓	↓ -12	↓	↓	↓	↓	↓
↓	↓ -13	↓	↓	↓	↓	↓
08/05/10	990500-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	7.0	5.00	9.5	12:30	↓



# Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILLLab # 990497Date Delivered: 8/4/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

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

16. Comments: \_\_\_\_\_

17. Sample Check-In completed by Truesdail Log-In/Receiving: \_\_\_\_\_

Rafael Davila

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

August 30, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-269 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 990634

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-269 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 11, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Total Chromium 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 Sen Carol*  
Mona Nassimi  
Manager, Analytical Services

*K. R. P. Iyer*

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

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www.truesdail.com

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

**Laboratory No.:** 990634

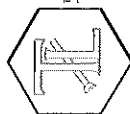
**Date:** August 30, 2010

**Collected:** August 11, 2010

**Received:** August 11, 2010

## ANALYST LIST

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



Established 1937

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

**Laboratory No.:** 990634  
**Date Received:** August 11, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990634-001	SC-700B-WDR-269	E120.1	NONE	8/11/2010	8:00	EC	7200	umhos/cm	2.00
990634-001	SC-700B-WDR-269	E200.8	NONE	8/11/2010	8:00	Chromium	ND	ug/L	1.0
990634-001	SC-700B-WDR-269	E200.8	NONE	8/11/2010	8:00	Manganese	2.2	ug/L	1.0
990634-001	SC-700B-WDR-269	E218.6	LABFLT	8/11/2010	8:00	Chromium, hexavalent	ND	ug/L	0.20
990634-001	SC-700B-WDR-269	SM2130B	NONE	8/11/2010	8:00	Turbidity	ND	NTU	0.100
990634-001	SC-700B-WDR-269	SM2540C	NONE	8/11/2010	8:00	Total Dissolved Solids	5680	mg/L	250

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

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

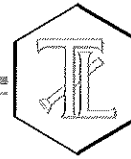
Results below 0.01 ppm will have two (2) significant figures.

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

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

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock pPROJECT

**P.O. Number:** 408401.01.DM

**Project Number:** 408401.01.DM

Laboratory No. 990634

Page 1 of 6

Printed 8/30/2010

Samples Received on 8/11/2010 8:45:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-269	990634-001	08/11/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch 08EC10D

8/13/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990634-001 Specific Conductivity	umhos/cm	08/13/2010	1.00	0.0380	2.00	7200

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 990634-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7190	7200	0.139	0 - 10

#### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	702.	706.	99.4	90 - 110

#### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	700.	706.	99.2	90 - 110

#### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705.	706.	99.9	90 - 110

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	1000	99.5	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock pROJECT

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Project Number: 408401.01.DM

Printed 8/30/2010

**Chrome VI by EPA 218.6**

Batch 08CrH10E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990634-001 Chromium, Hexavalent	ug/L	08/12/2010 08:47	1.05	0.0210	0.20	ND

Method Blank

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

Duplicate

Lab ID = 990503-007

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	2.56	2.40	6.45	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.59	5.00	91.8	90 - 110

Matrix Spike

Lab ID = 990634-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.41	5.61(5.25)	96.2	90 - 110

Matrix Spike

Lab ID = 990634-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.16	1.14(1.06)	102	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.69	5.00	93.8	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.73	10.0	97.3	95 - 105

MRCVS - Primary

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

MRCVS - Primary

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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock pPROJECT

Page 3 of 6

Project Number: 408401.01.DM

Printed 8/30/2010

**Metals by EPA 200.8, Total**

Batch 082210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990634-001 Chromium	ug/L	08/22/2010 13:24	1.00	0.0190	1.0	ND
Manganese	ug/L	08/22/2010 13:24	1.00	0.0420	1.0	2.2

**Method Blank**

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

**Duplicate**

Lab ID = 990736-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	1.16	1.17	0.602	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.4	50.0	96.8	90 - 110
Manganese	ug/L	1.00	49.0	50.0	98.0	90 - 110

**Matrix Spike**

Lab ID = 990736-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	244	250.(250.)	97.7	75 - 125
Manganese	ug/L	5.00	245	251(250.)	97.4	75 - 125

**Matrix Spike Duplicate**

Lab ID = 990736-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	248	250.(250.)	99.4	75 - 125
Manganese	ug/L	5.00	251	251(250.)	100.	75 - 125

**MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.2	90 - 110
Manganese	ug/L	1.00	50.9	50.0	102	90 - 110

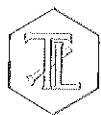
**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	52.0	50.0	104	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.3	50.0	103	90 - 110





Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock pROJECT

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Project Number: 408401.01.DM

Printed 8/30/2010

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.1	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.0	50.0	102	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.9	50.0	104	90 - 110

MRCVS - Primary

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

MRCVS - Primary

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

Interference Check Standard A

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

Interference Check Standard A

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

Interference Check Standard A

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

Interference Check Standard A

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.7	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.5	50.0	101	80 - 120



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock pROJECT

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Project Number: 408401.01.DM

Printed 8/30/2010

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.4	50.0	96.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.7	50.0	103	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 08TDS10F

8/16/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990634-001 Total Dissolved Solids	mg/L	08/16/2010	1.00	0.434	250.	5680

Method Blank

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

Duplicate

Lab ID = 990593-010

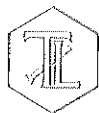
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	848.	824.	2.87	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	500.	500.	100.	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	501.	500.	100	90 - 110

*Report Continued***Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock pROJECT****Page 6 of 6****Project Number: 408401.01.DM****Printed 8/30/2010****Turbidity by SM 2130 B**

Batch 08TUC10K

8/13/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990634-001 Turbidity	NTU	08/13/2010	1.00	0.0140	0.100	ND

## Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

## Duplicate

Lab ID = 990634-001

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

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.88	8.00	98.5	90 - 110

## Lab Control Sample Duplicate

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

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

Mona Nassimi

Manager, Analytical Services

Intention Blank

Ez Seam

4



# **Total Dissolved Solids by SM 2540 C**

## **Calculations**

Batch: 08TDS10F

Date Calculated: 8/18/10

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	108.6550	108.6552	108.6551	0.0001	No	0.0001	1.0	25.0	ND	1
990593-1	50	49.3629	49.4228	49.4224	0.0004	No	0.0595	1190.0	50.0	1190.0	1
990593-2	100	68.8048	68.8585	68.8583	0.0002	No	0.0535	535.0	25.0	535.0	1
990593-3	50	51.1362	51.1727	51.1726	0.0001	No	0.0364	728.0	50.0	728.0	1
990593-4	100	76.5723	76.6277	76.6273	0.0004	No	0.0550	550.0	25.0	550.0	1
990593-5	50	51.2681	51.3017	51.3013	0.0004	No	0.0332	664.0	50.0	664.0	1
990593-6	100	77.9590	78.0085	78.0085	0.0000	No	0.0495	495.0	25.0	495.0	1
990593-7	50	47.1988	47.2448	47.2444	0.0004	No	0.0456	912.0	50.0	912.0	1
990593-8	50	66.8215	66.8645	66.8645	0.0000	No	0.0430	860.0	50.0	860.0	1
990593-9	50	49.4683	49.5043	49.504	0.0003	No	0.0357	714.0	50.0	714.0	1
990593-10	50	66.0003	66.0415	66.0415	0.0000	No	0.0412	824.0	50.0	824.0	1
990593-10D	50	68.5580	68.6008	68.6004	0.0004	No	0.0424	848.0	50.0	848.0	1
LCS	100	74.7685	74.8188	74.8185	0.0003	No	0.0500	500.0	25.0	500.0	1
990599	450	109.2206	109.2240	109.2239	0.0001	No	0.0033	7.3	5.6	7.3	1
990634	10	47.6396	47.6968	47.6964	0.0004	No	0.0568	5680.0	250.0	5680.0	1
990662-1	100	68.2478	68.2793	68.2791	0.0002	No	0.0313	313.0	25.0	313.0	1
990662-2	100	69.5160	69.5476	69.5472	0.0004	No	0.0312	312.0	25.0	312.0	1
990682-1	50	68.2452	68.2934	68.293	0.0004	No	0.0478	956.0	50.0	956.0	1
990682-2	100	65.6397	65.6911	65.691	0.0001	No	0.0513	513.0	25.0	513.0	1
990682-3	50	68.1975	68.2366	68.2364	0.0002	No	0.0389	778.0	50.0	778.0	1
LCSD	100	75.4574	75.5077	75.5075	0.0002	No	0.0501	501.0	25.0	501.0	1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

*[Signature]*  
Analyst Printed Name

*[Signature]*  
Analyst Signature

*[Signature]*  
Reviewer Printed Name

*[Signature]*  
Reviewer Signature

# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 08TDS10F

Date Calculated: 8/18/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990593-1	1644	0.72	1068.6	1.11
990593-2	890	0.60	578.5	0.92
990593-3	1142	0.64	742.3	0.98
990593-4	921	0.60	598.65	0.92
990593-5	1103	0.60	716.95	0.93
990593-6	900	0.55	585	0.85
990593-7	1447	0.63	940.55	0.97
990593-8	1570	0.55	1020.5	0.84
990593-9	1144	0.62	743.6	0.96
990593-10	1295	0.64	841.75	0.98
990593-10D	1295	0.65	841.75	1.01
LCS				
990599	14.2	0.52	9.23	0.79
990634	7200	0.79	4680	1.21
990662-1	477	0.66	310.05	1.01
990662-2	477	0.65	310.05	1.01
990682-1	1499	0.64	974.35	0.98
990682-2	813	0.63	528.45	0.97
990682-3	1238	0.63	804.7	0.97

*[Handwritten signature]*



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# CHAIN OF CUSTODY RECORD

COC Number

TURNAROUND TIME 10 Days

DATE 08/11/10

PAGE 1 OF 1

990634

[IM3Plant-WDR-269]

COMPANY	E2	DATE	08/11/10	TIME	0800	DESCRIPTION	Water
PROJECT NAME	PG&E Topock						
PHONE	(530) 229-3303	FAX	(530) 339-3303				
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612						
P.O. NUMBER	408401.01.DM	TEAM	1				
SAMPLERS (SIGNATURE)							
SAMPLE I.D.	SC-700B-WDR-269						
C6 (218.6) Lab Filtered							
Total Metals (200.7) Cr, Mn							
Specific Conductance (120.1)							
TDS (SM2540C)							
Turbidity (SM2130)							
NUMBER OF CONTAINERS							
3							
TOTAL NUMBER OF CONTAINERS							
5							
COMMENTS							

MI = 7

Time 0800 Analysis pH EC Cr6 TOTAL Temp 80.4  
0805 9.7 7.36 .005 .003

ALERT!!  
Level III QC

For Sample Condition  
See Form Attachment

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS	
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL
	SAID	OM#	8/11/10 1530	<input type="checkbox"/>	<input type="checkbox"/>
Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED	YES
Benicio Daza	B. DAZA	TLI	8-11-10 1530	<input type="checkbox"/>	<input type="checkbox"/>
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:	
B. DAZA	B. DAZA	TLI	8-11-10 1530		
Signature (Received)	Printed Name	Company/Agency	Date/Time		
Shabana	Shabana	TLI	8/11/10 2045		
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	Initials
08/11/10	990616-6	9.5	N/A	N/A	N/A	SB
	-7					
	-8					
	-9					
	-10					
	-11					
	-12					
08/12/10	990634	7.0	5.00	9.5	7:30	SB
08/12/10	990635-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
08/12/10	990636-1	9.5	N/A	N/A	N/A	<del>SB</del>
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
	-9					
	-10					
08/12/10	990637-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					

ah





## Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILLLab # 990634Date Delivered: 8/11/10 Time: 20:45 By: ☐ Mail ☒ Field Service ☐ Client

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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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14201 FRANKLIN AVENUE  
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www.truesdail.com

August 30, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-270 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 990736

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-270 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 17, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


Total Chromium 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.

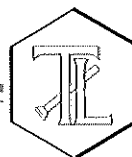
Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

**Laboratory No.:** 990736

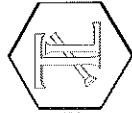
**Date:** August 30, 2010

**Collected:** August 17, 2010

**Received:** August 17, 2010

## ANALYST LIST

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



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

**Laboratory No.:** 990736  
**Date Received:** August 17, 2010

**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
990736-001	SC-700B-WDR-270	E120.1	NONE	8/17/2010	8:00	EC	7400	umhos/cm	2.00
990736-001	SC-700B-WDR-270	E200.8	NONE	8/17/2010	8:00	Chromium	ND	ug/L	1.0
990736-001	SC-700B-WDR-270	E200.8	NONE	8/17/2010	8:00	Manganese	1.2	ug/L	1.0
990736-001	SC-700B-WDR-270	E218.6	LABFLT	8/17/2010	8:00	Chromium, hexavalent	ND	ug/L	0.20
990736-001	SC-700B-WDR-270	SM2130B	NONE	8/17/2010	8:00	Turbidity	ND	NTU	0.100
990736-001	SC-700B-WDR-270	SM2540C	NONE	8/17/2010	8:00	Total Dissolved Solids	4100	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

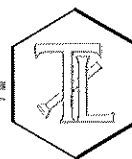
Results below 0.01ppm will have two (2) significant figures.

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

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

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**P.O. Number:** 408401.01.DM

**Project Number:** 408401.01.DM

Laboratory No. 990736

Page 1 of 6

Printed 8/30/2010

Samples Received on 8/17/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-270	990736-001	08/17/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch 08ALK10E

8/20/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990736-001 Specific Conductivity	umhos/cm	08/20/2010	1.00	0.0380	2.00	7400

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 990736-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7390	7400	0.135	0 - 10

#### Lab Control Sample

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

#### Lab Control Sample Duplicate

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

#### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	705.	706.	99.9	90 - 110

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	995.	1000	99.5	90 - 110

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

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Client: E2 Consulting Engineers, Inc.

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

Page 2 of 6  
Printed 8/30/2010

**Chrome VI by EPA 218.6**

Batch 08CrH10J

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990736-001 Chromium, Hexavalent	ug/L	08/18/2010 08:24	1.05	0.0210	0.20	ND

Method Blank

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

Duplicate

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	4.63	4.60	0.650	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.23	5.00	105	90 - 110

Matrix Spike

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.25	1.20(1.06)	105.	90 - 110

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.28	5.00	106	90 - 110

MRCVS - Primary

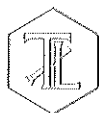
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102.	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.5	10.0	105.	95 - 105

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.67	10.0	96.7	95 - 105



Client: E2 Consulting Engineers, Inc.

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

Page 3 of 6  
Printed 8/30/2010

Metals by EPA 200.8, Total			Batch 082210A			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
990736-001 Chromium	ug/L	08/22/2010 17:23	5.00	0.0950	1.0	ND
Manganese	ug/L	08/22/2010 17:23	5.00	0.210	1.0	1.2
Method Blank						
Parameter	Unit	DF	Result			
Chromium	ug/L	1.00	ND			
Manganese	ug/L	1.00	ND			
Duplicate						
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	1.16	1.17	0.602	0 - 20
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.4	50.0	96.8	90 - 110
Manganese	ug/L	1.00	49.0	50.0	98.0	90 - 110
Matrix Spike						
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	244	250.(250.)	97.7	75 - 125
Manganese	ug/L	5.00	245	251(250.)	97.4	75 - 125
Matrix Spike Duplicate						
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	248	250.(250.)	99.4	75 - 125
Manganese	ug/L	5.00	251	251(250.)	100.	75 - 125
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.2	90 - 110
Manganese	ug/L	1.00	50.9	50.0	102	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	52.0	50.0	104	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.3	50.0	103	90 - 110

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 4 of 6****Project Number: 408401.01.DM****Printed 8/30/2010****MRCVS - Primary**

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

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.1	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.0	50.0	102	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.9	50.0	104	90 - 110

**MRCVS - Primary**

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

**MRCVS - Primary**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.7	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.5	50.0	101	80 - 120





Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 8/30/2010

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.4	50.0	96.9	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.7	50.0	103	80 - 120

Total Dissolved Solids by SM 2540 C

Batch 08TDS10G

8/23/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990736-001 Total Dissolved Solids	mg/L	08/23/2010	1.00	0.434	250.	4100

Method Blank

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

Duplicate

Lab ID = 990794-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	628.	626.	0.319	0 - 5

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	494.	500.	98.8	90 - 110

Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	476.	500.	95.2	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 8/30/2010

**Turbidity by SM 2130 B**

Batch 08TUC10M

8/18/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990736-001 Turbidity	NTU	08/18/2010	1.00	0.0140	0.100	ND

Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

Duplicate

Lab ID = 990736-001

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

Lab Control Sample

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

Lab Control Sample Duplicate

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

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services



E2 Scan

6

### Total Dissolved Solids by SM 2540 C

#### Calculations

Batch: 08TDS10G

Date Calculated: 8/26/10

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	109.4448	109.4449	109.4448	0.0001	No	0.0000	0.0	25.0	ND	1
990750	1	51.1599	51.3730	51.373	0.0000	No	0.2131	213100.0	2500.0	213100.0	1
990736	10	49.3576	49.3990	49.3986	0.0004	No	0.0410	4100.0	250.0	4100.0	1
990774-1	50	69.5857	69.6286	69.6286	0.0000	No	0.0429	858.0	50.0	858.0	1
990774-2	50	70.3267	70.3833	70.3833	0.0000	No	0.0566	1132.0	50.0	1132.0	1
990774-3	50	67.8281	67.9115	67.9115	0.0000	No	0.0834	1668.0	50.0	1668.0	1
990774-4	50	74.7231	74.8037	74.8034	0.0003	No	0.0803	1606.0	50.0	1606.0	1
990774-5	50	65.8370	65.9941	65.9941	0.0000	No	0.1571	3142.0	50.0	3142.0	1
990774-6	50	68.7781	68.8316	68.8316	0.0000	No	0.0535	1070.0	50.0	1070.0	1
990774-7	50	67.9280	67.9875	67.9871	0.0004	No	0.0591	1182.0	50.0	1182.0	1
990774-8	50	73.0342	73.094	73.094	0.0000	No	0.0598	1196.0	50.0	1196.0	1
990750D	1	50.2581	50.4807	50.4807	0.0000	No	0.2226	222600.0	2500.0	222600.0	1
LCS	100	112.9019	112.9517	112.9513	0.0004	No	0.0494	494.0	25.0	494.0	1
990774-9	50	72.5445	72.6038	72.6038	0.0000	No	0.0593	1186.0	50.0	1186.0	1
990774-10	50	75.5482	75.6046	75.6044	0.0002	No	0.0562	1124.0	50.0	1124.0	1
990774-11	50	68.7062	68.8159	68.8159	0.0000	No	0.1097	2194.0	50.0	2194.0	1
990774-12	50	67.8890	68.0249	68.0249	0.0000	No	0.1359	2718.0	50.0	2718.0	1
990774-13	50	76.2255	76.2612	76.2609	0.0003	No	0.0354	708.0	50.0	708.0	1
990776-1	50	67.8151	67.8693	67.8693	0.0000	No	0.0542	1084.0	50.0	1084.0	1
990776-2	50	72.4808	72.5336	72.5336	0.0000	No	0.0528	1056.0	50.0	1056.0	1
990776-3	50	68.4773	68.5302	68.5297	0.0005	No	0.0524	1048.0	50.0	1048.0	1
990794-1	50	70.9054	70.9579	70.9577	0.0002	No	0.0523	1046.0	50.0	1046.0	1
990794-2	50	78.3927	78.4244	78.424	0.0004	No	0.0313	626.0	50.0	626.0	1
990794-2D	50	72.8361	72.8680	72.8675	0.0005	No	0.0314	628.0	50.0	628.0	1
LCSD	100	112.3641	112.4120	112.4117	0.0003	No	0.0476	476.0	25.0	476.0	1

Calculation as follows:

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

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

B = weight of dish in grams.

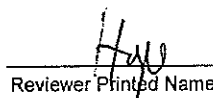
C = mL of sample filtered.

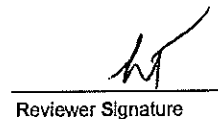
RL = reporting limit.

ND = not detected (below the reporting limit).

  
Analyst Printed Name

  
Analyst Signature

  
Reviewer Printed Name

  
Reviewer Signature

# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 08TDS10G

Date Calculated: 8/26/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990750	N/A	#VALUE!	#VALUE!	#VALUE!
990736	7400	0.55	4810	0.85
990774-1	1212	0.71	787.8	1.09
990774-2	1659	0.68	1078.35	1.05
990774-3	2450	0.68	1592.5	1.05
990774-4	2330	0.69	1514.5	1.06
990774-5	4400	0.71	2860	1.10
990774-6	1662	0.64	1080.3	0.99
990774-7	1773	0.67	1152.45	1.03
990774-8	1780	0.67	1157	1.03
990750D	N/A	#VALUE!	#VALUE!	#VALUE!
LCS				
990774-9	1770	0.67	1150.5	1.03
990774-10	1700	0.66	1105	1.02
990774-11	3160	0.69	2054	1.07
990774-12	3760	0.72	2444	1.11
990774-13	1130	0.63	734.5	0.96
990776-1	1620	0.67	1053	1.03
990776-2	1630	0.65	1059.5	1.00
990776-3	1570	0.67	1020.5	1.03
990794-1	1565	0.67	1017.25	1.03
990794-2	1004	0.62	652.6	0.96
990794-2D	1004	0.63	652.6	0.96



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# CHAIN OF CUSTODY RECORD

[IM3] Plant-WDR-270]

COC Number

10 Days

TURNAROUND TIME

DATE 08/17/10

PAGE 1 OF 1

990736

COMPANY E2	PROJECT NAME PG&E Topock	PHONE (530) 229-3303	FAX (530) 339-3303	ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER 408401.01.DM	TEAM 1	SAMPLERS (SIGNATURE)	DATE 08/17/10	TIME 0800	DESCRIPTION Water	DATE 08/17/10	TIME 0800	DESCRIPTION Water
<p>Rec'd 08/17/10 990736</p>													
<p>CR6 (218.6) Lab Filtered</p>													
<p>Total Metals (200.7) Cr, Mn</p>													
<p>Specific Conductance (120.1)</p>													
<p>TDS (SM2540C)</p>													
<p>Turbidity (SM2130)</p>													
<p>NUMBER OF CONTAINERS</p>													
<p>3</p>													
<p>PH=7</p>													
<p>TOTAL NUMBER OF CONTAINERS</p>													
<p>3</p>													

ALERT!!  
Level III QC

For Sample Conditions  
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD										SAMPLE CONDITIONS	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL	YES	NO	WARM	YES	NO	TEMP
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES	NO					40°C
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:							
Signature (Received)	Printed Name	Company/ Agency	Date/ Time								
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time								
Signature (Received)	Printed Name	Company/ Agency	Date/ Time								
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time								
Signature (Received)	Printed Name	Company/ Agency	Date/ Time								

# Hexavalent Chromium

## Method EPA 218.6 and SW 7199 Sample pH Log

Date	Lab Number	Initial pH	Buffer Added (mL)	Final pH	Time Buffered	Initials
8/13/10	990661-1	9.5	N/A	NA	NA	AL
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	990662-1					
	-2					
08/16/10	990680-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
08/16/10	990681-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
	-6					
	-7					
	-8					
08/16/10	990682-4	9.5	N/A	N/A	N/A	SB
08/16/10	990683-1	9.5	N/A	N/A	N/A	SB
	-2					
	-3					
	-4					
	-5					
08/18/10	990736	7.0	5.00	9.5	7:30	SB



TRUESDAIL LABORATORIES, INC.



## Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL

Lab # 990736

Date Delivered: 8/17/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

16. Comments: \_\_\_\_\_

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

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September 13, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-271A PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 990809

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-271A 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, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

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

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi  
Manager, Analytical Services



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



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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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**Laboratory No.:** 990809

**Date:** September 13, 2010

**Collected:** August 23, 2010

**Received:** August 23, 2010

## ANALYST LIST

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



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

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

**Laboratory No.:** 990809  
**Date Received:** August 23, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990809-001	SC-700B-WDR-271A	E120.1	NONE	8/23/2010	13:20	EC	7720	umhos/cm	2.00
990809-001	SC-700B-WDR-271A	E200.8	NONE	8/23/2010	13:20	Chromium	ND	ug/L	1.0
990809-001	SC-700B-WDR-271A	E200.8	NONE	8/23/2010	13:20	Manganese	3.2	ug/L	1.0
990809-001	SC-700B-WDR-271A	E218.6	LABFLT	8/23/2010	13:20	Chromium, hexavalent	ND	ug/L	0.20
990809-001	SC-700B-WDR-271A	SM2130B	NONE	8/23/2010	13:20	Turbidity	ND	NTU	0.100
990809-001	SC-700B-WDR-271A	SM2540C	NONE	8/23/2010	13:20	Total Dissolved Solids	5070	mg/L	250

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

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

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**P.O. Number:** 408401.01.DM

**Project Number:** 408401.01.DM

Laboratory No. 990809

Page 1 of 6

Printed 9/13/2010

Samples Received on 8/23/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-271A	990809-001	08/23/2010 13:20	Water

### Specific Conductivity - EPA 120.1

Batch 08ALK10F

8/25/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990809-001 Specific Conductivity	umhos/cm	08/25/2010	1.00	0.0380	2.00	7720

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 990809-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7730	7720	0.129	0 - 10

#### Lab Control Sample

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

#### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	700.	706.	99.2	90 - 110

#### MRCCS - Secondary

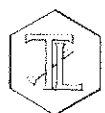
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	717.	706.	102	90 - 110

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	1000	1000	100.	90 - 110

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 6

Project Number: 408401.01.DM

Printed 9/13/2010

## Chrome VI by EPA 218.6

Batch 08CrH10U

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990809-001 Chromium, Hexavalent	ug/L	08/24/2010 09:20	1.05	0.0210	0.20	ND

### Method Blank

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

### Duplicate

Lab ID = 990658-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	8.62	8.45	1.96	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.36	5.00	107	90 - 110

### Matrix Spike

Lab ID = 990809-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.00	1.06(1.06)	94.5	90 - 110

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.27	5.00	105	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.64	10.0	96.4	95 - 105

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.5	10.0	105	95 - 105

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.60	10.0	96.0	95 - 105

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## Metals by EPA 200.8, Total

Batch 090310A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990809-001 Chromium	ug/L	09/03/2010 12:31	1.00	0.0190	1.0	ND
Manganese	ug/L	09/03/2010 12:31	1.00	0.0420	1.0	3.2

### Method Blank

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

### Duplicate

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	1.00	ND	0	0	0 - 20
Manganese	ug/L	1.00	11.6	11.8	1.45	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	98.0	90 - 110
Manganese	ug/L	1.00	48.9	50.0	97.7	90 - 110

### Matrix Spike

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.0	50.0(50.0)	89.9	75 - 125
Manganese	ug/L	1.00	46.2	61.8(50.0)	68.9	75 - 125

### Matrix Spike Duplicate

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.1	50.0(50.0)	90.3	75 - 125
Manganese	ug/L	1.00	47.8	61.8(50.0)	72.1	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0	96.4	90 - 110
Manganese	ug/L	1.00	51.7	50.0	103	90 - 110

### MRCVS - Primary

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

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/13/2010

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.5	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.7	50.0	97.4	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.8	50.0	95.6	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.4	50.0	98.9	90 - 110

## MRCVS - Primary

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.8	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.4	50.0	90.8	80 - 120

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.



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Printed 9/13/2010

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	52.4	50.0	105	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.4	50.0	92.9	80 - 120

## Total Dissolved Solids by SM 2540 C

Batch 08TDS101

8/26/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990809-001 Total Dissolved Solids	mg/L	08/26/2010	1.00	0.434	250.	5070

## Method Blank

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

## Duplicate

Lab ID = 990855-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	2480	2470	0.202	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	489.	500.	97.8	90 - 110

## Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	503.	500.	101	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Printed 9/13/2010

## Turbidity by SM 2130 B

Batch 08TUC100

8/24/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990809-001 Turbidity	NTU	08/24/2010	1.00	0.0140	0.100	ND

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990809-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.59	8.00	94.9	90 - 110

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.88	8.00	98.5	90 - 110

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi  
Manager, Analytical Services





# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 08TDS10I

Date Calculated: 8/30/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990799-2	153	0.51	99.45	0.79
990799-3	265	0.54	172.25	0.82
990809	7720	0.66	5018	1.01
990852-1	1730	0.67	1124.5	1.04
990852-2	1490	0.67	968.5	1.04
990852-3	1890	0.69	1228.5	1.05
990852-4	1180	0.67	767	1.03
990853-5	1214	0.64	789.1	0.99
990854	1980	0.69	1287	1.07
990855-1	3440	0.72	2236	1.10
990855-1D	3440	0.72	2236	1.11
LCS				
990855-2	1061	0.61	689.65	0.93
990856-3	1515	0.66	984.75	1.01
990856-4	1525	0.68	991.25	1.04
990856-7	1680	0.67	1092	1.02
990856-9	516	0.68	335.4	1.05





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

[IM3] Plant-WDR-271A]

COC Number

10 Days

TURNAROUND TIME

DATE 08/23/10

PAGE 1 OF 1

990 809

COMPANY	E2	DATE	08/23/10	TIME	13:00	DESCRIPTION	Water
PROJECT NAME	PG&E Topock						
PHONE	(530) 229-3303	FAX	(530) 339-3303				
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612						
P.O. NUMBER	408401.01.DM	TEAM	1				
SAMPLERS (SIGNATURE)							
SAMPLE I.D.							
SC-700B-WDR-271A							
C6 (218.6) Lab Filtered							X
Total Metals (200.7) Cr, Mn							X
Specific Conductance (120.1)							X
TDS (SM2540C)							X
Turbidity (SM2130)							X
NUMBER OF CONTAINERS							3
COMMENTS							200.7 pH = 7
TOTAL NUMBER OF CONTAINERS							3

ALERT !!  
Level III QC

For Sample Conditions  
See Form Attached

Temp - 82.7  
pH - 7.3 - 13.25  
EC - 7.75  
C6 - 1.005 13:30  
TOTAL - .003 13:33

CHAIN OF CUSTODY SIGNATURE RECORD			
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 16:00
Signature (Received)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 16:00
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 21:30
Signature (Received)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 21:30
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 21:30
Signature (Received)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 21:30
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 21:30
Signature (Received)	Printed Name	Company/Agency	Date/Time
	Rafael Davila	Company/Agency	8-23-10 21:30

## SAMPLE CONDITIONS

RECEIVED COOL ☒ WARM ☐ 4.6°C °F

CUSTODY SEALED YES ☐ NO ☐

## SPECIAL REQUIREMENTS:

# 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
08/23/10	990792-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
08/23/10	990793-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
08/23/10	990794-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
08/23/10	990795-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
↓	↓ -8	↓	↓	↓	↓	↓
↓	↓ -9	↓	↓	↓	↓	↓
08/24/10	990809	7.0	5.00	9.5	8:00	SB
08/24/10	990810-2	9.5	N/A	N/A	N/A	SB
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓



## Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 990809

Date Delivered: 8/23/10 Time: 21:30 By: ☐ Mail ☐ Field Service ☐ Client

1. Was a Chain of Custody received and signed? ☒ Yes ☐ No ☐ N/A
2. Does Customer require an acknowledgement of the COC? ☐ Yes ☐ No ☒ N/A
3. Are there any special requirements or notes on the COC? ☐ Yes ☐ No ☒ N/A
4. If a letter was sent with the COC, does it match the COC? ☐ Yes ☐ No ☒ N/A
5. Were all requested analyses understood and acceptable? ☒ Yes ☐ No ☐ N/A
6. Were samples received in a chilled condition?  
Temperature (if yes) 4.6°C ☒ Yes ☐ No ☐ N/A
7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc.)? ☒ Yes ☐ No ☐ N/A
8. Were sample custody seals intact? ☐ Yes ☐ No ☒ N/A
9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A
10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A
11. Did sample labels indicate proper preservation?  
Preserved (if yes) by: ☐ Truesdail ☐ Client ☐ Yes ☐ No ☒ N/A
12. Were samples pH checked? pH = see c.o.c. ☐ Yes ☐ No ☐ N/A
13. Were all analyses within holding time at time of receipt?  
If not, notify Project Manager. ☒ Yes ☐ No ☐ N/A
14. Have Project due dates been checked and accepted?  
Turn Around Time (TAT): ☐ RUSH ☒ Std ☒ Yes ☐ No ☐ N/A
15. **Sample Matrix:** ☐ Liquid ☐ Drinking Water ☐ Ground Water ☐ Waste Water  
☐ Sludge ☐ Soil ☐ Wipe ☐ Paint ☐ Solid ☒ Other Water
16. Comments: \_\_\_\_\_
17. Sample Check-In completed by Truesdail Log-In/Receiving: Shalvina



# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

14201 FRANKLIN AVENUE  
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(714) 730-6239 · FAX (714) 730-6462  
www.truesdail.com

September 14, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-271B PROJECT, GROUNDWATER  
MONITORING, TLI No.: 990909

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-271B 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 27, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.


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.

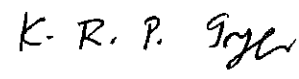
Due to the late arrival and early sampling time, the sample for Turbidity by SM 2130B was analyzed past the method specified holding time.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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**Laboratory No.:** 990909

**Date:** September 14, 2010

**Collected:** August 27, 2010

**Received:** August 27, 2010

## ANALYST LIST

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



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

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

**Laboratory No.:** 990909  
**Date Received:** August 27, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990909-001	SC-700B-WDR-271B	E120.1	NONE	8/27/2010	8:00	EC	7260	umhos/cm	2.00
990909-001	SC-700B-WDR-271B	E200.8	NONE	8/27/2010	8:00	Chromium	ND	ug/L	1.0
990909-001	SC-700B-WDR-271B	E200.8	NONE	8/27/2010	8:00	Manganese	14.6	ug/L	1.0
990909-001	SC-700B-WDR-271B	E218.6	LABFLT	8/27/2010	8:00	Chromium, hexavalent	ND	ug/L	0.20
990909-001	SC-700B-WDR-271B	SM2130B	NONE	8/27/2010	8:00	Turbidity	0.170 J	NTU	0.100
990909-001	SC-700B-WDR-271B	SM2540C	NONE	8/27/2010	8:00	Total Dissolved Solids	4490	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter.

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

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

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

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



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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 990909

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Printed 9/14/2010

Samples Received on 8/27/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-271B	990909-001	08/27/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch 08EC10G

8/30/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990909-001 Specific Conductivity	umhos/cm	08/30/2010	1.00	0.0380	2.00	7260

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 990906-008

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	6300	6350	0.791	0 - 10

#### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	695.	706.	98.4	90 - 110

#### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110

#### MRCCS - Secondary

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

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	997.	1000	99.7	90 - 110

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/14/2010

**Chrome VI by EPA 218.6**

Batch 09CrH10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990909-001 Chromium, Hexavalent	ug/L	09/02/2010 09:40	1.05	0.0210	0.20	ND

Method Blank

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

Duplicate

Lab ID = 990810-009

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	28.9	28.1	2.95	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.99	5.00	99.9	90 - 110

Matrix Spike

Lab ID = 990908-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.40	5.25(5.25)	103	90 - 110

Matrix Spike

Lab ID = 990908-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.939	1.06(1.06)	88.6	90 - 110

Matrix Spike

Lab ID = 990908-002

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

Matrix Spike

Lab ID = 990908-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.43	5.25(5.25)	103	90 - 110

Matrix Spike

Lab ID = 990908-003

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

Matrix Spike

Lab ID = 990908-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.30	5.25(5.25)	101	90 - 110

Matrix Spike

Lab ID = 990909-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.09	1.06(1.06)	103	90 - 110

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 3 of 7****Project Number: 408401.01.DM****Printed 9/14/2010****MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	4.98	5.00	99.7	90 - 110

**MRCVS - Primary**

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

**MRCVS - Primary**

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

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.68	10.0	96.8	95 - 105

**MRCVS - Primary**

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



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/14/2010

**Metals by EPA 200.8, Total**

Batch 090310A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990909-001 Chromium	ug/L	09/03/2010 12:38	1.00	0.0190	1.0	ND
Manganese	ug/L	09/03/2010 12:38	1.00	0.0420	1.0	14.6

Method Blank

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

Duplicate

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	1.00	ND	0	0	0 - 20
Manganese	ug/L	1.00	11.6	11.8	1.45	0 - 20

Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.0	50.0	98.0	90 - 110
Manganese	ug/L	1.00	48.9	50.0	97.7	90 - 110

Matrix Spike

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.0	50.0(50.0)	89.9	75 - 125
Manganese	ug/L	1.00	46.2	61.8(50.0)	68.9	75 - 125

Matrix Spike Duplicate

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.1	50.0(50.0)	90.3	75 - 125
Manganese	ug/L	1.00	47.8	61.8(50.0)	72.1	75 - 125

MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.2	50.0	96.4	90 - 110
Manganese	ug/L	1.00	51.7	50.0	103	90 - 110

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110



Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 9/14/2010

MRCVS - Primary

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

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.5	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.7	50.0	97.4	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.8	50.0	95.6	90 - 110

MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.4	50.0	98.9	90 - 110

MRCVS - Primary

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

Interference Check Standard A

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

Interference Check Standard A

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

Interference Check Standard A

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

Interference Check Standard A

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

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.8	80 - 120

Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.4	50.0	90.8	80 - 120



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	52.4	50.0	105	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.4	50.0	92.9	80 - 120

## Total Dissolved Solids by SM 2540 C

Batch 08TDS10K

8/30/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990909-001 Total Dissolved Solids	mg/L	08/30/2010	1.00	0.434	250.	4490

## Method Blank

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

## Duplicate

Lab ID = 990906-004

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	3360	3250	3.33	0 - 5

## Duplicate

Lab ID = 990909-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	4640	4490	3.29	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	492.	500.	98.4	90 - 110

## Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	497.	500.	99.4	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## Turbidity by SM 2130 B

		Batch 08TUC10R	8/30/2010			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
990909-001 Turbidity	NTU	08/30/2010	1.00	0.0140	0.100	0.170

J

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990909-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.171	0.170	0.587	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.40	8.00	92.5	90 - 110

### Lab Control Sample Duplicate

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

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

*for Mona Nassimi*  
Mona Nassimi  
Manager, Analytical Services



E2 Sean

4

## Total Dissolved Solids by SM 2540 C

### Calculations

Batch: 08TDS10K  
Date Calculated: 9/2/10

Laboratory Number	Sample volume, ml	Initial weight, g	1st Final weight, g	2nd Final weight, g	Weight Difference, g	Exceeds 0.5mg? Yes/No	Residue weight, g	Filterable residue, ppm	RL, ppm	Reported Value, ppm	DF
BLANK	100	105.2911	105.2911	105.2911	0.0000	No	0.0000	0.0	25.0	ND	1
990891-1	20	66.8211	66.9220	66.922	0.0000	No	0.1009	5045.0	125.0	5045.0	1
990891-2	50	68.2330	68.2797	68.2797	0.0000	No	0.0467	934.0	50.0	934.0	1
990891-3	20	77.9583	78.0435	78.0435	0.0000	No	0.0852	4260.0	125.0	4260.0	1
990891-4	20	68.9897	69.0365	69.0365	0.0000	No	0.0468	2340.0	125.0	2340.0	1
990892-1	20	47.6392	47.7198	47.7198	0.0000	No	0.0806	4030.0	125.0	4030.0	1
990892-2	100	110.6613	110.7057	110.7053	0.0004	No	0.0440	440.0	25.0	440.0	1
990892-3	50	67.7401	67.8113	67.8113	0.0000	No	0.0712	1424.0	50.0	1424.0	1
990906-2	20	67.8033	67.8497	67.8496	0.0001	No	0.0463	2315.0	125.0	2315.0	1
990906-3	20	68.9164	68.9781	68.9778	0.0003	No	0.0614	3070.0	125.0	3070.0	1
990906-4	20	68.5545	68.6195	68.6195	0.0000	No	0.0650	3250.0	125.0	3250.0	1
990906-4D	20	69.2451	69.3123	69.3123	0.0000	No	0.0672	3360.0	125.0	3360.0	1
LCS	100	109.2175	109.2667	109.2667	0.0000	No	0.0492	492.0	25.0	492.0	1
990906-5	20	68.8011	68.8542	68.8542	0.0000	No	0.0531	2655.0	125.0	2655.0	1
990906-6	20	69.5131	69.5681	69.5681	0.0000	No	0.0550	2750.0	125.0	2750.0	1
990906-7	20	68.1195	68.1943	68.1943	0.0000	No	0.0748	3740.0	125.0	3740.0	1
990906-8	20	69.5847	69.6851	69.6851	0.0000	No	0.1004	5020.0	125.0	5020.0	1
990907-1	27	75.4557	75.5081	75.5081	0.0000	No	0.0524	1940.7	92.6	1940.7	1
990907-2	10	47.1917	47.2937	47.2937	0.0000	No	0.1020	10200.0	250.0	10200.0	1
990907-3	20	74.5699	74.6366	74.6366	0.0000	No	0.0667	3335.0	125.0	3335.0	1
990907-4	20	67.2811	67.3589	67.3588	0.0001	No	0.0777	3885.0	125.0	3885.0	1
990907-5	20	70.9038	70.9691	70.9691	0.0000	No	0.0653	3265.0	125.0	3265.0	1
990909	10	49.4672	49.5121	49.5121	0.0000	No	0.0449	4490.0	250.0	4490.0	1
990909D	10	49.5078	49.5543	49.5542	0.0001	No	0.0464	4640.0	250.0	4640.0	1
LCS	100	110.3636	110.4133	110.4133	0.0000	No	0.0497	497.0	25.0	497.0	1

Calculation as follows:

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL = reporting limit.

ND = not detected (below the reporting limit)

  
Analyst Printed Name

  
Analyst Signature

  
Reviewer Printed Name

  
Reviewer Signature



# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 08TDS10K

Date Calculated: 9/2/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990891-1	5870	0.86	3815.5	1.32
990891-2	1520	0.61	988	0.95
990891-3	5820	0.73	3783	1.13
990891-4	3420	0.68	2223	1.05
990892-1	4990	0.81	3243.5	1.24
990892-2	749	0.59	486.85	0.90
990892-3	2010	0.71	1306.5	1.09
990906-2	3140	0.74	2041	1.13
990906-3	4050	0.76	2632.5	1.17
990906-4	4210	0.77	2736.5	1.19
990906-4D	4210	0.80	2736.5	1.23
LCS				
990906-5	3640	0.73	2366	1.12
990906-6	3680	0.75	2392	1.15
990906-7	4250	0.88	2762.5	1.35
990906-8	6300	0.80	4095	1.23
990907-1	2830	0.69	1839.5	1.06
990907-2	11480	0.89	7462	1.37
990907-3	4620	0.72	3003	1.11
990907-4	4700	0.83	3055	1.27
990907-5	3870	0.84	2515.5	1.30
990909	7260	0.62	4719	0.95
990909D	7260	0.64	4719	0.98



## CHAIN OF CUSTODY RECORD

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

**[IM3Plant-WDR-271B]**



990909

COC Number

TURNAROUND TIME

DATE 08/27/10

PAGE 1 OF


COMPANY E2

PROJECT NAME PG&E Topock

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

ADDRESS 155 Grand Ave Ste 1000  
Oakland, CA 94612

P.O. NUMBER 408401.01.DM TEAM 1

SAMPLERS (SIGNATURE) 

**TEAM 1**

408401.01.DM

P.O. NUMBER 408

**SAMPLERS (SIGNATURE**

SAMPLE I.D.	DATE	TIME	DESCRIPTION
-------------	------	------	-------------

SC-7008-WDR-271B	08/27/10	4800	Water
------------------	----------	------	-------

TIME	ANALYSIS	pH	EC	Cr6	TOTAL	TEMP
0800	0806	7.8	74	.004	.006	82.4

3.	TOTAL NUMBER OF CONTAINERS
----	----------------------------

TOTAL NUMBER OF CONTAINERS

**For Sample Condition  
See Form Attached**

**ALERT!!**  
**Level III QC**

### CHAIN OF CUSTODY SIGNATURE RECORD

[illegible]

## SAMPLE CONDITIONS

RECEIVED ☐ COOL ☐ WARM ☐

CUSTODY SEALED YES ☐ NO ☐

°F \_\_\_\_\_

**SPECIAL REQUIREMENTS:**

## Hexavalent Chromium

## Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]



TRUESDAIL LABORATORIES, INC.



## Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 99 09 09

Date Delivered: 8/27/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

16. Comments: \_\_\_\_\_

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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

October 1, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-272 PROJECT, GROUNDWATER  
MONITORING,  
TLI NO.: 990967

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-272 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 1, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Due to analyst error, the samples for Nitrite as N by SM4500-NO2 B were analyzed past the method specified holding time.

The sample result and associated matrix spike for sample SC-700B-WDR-272 for Hexavalent Chromium analysis by EPA 218.6 were just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the result from the 5x dilution agrees with that of the straight run, the data from the straight run is reported.

Total Chromium, for sample SC-100B-WDR-272, was re-analyzed due to the discrepancy between the Total Chromium and Hexavalent Chromium results. The result from the re-analysis is reported.

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

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

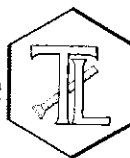
Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

*For: Mona Nassimi*  
Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwaters

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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

**Laboratory No.:** 990967

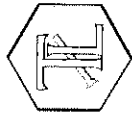
**Date:** October 1, 2010

**Collected:** September 1, 2010

**Received:** September 1, 2010

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Iordan Stavrev / 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	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Jenny Tankunakorn
EPA 200.7	Metals by ICP	Ethel Suico
EPA 200.8	Metals by ICP/MS	Linda Saetern / Daniel Kang / Hope Trinidad
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

**Attention:** Shawn Duffy

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

**Laboratory No.:** 990967  
**Date Received:** September 1, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990967-001	SC-700B-WDR-272	E120.1	NONE	9/1/2010	8:00	EC	7360	umhos/cm	2.00
990967-001	SC-700B-WDR-272	E200.7	NONE	9/1/2010	8:00	Iron	ND	ug/L	20.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Aluminum	ND	ug/L	50.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Antimony	ND	ug/L	10.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Arsenic	ND	ug/L	10.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Barium	ND	ug/L	10.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	BORON	1100	ug/L	200
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Chromium	ND	ug/L	1.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Copper	ND	ug/L	5.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Lead	ND	ug/L	10.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Manganese	ND	ug/L	1.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Molybdenum	16.5	ug/L	10.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Nickel	ND	ug/L	10.0
990967-001	SC-700B-WDR-272	E200.8	NONE	9/1/2010	8:00	Zinc	ND	ug/L	10.0
990967-001	SC-700B-WDR-272	E218.6	LABFLT	9/1/2010	8:00	Chromium, hexavalent	0.48	ug/L	0.20
990967-001	SC-700B-WDR-272	E300	NONE	9/1/2010	8:00	Fluoride	2.03	mg/L	0.500
990967-001	SC-700B-WDR-272	E300	NONE	9/1/2010	8:00	Nitrate as N	2.92	mg/L	1.00
990967-001	SC-700B-WDR-272	E300	NONE	9/1/2010	8:00	Sulfate	522	mg/L	25.0
990967-001	SC-700B-WDR-272	SM2130B	NONE	9/1/2010	8:00	Turbidity	0.117	NTU	0.100
990967-001	SC-700B-WDR-272	SM2540C	NONE	9/1/2010	8:00	Total Dissolved Solids	4550	mg/L	250
990967-001	SC-700B-WDR-272	SM4500NH3D	NONE	9/1/2010	8:00	Ammonia-N	ND	mg/L	0.500
990967-001	SC-700B-WDR-272	SM4500NO2B	NONE	9/1/2010	8:00	Nitrite as N	ND	mg/L	0.0100

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.



# TRUESDAIL LABORATORIES, INC.

Report Continued

Revision 1; October 5, 2010

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990967-002	SC-100B-WDR-272	E120.1	NONE	9/1/2010	8:00	EC	7930	umhos/cm	2.00
990967-002	SC-100B-WDR-272	E200.7	NONE	9/1/2010	8:00	Chromium	995	ug/L	10.0
990967-002	SC-100B-WDR-272	E200.7	NONE	9/1/2010	8:00	Iron	ND	ug/L	20.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Aluminum	ND	ug/L	50.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Antimony	ND	ug/L	10.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Arsenic	ND	ug/L	10.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Barium	26.0	ug/L	10.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	BORON	1140	ug/L	200
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Copper	ND	ug/L	5.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Lead	ND	ug/L	10.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Manganese	10.3	ug/L	1.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Molybdenum	22.4	ug/L	10.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Nickel	ND	ug/L	10.0
990967-002	SC-100B-WDR-272	E200.8	NONE	9/1/2010	8:00	Zinc	ND	ug/L	10.0
990967-002	SC-100B-WDR-272	E218.6	LABFLT	9/1/2010	8:00	Chromium, hexavalent	1200	ug/L	21.0
990967-002	SC-100B-WDR-272	E300	NONE	9/1/2010	8:00	Fluoride	2.58	mg/L	0.500
990967-002	SC-100B-WDR-272	E300	NONE	9/1/2010	8:00	Nitrate as N	3.18	mg/L	1.00
990967-002	SC-100B-WDR-272	E300	NONE	9/1/2010	8:00	Sulfate	553	mg/L	12.5
990967-002	SC-100B-WDR-272	SM2130B	NONE	9/1/2010	8:00	Turbidity	0.109	NTU	0.100
990967-002	SC-100B-WDR-272	SM2540C	NONE	9/1/2010	8:00	Total Dissolved Solids	5550	mg/L	250
990967-002	SC-100B-WDR-272	SM4500NH3D	NONE	9/1/2010	8:00	Ammonia-N	ND	mg/L	0.500
990967-002	SC-100B-WDR-272	SM4500NO2B	NONE	9/1/2010	8:00	Nitrite as N	ND	mg/L	0.0100





# TRUESDAIL LABORATORIES, INC.

Report Continued

Revision 1; October 4, 2010

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
990967-003	SC-701-WDR-272	E120.1	NONE	9/1/2010	13:30	EC	1210	umhos/cm	2.00
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Antimony	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Arsenic	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Barium	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Beryllium	ND	ug/L	1.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Cadmium	ND	ug/L	3.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Chromium	2.0	ug/L	1.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Cobalt	ND	ug/L	5.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Copper	ND	ug/L	5.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Lead	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Mercury	ND	ug/L	1.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Molybdenum	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Nickel	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Selenium	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Silver	ND	ug/L	5.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Thallium	ND	ug/L	1.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Vanadium	ND	ug/L	5.0
990967-003	SC-701-WDR-272	E200.8	NONE	9/1/2010	13:30	Zinc	ND	ug/L	10.0
990967-003	SC-701-WDR-272	E218.6	LABFLT	9/1/2010	13:30	Chromium, hexavalent	ND	ug/L	0.20
990967-003	SC-701-WDR-272	E300	NONE	9/1/2010	13:30	Fluoride	ND	mg/L	0.500
990967-003	SC-701-WDR-272	SM2540C	NONE	9/1/2010	13:30	Total Dissolved Solids	804	mg/L	50.0

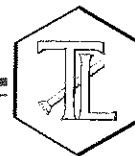
ND: Not Detected (below reporting limit)  
mg/L: Milligrams per liter.

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

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# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 990967

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Printed 10/4/2010

Samples Received on 9/1/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-272	990967-001	09/01/2010 08:00	Water
SC-100B-WDR-272	990967-002	09/01/2010 08:00	Water
SC-701-WDR-272	990967-003	09/01/2010 13:30	Water

### Anions By I.C. - EPA 300.0

Batch 09AN10B

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Fluoride	mg/L	09/02/2010 10:16	5.00	0.0600	0.500	2.03
Nitrate as Nitrogen	mg/L	09/02/2010 10:16	5.00	0.0950	1.00	2.92
Sulfate	mg/L	09/02/2010 11:18	50.0	2.00	25.0	522
990967-002 Fluoride	mg/L	09/02/2010 10:54	5.00	0.0600	0.500	2.58
Nitrate as Nitrogen	mg/L	09/02/2010 10:54	5.00	0.0950	1.00	3.18
Sulfate	mg/L	09/02/2010 12:20	25.0	1.00	12.5	553
990967-003 Fluoride	mg/L	09/02/2010 11:06	5.00	0.0600	0.500	ND

### 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

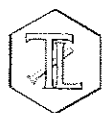
### Duplicate

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Fluoride	mg/L	5.00	2.01	2.03	0.793	0 - 15
Sulfate	mg/L	50.0	521	522	0.117	0 - 15
Nitrate as Nitrogen	mg/L	5.00	2.88	2.92	1.31	0 - 15

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.12	4.00	103	90 - 110
Sulfate	mg/L	1.00	20.3	20.0	101	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.01	4.00	100	90 - 110

## Matrix Spike

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Fluoride	mg/L	5.00	22.3	22.0(20.0)	102	85 - 115
Sulfate	mg/L	50.0	1040	1020(500.)	103	85 - 115
Nitrate as Nitrogen	mg/L	5.00	23.4	22.9(20.0)	103	85 - 115

## MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	4.14	4.00	103	90 - 110
Sulfate	mg/L	1.00	20.3	20.0	101	90 - 110
Nitrate as Nitrogen	mg/L	1.00	4.01	4.00	100	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Fluoride	mg/L	1.00	3.14	3.00	105	90 - 110
Sulfate	mg/L	1.00	15.0	15.0	99.9	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Sulfate	mg/L	1.00	15.1	15.0	101	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.94	3.00	98.1	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.94	3.00	98.2	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrate as Nitrogen	mg/L	1.00	2.94	3.00	98.1	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

Revision 1

## Nitrite SM 4500-NO2 B

Batch 09NO210D

Parameter	Unit	Analyzed	DF	MDL	RL	Result	
990967-001 Nitrite as Nitrogen	mg/L	09/07/2010 14:17	1.00	0.000200	0.0050	ND	J
990967-002 Nitrite as Nitrogen	mg/L	09/07/2010 14:18	1.00	0.000200	0.0050	ND	J

### Method Blank

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

### Duplicate

Lab ID = 990967-003

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0478	0.0450	106	90 - 110

### Matrix Spike

Lab ID = 990967-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0190	0.0200(0.0200	95.0	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0277	0.0270	103	90 - 110

### MRCVS - Primary

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



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

## Specific Conductivity - EPA 120.1

Batch 09EC10A

9/2/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Specific Conductivity	umhos/cm	09/02/2010	1.00	0.0380	2.00	7360
990967-002 Specific Conductivity	umhos/cm	09/02/2010	1.00	0.0380	2.00	7930
990967-003 Specific Conductivity	umhos/cm	09/02/2010	1.00	0.0380	2.00	1210

### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

### Duplicate

Lab ID = 990967-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	1210	1210	0	0 - 10

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	702.	706.	99.4	90 - 110

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	708.	706.	100	90 - 110

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	737.	706.	104	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	992.	1000	99.2	90 - 110

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

**Chrome VI by EPA 218.6**

Batch 09CrH10C

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Chromium, Hexavalent	ug/L	09/03/2010 09:02	1.05	0.0210	0.21	0.48
990967-002 Chromium, Hexavalent	ug/L	09/03/2010 10:26	105	2.20	21.0	1200
990967-003 Chromium, Hexavalent	ug/L	09/03/2010 09:12	1.05	0.0210	0.20	ND

**Method Blank**

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

**Duplicate**

Lab ID = 990967-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	105	1210	1200	0.675	0 - 20

**Lab Control Sample**

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

**Matrix Spike**

Lab ID = 990966-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.09	32.2	31.3(16.4)	105	90 - 110

**Matrix Spike**

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.71	5.91(5.25)	96.2	90 - 110

**Matrix Spike**

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.63	1.54(1.06)	109	90 - 110

**Matrix Spike**

Lab ID = 990967-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	105	2820	2780(1580)	102	90 - 110

**Matrix Spike**

Lab ID = 990967-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.18	1.15(1.06)	103	90 - 110

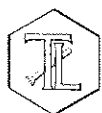
**MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.16	5.00	103	90 - 110

**MRCVS - Primary**

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.82	10.0	98.2	95 - 105

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.1	10.0	101	95 - 105



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

## Metals by EPA 200.7, Total

Batch 090310B-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Iron	ug/L	09/03/2010 14:13	1.00	3.00	20.0	ND
990967-002 Iron	ug/L	09/03/2010 14:19	1.00	3.00	20.0	ND

### Method Blank

Parameter	Unit	DF	Result
Iron	ug/L	1.00	ND

### Duplicate

Lab ID = 990775-002

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4780	5000	95.5	90 - 110

### Matrix Spike

Lab ID = 990775-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Iron	ug/L	1.00	1750	2000(2000)	87.7	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4840	5000	96.9	95 - 105

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4510	5000	90.1	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4760	5000	95.2	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	4670	5000	93.4	90 - 110

### Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1960	2000	97.8	80 - 120

### Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1760	2000	88.0	80 - 120

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1930	2000	96.3	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Iron	ug/L	1.00	1740	2000	86.9	80 - 120



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

## Metals by EPA 200.7, Total

Batch 092910A-Th

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-002 Chromium	ug/L	09/29/2010 13:17	1.00	3.00	10.0	995

### Method Blank

Parameter	Unit	DF	Result
Chromium	ug/L	1.00	ND

### Duplicate

Lab ID = 991295-001

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	4950	5000	99.0	90 - 110

### Matrix Spike

Lab ID = 991295-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	1.00	1880	2000(2000)	94.2	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	5030	5000	101	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	5350	5000	107	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	4800	5000	96.0	90 - 110

### Interference Check Standard A

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

### Interference Check Standard A

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

### Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	1990	2000	99.7	80 - 120

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	2180	2000	109	80 - 120

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/4/2010

## Metals by EPA 200.8, Total

Batch 090310A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Aluminum	ug/L	09/03/2010 10:43	1.00	0.472	50.0	ND
Antimony	ug/L	09/03/2010 10:43	1.00	0.0990	10.0	ND
Arsenic	ug/L	09/03/2010 10:43	1.00	0.0520	10.0	ND
Boron	ug/L	09/03/2010 12:05	5.00	4.20	200.	1100
Chromium	ug/L	09/03/2010 10:43	1.00	0.0190	1.0	ND
Copper	ug/L	09/03/2010 10:43	1.00	0.104	5.0	ND
Lead	ug/L	09/03/2010 10:43	1.00	0.0150	10.0	ND
Nickel	ug/L	09/03/2010 10:43	1.00	0.0410	10.0	ND
Zinc	ug/L	09/03/2010 10:43	1.00	0.263	10.0	ND
990967-002 Aluminum	ug/L	09/03/2010 10:50	1.00	0.472	50.0	ND
Antimony	ug/L	09/03/2010 10:50	1.00	0.0990	10.0	ND
Arsenic	ug/L	09/03/2010 10:50	1.00	0.0520	10.0	ND
Boron	ug/L	09/03/2010 12:18	5.00	4.20	200.	1140
Copper	ug/L	09/03/2010 10:50	1.00	0.104	5.0	ND
Lead	ug/L	09/03/2010 10:50	1.00	0.0150	10.0	ND
Nickel	ug/L	09/03/2010 10:50	1.00	0.0410	10.0	ND
Zinc	ug/L	09/03/2010 10:50	1.00	0.263	10.0	ND
990967-003 Antimony	ug/L	09/03/2010 10:56	1.00	0.0990	10.0	ND
Arsenic	ug/L	09/03/2010 10:56	1.00	0.0520	10.0	ND
Beryllium	ug/L	09/03/2010 10:56	1.00	0.0300	1.0	ND
Cadmium	ug/L	09/03/2010 10:56	1.00	0.0120	3.0	ND
Chromium	ug/L	09/03/2010 10:56	1.00	0.0190	1.0	2.0
Copper	ug/L	09/03/2010 10:56	1.00	0.104	5.0	ND
Lead	ug/L	09/03/2010 10:56	1.00	0.0150	10.0	ND
Nickel	ug/L	09/03/2010 10:56	1.00	0.0410	10.0	ND
Selenium	ug/L	09/03/2010 10:56	1.00	0.148	10.0	ND
Thallium	ug/L	09/03/2010 10:56	1.00	0.0170	1.0	ND
Vanadium	ug/L	09/03/2010 10:56	1.00	0.0120	5.0	ND
Zinc	ug/L	09/03/2010 10:56	1.00	0.263	10.0	ND

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## Method Blank

Parameter	Unit	DF	Result
Aluminum	ug/L	1.00	ND
Arsenic	ug/L	1.00	ND
Barium	ug/L	1.00	ND
Beryllium	ug/L	1.00	ND
Cadmium	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
Antimony	ug/L	1.00	ND
Copper	ug/L	1.00	ND
Lead	ug/L	1.00	ND
Thallium	ug/L	1.00	ND
Vanadium	ug/L	1.00	ND
Boron	ug/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

## Duplicate

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Aluminum	ug/L	1.00	2.94	2.82	4.41	0 - 20
Arsenic	ug/L	1.00	13.7	14.0	1.73	0 - 20
Barium	ug/L	1.00	30.2	30.7	1.81	0 - 20
Beryllium	ug/L	1.00	ND	0	0	0 - 20
Cadmium	ug/L	1.00	ND	0	0	0 - 20
Chromium	ug/L	1.00	ND	0	0	0 - 20
Nickel	ug/L	1.00	ND	0	0	0 - 20
Selenium	ug/L	1.00	ND	0	0	0 - 20
Zinc	ug/L	1.00	2.17	2.26	3.75	0 - 20
Antimony	ug/L	1.00	ND	0	0	0 - 20
Copper	ug/L	1.00	ND	0	0	0 - 20
Lead	ug/L	1.00	ND	0	0	0 - 20
Thallium	ug/L	1.00	ND	0	0	0 - 20
Vanadium	ug/L	1.00	ND	0	0	0 - 20
Boron	ug/L	1.00	44.8	51.3	13.6	0 - 20
Manganese	ug/L	1.00	11.6	11.8	1.45	0 - 20
Molybdenum	ug/L	1.00	3.38	3.73	9.99	0 - 20

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## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	50.9	50.0	102	90 - 110
Arsenic	ug/L	1.00	49.7	50.0	99.3	90 - 110
Barium	ug/L	1.00	48.2	50.0	96.5	90 - 110
Beryllium	ug/L	1.00	51.0	50.0	102.	90 - 110
Cadmium	ug/L	1.00	47.8	50.0	95.6	90 - 110
Chromium	ug/L	1.00	49.0	50.0	98.0	90 - 110
Nickel	ug/L	1.00	50.2	50.0	100	90 - 110
Selenium	ug/L	1.00	50.2	50.0	100	90 - 110
Zinc	ug/L	1.00	53.2	50.0	106	90 - 110
Antimony	ug/L	1.00	49.2	50.0	98.4	90 - 110
Copper	ug/L	1.00	49.2	50.0	98.5	90 - 110
Lead	ug/L	1.00	48.6	50.0	97.3	90 - 110
Thallium	ug/L	1.00	52.2	50.0	104	90 - 110
Vanadium	ug/L	1.00	47.7	50.0	95.4	90 - 110
Boron	ug/L	1.00	53.4	50.0	107	90 - 110
Manganese	ug/L	1.00	48.9	50.0	97.7	90 - 110
Molybdenum	ug/L	1.00	47.3	50.0	94.6	90 - 110

## Matrix Spike

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.2	52.8(50.0)	98.7	75 - 125
Arsenic	ug/L	1.00	54.8	64.0(50.0)	81.7	75 - 125
Barium	ug/L	1.00	51.4	80.7(50.0)	41.4	75 - 125
Beryllium	ug/L	1.00	57.5	50.0(50.0)	115	75 - 125
Cadmium	ug/L	1.00	46.8	50.0(50.0)	93.7	75 - 125
Chromium	ug/L	1.00	45.0	50.0(50.0)	89.9	75 - 125
Nickel	ug/L	1.00	44.9	50.0(50.0)	89.8	75 - 125
Selenium	ug/L	1.00	52.2	50.0(50.0)	104	75 - 125
Zinc	ug/L	1.00	49.1	52.3(50.0)	93.6	75 - 125
Antimony	ug/L	1.00	51.7	50.0(50.0)	103	75 - 125
Copper	ug/L	1.00	44.7	50.0(50.0)	89.3	75 - 125
Lead	ug/L	1.00	47.4	50.0(50.0)	94.7	75 - 125
Thallium	ug/L	1.00	47.1	50.0(50.0)	94.1	75 - 125
Vanadium	ug/L	1.00	46.7	50.0(50.0)	93.4	75 - 125
Boron	ug/L	1.00	101	101(50.0)	99.3	75 - 125
Manganese	ug/L	1.00	46.2	61.8(50.0)	68.9	75 - 125
Molybdenum	ug/L	1.00	53.8	53.7(50.0)	100	75 - 125

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## Matrix Spike Duplicate

Lab ID = 990953-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Aluminum	ug/L	1.00	51.4	52.8(50.0)	97.1	75 - 125
Arsenic	ug/L	1.00	54.4	64.0(50.0)	80.8	75 - 125
Barium	ug/L	1.00	50.6	80.7(50.0)	39.7	75 - 125
Beryllium	ug/L	1.00	54.4	50.0(50.0)	109	75 - 125
Cadmium	ug/L	1.00	45.9	50.0(50.0)	91.8	75 - 125
Chromium	ug/L	1.00	45.1	50.0(50.0)	90.3	75 - 125
Nickel	ug/L	1.00	45.0	50.0(50.0)	90.0	75 - 125
Selenium	ug/L	1.00	53.0	50.0(50.0)	106	75 - 125
Zinc	ug/L	1.00	48.8	52.3(50.0)	93.2	75 - 125
Antimony	ug/L	1.00	50.9	50.0(50.0)	102	75 - 125
Copper	ug/L	1.00	44.6	50.0(50.0)	89.3	75 - 125
Lead	ug/L	1.00	46.4	50.0(50.0)	92.8	75 - 125
Thallium	ug/L	1.00	49.5	50.0(50.0)	99.1	75 - 125
Vanadium	ug/L	1.00	47.0	50.0(50.0)	94.0	75 - 125
Boron	ug/L	1.00	95.8	101(50.0)	89.0	75 - 125
Manganese	ug/L	1.00	47.8	61.8(50.0)	72.1	75 - 125
Molybdenum	ug/L	1.00	54.6	53.7(50.0)	102	75 - 125

## MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	51.4	50.0	103	90 - 110
Arsenic	ug/L	1.00	49.4	50.0	98.7	90 - 110
Barium	ug/L	1.00	47.0	50.0	94.0	90 - 110
Beryllium	ug/L	1.00	52.1	50.0	104	90 - 110
Cadmium	ug/L	1.00	47.2	50.0	94.3	90 - 110
Chromium	ug/L	1.00	48.2	50.0	96.4	90 - 110
Nickel	ug/L	1.00	49.5	50.0	98.9	90 - 110
Selenium	ug/L	1.00	50.5	50.0	101	90 - 110
Zinc	ug/L	1.00	52.7	50.0	105	90 - 110
Antimony	ug/L	1.00	55.0	50.0	110.	90 - 110
Copper	ug/L	1.00	49.2	50.0	98.4	90 - 110
Lead	ug/L	1.00	51.1	50.0	102	90 - 110
Thallium	ug/L	1.00	50.2	50.0	100	90 - 110
Vanadium	ug/L	1.00	46.8	50.0	93.5	90 - 110
Boron	ug/L	1.00	51.4	50.0	103	90 - 110
Manganese	ug/L	1.00	51.7	50.0	103	90 - 110
Molybdenum	ug/L	1.00	45.3	50.0	90.7	90 - 110

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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.6	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.5	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	52.0	50.0	104	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	53.4	50.0	107	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.5	50.0	98.9	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.5	50.0	98.9	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

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





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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	50.3	50.0	101	90 - 110
Beryllium	ug/L	1.00	53.1	50.0	106	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	52.7	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	54.6	50.0	109	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	52.6	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	49.5	50.0	98.9	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	47.4	50.0	94.7	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.9	50.0	93.8	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.5	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	46.1	50.0	92.3	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	48.5	50.0	97.1	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	49.7	50.0	99.5	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	48.7	50.0	97.5	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	48.7	50.0	97.4	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Selenium	ug/L	1.00	49.2	50.0	98.4	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

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

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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	51.0	50.0	102	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	52.2	50.0	104	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	51.9	50.0	104	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Antimony	ug/L	1.00	51.8	50.0	104	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	45.4	50.0	90.8	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	49.9	50.0	99.9	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	50.2	50.0	100	90 - 110

## MRCVS - Primary

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

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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Lead	ug/L	1.00	47.9	50.0	95.7	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	52.4	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	52.7	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	53.7	50.0	107	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Thallium	ug/L	1.00	51.3	50.0	103	90 - 110
Vanadium	ug/L	1.00	45.6	50.0	91.2	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	46.6	50.0	93.2	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	45.9	50.0	91.8	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Vanadium	ug/L	1.00	45.6	50.0	91.2	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	52.3	50.0	105	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	54.7	50.0	109	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	52.5	50.0	105	90 - 110



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## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	47.8	50.0	95.6	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	48.7	50.0	97.4	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.4	50.0	98.9	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	46.5	50.0	93.0	90 - 110
Molybdenum	ug/L	1.00	59.4	50.0	119	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	53.7	50.0	107	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	54.2	50.0	108	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Molybdenum	ug/L	1.00	52.7	50.0	105	90 - 110

## Interference Check Standard A

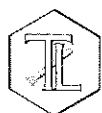
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	49.9	50.0	99.8	80 - 120

## Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	49.2	50.0	98.3	80 - 120

## Interference Check Standard A

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

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 21 of 34****Project Number: 408401.01.DM****Printed 10/4/2010****Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 22 of 34****Project Number: 408401.01.DM****Printed 10/4/2010****Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard A**

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

**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 23 of 34****Project Number: 408401.01.DM****Printed 10/4/2010****Interference Check Standard A**

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

**Interference Check Standard A**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	48.8	50.0	97.6	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Aluminum	ug/L	1.00	49.4	50.0	98.7	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.8	50.0	99.6	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Arsenic	ug/L	1.00	49.5	50.0	99.0	80 - 120

**Interference Check Standard AB**

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

**Interference Check Standard AB**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Beryllium	ug/L	1.00	ND	0		
Cadmium	ug/L	1.00	48.1	50.0	96.2	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cadmium	ug/L	1.00	48.2	50.0	96.3	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.4	50.0	94.8	80 - 120



**Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 24 of 34****Project Number: 408401.01.DM****Printed 10/4/2010****Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.4	50.0	90.8	80 - 120
Nickel	ug/L	1.00	46.0	50.0	92.1	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nickel	ug/L	1.00	48.8	50.0	97.5	80 - 120
Selenium	ug/L	1.00	ND	0		

**Interference Check Standard AB**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	50.5	50.0	101.	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Zinc	ug/L	1.00	48.0	50.0	95.9	80 - 120
Antimony	ug/L	1.00	ND	0		

**Interference Check Standard AB**

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

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	45.9	50.0	91.8	80 - 120

**Interference Check Standard AB**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Copper	ug/L	1.00	49.2	50.0	98.5	80 - 120
Lead	ug/L	1.00	ND	0		

**Interference Check Standard AB**

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

**Interference Check Standard AB**

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



# TRUESDAIL LABORATORIES, INC.

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Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Boron	ug/L	1.00	ND	0		
Manganese	ug/L	1.00	46.4	50.0	92.9	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	52.4	50.0	105	80 - 120

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Serial Dilution

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Boron	ug/L	25.0	1140	1100	3.49	0 - 10

## Serial Dilution

Lab ID = 990967-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	25.0	893	962	7.38	0 - 10
Boron	ug/L	25.0	1160	1140	1.48	0 - 10



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## Metals by EPA 200.8, Total

Batch 090810A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-003 Mercury	ug/L	09/08/2010 23:06	5.00	0.198	1.0	ND

### Method Blank

Parameter	Unit	DF	Result
Mercury	ug/L	1.00	ND

### Duplicate

Lab ID = 990967-003

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

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.17	2.00	108	90 - 110

### Matrix Spike

Lab ID = 990967-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	9.70	10.0(10.0)	97.0	75 - 125

### Matrix Spike Duplicate

Lab ID = 990967-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Mercury	ug/L	5.00	9.96	10.0(10.0)	99.6	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.04	2.00	102.	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.05	2.00	102	90 - 110

### Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.09	2.00	104	80 - 120

### Interference Check Standard A

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.02	2.00	101	80 - 120

### Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	2.01	2.00	100	80 - 120

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



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Client: **E2 Consulting Engineers, Inc.**

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## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Mercury	ug/L	1.00	1.99	2.00	99.4	80 - 120

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**TRUESDAIL LABORATORIES, INC.***Report Continued***Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 28 of 34****Project Number: 408401.01.DM****Printed 10/4/2010****Metals by EPA 200.8, Total**

Batch 092210A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Barium	ug/L	09/22/2010 12:16	5.00	0.185	10.0	ND
Manganese	ug/L	09/22/2010 12:16	5.00	0.210	1.0	ND
Molybdenum	ug/L	09/22/2010 12:16	5.00	0.660	10.0	16.5
990967-002 Barium	ug/L	09/22/2010 12:43	5.00	0.185	10.0	26.0
Manganese	ug/L	09/22/2010 12:43	5.00	0.210	1.0	10.3
Molybdenum	ug/L	09/22/2010 12:43	5.00	0.660	10.0	22.4
990967-003 Barium	ug/L	09/22/2010 12:50	5.00	0.185	10.0	ND
Cobalt	ug/L	09/22/2010 12:50	5.00	0.0750	5.0	ND
Molybdenum	ug/L	09/22/2010 12:50	5.00	0.660	10.0	ND
Silver	ug/L	09/22/2010 12:50	5.00	0.200	5.0	ND

**Method Blank**

Parameter	Unit	DF	Result
Barium	ug/L	1.00	ND
Cobalt	ug/L	1.00	ND
Silver	ug/L	1.00	ND
Manganese	ug/L	1.00	ND
Molybdenum	ug/L	1.00	ND

**Duplicate**

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Barium	ug/L	5.00	10.2	9.78	3.94	0 - 20
Cobalt	ug/L	5.00	ND	0	0	0 - 20
Silver	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	ND	0	0	0 - 20
Molybdenum	ug/L	5.00	16.7	16.5	0.844	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	48.8	50.0	97.5	90 - 110
Cobalt	ug/L	1.00	51.5	50.0	103	90 - 110
Silver	ug/L	1.00	48.5	50.0	96.9	90 - 110
Manganese	ug/L	1.00	52.7	50.0	105	90 - 110
Molybdenum	ug/L	1.00	46.3	50.0	92.6	90 - 110

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## Matrix Spike

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	5.00	255	260(250.)	97.9	75 - 125
Cobalt	ug/L	5.00	249.	250.(250.)	99.6	75 - 125
Silver	ug/L	5.00	197	250.(250.)	78.7	75 - 125
Manganese	ug/L	5.00	256	250.(250.)	102	75 - 125
Molybdenum	ug/L	5.00	245.	267(250.)	91.4	75 - 125

## Matrix Spike Duplicate

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Barium	ug/L	1.00	256	260(250.)	98.4	75 - 125
Cobalt	ug/L	1.00	248	250.(250.)	99.2	75 - 125
Silver	ug/L	1.00	193.	250.(250.)	77.2	75 - 125
Manganese	ug/L	1.00	255	250.(250.)	102	75 - 125
Molybdenum	ug/L	1.00	249	267(250.)	93.1	75 - 125

## MRCSS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	49.6	50.0	99.1	90 - 110
Cobalt	ug/L	1.00	49.1	50.0	98.3	90 - 110
Silver	ug/L	1.00	48.6	50.0	97.3	90 - 110
Manganese	ug/L	1.00	50.0	50.0	100	90 - 110
Molybdenum	ug/L	1.00	47.7	50.0	95.4	90 - 110

## MRCVS - Primary

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

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Barium	ug/L	1.00	51.7	50.0	103	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	50.6	50.0	101	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	52.0	50.0	104	90 - 110
Silver	ug/L	1.00	47.6	50.0	95.3	90 - 110



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## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	46.3	50.0	92.7	90 - 110
Manganese	ug/L	1.00	53.2	50.0	106	90 - 110

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	54.8	50.0	110	90 - 110
Molybdenum	ug/L	1.00	54.4	50.0	109	90 - 110

## MRCVS - Primary

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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



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## Interference Check Standard A

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	49.0	50.0	98.0	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Cobalt	ug/L	1.00	50.7	50.0	101	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	47.4	50.0	94.9	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Silver	ug/L	1.00	46.2	50.0	92.5	80 - 120
Manganese	ug/L	1.00	52.3	50.0	105	80 - 120

## Interference Check Standard AB

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

## Interference Check Standard AB

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

## Interference Check Standard AB

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





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## Total Dissolved Solids by SM 2540 C

Batch 09TDS10A

9/7/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Total Dissolved Solids	mg/L	09/07/2010	1.00	0.434	250.	4550
990967-002 Total Dissolved Solids	mg/L	09/07/2010	1.00	0.434	250.	5550
990967-003 Total Dissolved Solids	mg/L	09/07/2010	1.00	0.434	50.0	804.

### Method Blank

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

### Duplicate

Lab ID = 991017-011

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	576.	583.	1.21	0 - 5

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	495.	500.	99.0	90 - 110



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Client: E2 Consulting Engineers, Inc.

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## Ammonia Nitrogen by SM4500-NH3D

Batch 09NH3-E10B

9/3/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Ammonia as N	mg/L	09/03/2010	1.00	0.00200	0.500	ND
990967-002 Ammonia as N	mg/L	09/03/2010	1.00	0.00200	0.500	ND

### Method Blank

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

### Duplicate

Lab ID = 990967-002

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

### Lab Control Sample

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

### Matrix Spike

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.95	6.00(6.00)	99.2	75 - 125

### Matrix Spike Duplicate

Lab ID = 990967-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	6.18	6.00(6.00)	103	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.75	6.00	95.8	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Ammonia as N	mg/L	1.00	5.77	6.00	96.1	90 - 110



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 34 of 34

Project Number: 408401.01.DM

Printed 10/4/2010

## Turbidity by SM 2130 B

		Batch 09TUC10B	9/2/2010			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
990967-001 Turbidity	NTU	09/02/2010	1.00	0.0140	0.100	0.117
990967-002 Turbidity	NTU	09/02/2010	1.00	0.0140	0.100	0.109

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 990967-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.110	0.109	0.913	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.73	8.00	96.6	90 - 110

### Lab Control Sample Duplicate

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

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

Mona Nassimi

Manager, Analytical Services

6



### Total Dissolved Solids by SM 2540 C

## Calculations

Batch: 09TDS10A

Date Calculated: 9/9/10

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	122.0336	122.0337	122.0337	0.0000	No	0.0001	1.0	25.0	ND	1
990966-1	20	50.5021	50.5708	50.5704	0.0004	No	0.0683	3415.0	125.0	3415.0	1
990966-2	10	49.4138	49.4628	49.4628	0.0000	No	0.0490	4900.0	250.0	4900.0	1
990967-1	10	49.9005	49.9464	49.946	0.0004	No	0.0455	4550.0	250.0	4550.0	1
990967-2	10	49.7273	49.7828	49.7828	0.0000	No	0.0555	5550.0	250.0	5550.0	1
990967-3	50	75.5468	75.5874	75.5870	0.0004	No	0.0402	804.0	50.0	804.0	1
990995	100	73.6657	73.7185	73.7185	0.0000	No	0.0528	528.0	25.0	528.0	1
991013-2	200	105.3616	105.3815	105.3811	0.0004	No	0.0195	97.5	12.5	97.5	1
991013-3	100	114.3497	114.3638	114.3638	0.0000	No	0.0141	141.0	25.0	141.0	1
991014-1	50	72.4784	72.5292	72.5291	0.0001	No	0.0507	1014.0	50.0	1014.0	1
991014-2	50	65.8331	65.8633	65.863	0.0003	No	0.0299	598.0	50.0	598.0	1
990995D	100	68.7064	68.7600	68.76	0.0000	No	0.0536	536.0	25.0	536.0	1
991014-3	100	69.2827	69.3311	69.3311	0.0000	No	0.0484	484.0	25.0	484.0	1
991014-4	100	67.8875	67.9296	67.9293	0.0003	No	0.0418	418.0	25.0	418.0	1
991017-10	100	67.8134	67.8740	67.8737	0.0003	No	0.0603	603.0	25.0	603.0	1
991017-11	100	68.4740	68.5327	68.5323	0.0004	No	0.0583	583.0	25.0	583.0	1
991017-11D	100	67.9305	67.9881	67.9881	0.0000	No	0.0576	576.0	25.0	576.0	1
LCS	100	112.1689	112.2187	112.2184	0.0003	No	0.0495	495.0	25.0	495.0	1

**Calculation as follows:**

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit

ND = not detected (below the reporting limit)

Jenny  
Analyst Printed Name

  
\_\_\_\_\_  
Analyst Signature

\_\_\_\_\_  
Reviewer Printed Name

  
\_\_\_\_\_  
Reviewer Signature

# Total Dissolved Solids by SM 2540 C

## TDS/EC CHECK

Batch: 09TDS10A

Date Calculated: 9/9/10

Laboratory Number	EC	TDS/EC Ratio: 0.55-.9	Calculated TDS (EC*0.65)	Measured TDS / Calc TDS <1.3
990966-1	5900	0.58	3835	0.89
990966-2	8620	0.57	5603	0.87
990967-1	7360	0.62	4784	0.96
990967-2	7930	0.70	5154.5	1.08
990967-3	1210	0.66	786.5	1.02
990995	854	0.62	555.1	0.95
991013-2	177	0.55	115.05	0.85
991013-3	277	0.51	180.05	0.78
991014-1	1790	0.57	1163.5	0.87
991014-2	1010	0.59	656.5	0.91
990995D	854	0.63	555.1	0.97
991014-3	926	0.52	601.9	0.80
991014-4	827	0.51	537.55	0.78
991017-10	928	0.65	603.2	1.00
991017-11	930	0.63	604.5	0.96
991017-11D	930	0.62	604.5	0.95



40967

Rec'd 09/01/10  
990967



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

## CHAIN OF CUSTODY RECORD

**[IM3Plant\*WDR-272]**

COC Number

10 Days

TURNAROUND TIME

DATE 09/01/10

[illegible]

DATA ON BACK.

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:		
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	The metals include: Cr, Al, Sb, As, Ba, B, Cu, Pb, Mn, Mo, Ni, Fe, Zn		
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time			

SAMPLE	TIME	ANALYSIS	pH	EC	Cr6	TOTAL	TEMP.
100B	0800	0806	6.8	1.58	.006	.003	79.8
100B	0800	0806	7.3	8.12	1.0	—	77.9
<del>701</del>							
701	1330	1336	6.5	1243	.005	.003	91.7

## Hexavalent Chromium

## Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]





TRUESDAIL LABORATORIES, INC.

**ALERT !!**  
**Level III QC**

## Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 990967

Date Delivered: 9/1/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

16. Comments: \_\_\_\_\_

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

# TRUESDAIL LABORATORIES, INC.

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September 30, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-272 PROJECT, SLUDGE  
MONITORING,  
TLI No.: 990968

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-272 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 September 1, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

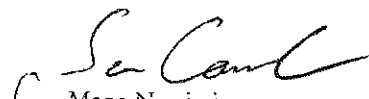
All final results and associated dilution factors are reported on a dry weight basis.

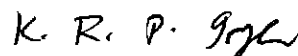
The reported result (Non-detect) for Total Thallium is from a 20x dilution, although the reporting limit exceeds the contract required detection limit. The recoveries for the straight run for the matrix spike (MS) and the post-digestion matrix spike (PDMS) were approximately 50%. The recovery for the PDMS with a 5x dilution was approximately 70%. The PDMS recovery for the 20x dilution was 96% and was within acceptable limits.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

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

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

**Attention:** Shawn Duffy

**Sample:** One (1) Soil Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

**Laboratory No.:** 990968

**Date:** September 30, 2010

**Collected:** September 1, 2010

**Received:** September 1, 2010

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Ethel Suico
SW 6020	Metals by ICP/MS	Daniel Kang / Hope Trinidad
SW 7199	Hexavalent Chromium	Sonya Bersudsky



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

**Attention:** Shawn Duffy

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

**Laboratory No.:** 990968  
**Date Received:** September 1, 2010  
Revision 1; October 5, 2010

## Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>SW 7199</u> Hexavalent Chromium <u>mg/kg</u>	<u>EPA 300.0</u> Fluoride <u>mg/kg</u>	<u>SM 2540 B</u> % Moisture <u>%</u>
990968	SC-Sludge-WDR-272	08:00	22.1	97.7	51.3

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.



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

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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

**Laboratory No.:** 990968

**Date Received:** September 1, 2010

Revision 1

## Analytical Results Summary

### METALS ANALYSIS: Total Metal Analyses as Requested

Lab I.D.	Sample ID	Date of Analysis:	Time Coll.	Antimony SW 6010B 09/13/10 mg/kg	Arsenic SW 6010B 09/13/10 mg/kg	Barium SW 6010B 09/13/10 mg/kg	Beryllium SW 6010B 09/13/10 mg/kg	Cadmium SW 6010B 09/13/10 mg/kg	Chromium SW 6010B 09/15/10 mg/kg	Cobalt SW 6010B 09/13/10 mg/kg	Copper SW 6010B 09/13/10 mg/kg	Lead SW 6010B 09/13/10 mg/kg
990968	SC-Sludge-WDR-272	08:00		25.5	3.93	52.9	ND	7.93	3410	6.04	50.2	5.46

Lab I.D.	Sample ID	Date of Analysis:	Time Coll.	Mercury SW 6020 09/15/10 mg/kg	Molybdenum SW 6010B 09/13/10 mg/kg	Nickel SW 6010B 09/13/10 mg/kg	Selenium SW 6010B 09/27/10 mg/kg	Silver SW 6010B 09/13/10 mg/kg	Thallium SW 6010B 09/15/10 mg/kg	Vanadium SW 6010B 09/13/10 mg/kg	Zinc SW 6010B 09/13/10 mg/kg
990968	SC-Sludge-WDR-272	08:00		0.140	3.33	19.8	ND	ND	ND	76.1	27.5

### NOTES:

ND: Not detected, or below limit of detection

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## REPORT

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

**Attention:** Shawn Duffy

**Sample:** One (1) Soil Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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

**Prep. Batch:** 09CrH10D

**Laboratory No.:** 990968

**Date:** October 5, 2010

**Collected:** September 1, 2010

**Received:** September 1, 2010

**Prep/ Analyzed:** September 9, 2010

**Analytical Batch:** 09CrH10D

Revision 1

**Investigation:**

**Hexavalent Chromium by IC Using Method SW 7199**

### Analytical Results Hexavalent Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
990968	SC-Sludge-WDR-272	08:00	12:43	mg/kg	5.00	4.11	22.1

### QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	990968	22.1	22.3	0.77%	≤ 20%	Yes


QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	990968	22.1	10.0	16.4	164	194	187	105%	75-125%	Yes
IMS	990968	22.1	50.0	35.2	1759	1620	1781	90.8%	75-125%	Yes
PDMS	990968	22.1	25.0	13.2	329	352	351	100%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.400	---	<0.400	Yes
MRCCS	1.94	2.00	96.8%	90% - 110%	Yes
MRCVS#1	2.02	2.00	101%	90% - 110%	Yes
LCS	1.92	2.00	96.1%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

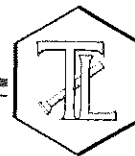
Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
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.

# TRUESDAIL LABORATORIES, INC.

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www.truesdail.com

## REPORT

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

**Attention:** Shawn Duffy

**Sample:** One (1) Soil Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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

**Laboratory No.:** 990968

**Date:** October 5, 2010

**Collected:** September 1, 2010

**Received:** September 1, 2010

**Prep/ Analyzed:** September 15, 2010

**Analytical Batch:** 09SOLID10A

Revision 1

**Investigation:**

**Total Solids by SM 2540 B**

### Analytical Results % Moisture

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>Results</u>
990968	SC-Sludge-WDR-272	08:00	%	51.3

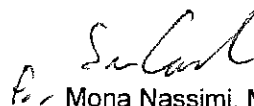
### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	990968	51.3	51.7	0.65%	≤ 20%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
for Mona Nassimi, Manager  
Analytical Services

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## REPORT

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

**Attention:** Shawn Duffy

**Sample:** One (1) Soil Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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

**Laboratory No.:** 990968

**Date:** October 5, 2010

**Collected:** September 1, 2010

**Received:** September 1, 2010

**Prep/ Analyzed:** September 2, 2010

**Analytical Batch:** 09AN10C

**Revision** 1

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

### Analytical Results Fluoride

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
990968	SC-Sludge-WDR-272	08:00	23:43	mg/kg	1.00	4.11	97.7

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	990912	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	990912	0.00	1.00	2.00	2.00	2.09	2.00	105%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	4.12	4.00	103%	90% - 110%	Yes
MRCVS#1	3.11	3.00	104%	90% - 110%	Yes
MRCVS#2	3.10	3.00	103%	90% - 110%	Yes
MRCVS#3	3.11	3.00	104%	90% - 110%	Yes
LCS	4.12	4.00	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi, Manager  
Analytical Services

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



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## REPORT

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

**Attention:** Shawn Duffy

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

**Investigation:** Total Metal Analyses as Requested

**Laboratory No.:** 990968

**Reported:** October 5, 2010

**Collected:** September 1, 2010

**Received:** September 1, 2010

**Analyzed:** See Below

Revision 1

## Analytical Results

SAMPLE ID: SC-Sludge-WDR-272		Time Collected: 08:00		LAB ID: 990968				
Parameter	Method	Reported		Units	RL	Batch	Date	Time
		Value	DF				Analyzed	Analyzed
Antimony	SW 6010B	25.5	1.00	mg/kg	2.00	091310B-Th	09/13/10	18:30
Arsenic	SW 6010B	3.93	1.00	mg/kg	0.851	091310B-Th	09/13/10	18:30
Barium	SW 6010B	52.9	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Beryllium	SW 6010B	ND	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Cadmium	SW 6010B	7.93	1.00	mg/kg	0.851	091310B-Th	09/13/10	18:30
Chromium	SW 6010B	3410	20.0	mg/kg	17.0	091510A-Th	09/15/10	13:52
Cobalt	SW 6010B	6.04	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Copper	SW 6010B	50.2	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Lead	SW 6010B	5.46	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Mercury	SW 6020	0.140	5.00	mg/kg	0.100	091510A-Hg	09/15/10	14:18
Molybdenum	SW 6010B	3.33	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Nickel	SW 6010B	19.8	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Selenium	SW 6010B	ND	1.00	mg/kg	1.00	092710A-Th	09/27/10	15:06
Silver	SW 6010B	ND	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Thallium	SW 6010B	ND	20.0	mg/kg	17.0	091510B-Th	09/15/10	13:52
Vanadium	SW 6010B	76.1	1.00	mg/kg	1.00	091310B-Th	09/13/10	18:30
Zinc	SW 6010B	27.5	1.00	mg/kg	2.00	091310B-Th	09/13/10	18:30


### NOTES:

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

ND: Not detected, or below limit of detection.

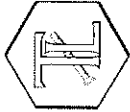
DF: Dilution factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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

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

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

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

**Laboratory No.:** 990968  
**Reported:** September 30, 2010  
**Collected:** September 1, 2010  
**Received:** September 1, 2010

## Quality Control/Quality Assurance Report

DIGESTED BLANK					MRCVS				
Parameter	Method	Batch	Units	Blank	RL	MRCCS		MRCVS	
						Observed Value	TRUE Value	Control Limits	% Rec
Antimony	SW 6010B	091310B-Th	mg/kg	ND	2.00	4.82	5.00	90-110%	91.8%
Arsenic	SW 6010B	091310B-Th	mg/kg	ND	0.50	4.86	5.00	90-110%	90.4%
Barium	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.89	5.00	90-110%	94.4%
Beryllium	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.85	5.00	90-110%	92.8%
Cadmium	SW 6010B	091310B-Th	mg/kg	ND	0.50	4.95	5.00	90-110%	96.4%
Chromium	SW 6010B	091510A-Th	mg/kg	ND	1.00	4.88	5.00	90-110%	95.6%
Cobalt	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.87	5.00	90-110%	95.4%
Copper	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.91	5.00	90-110%	91.2%
Lead	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.91	5.00	90-110%	95.4%
Mercury	SW 6020	091510A-Hg	mg/kg	ND	0.100	0.00214	0.00200	90-110%	106%
Molybdenum	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.82	5.00	90-110%	92.4%
Nickel	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.88	5.00	90-110%	93.6%
Selenium	SW 6010B	092710A-Th	mg/kg	ND	1.00	5.09	5.00	90-110%	96.4%
Silver	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.88	5.00	90-110%	96.8%
Thallium	SW 6010B	091510B-Th	mg/kg	ND	2.00	4.87	5.00	90-110%	97.4%
Vanadium	SW 6010B	091310B-Th	mg/kg	ND	1.00	4.86	5.00	90-110%	97.4%
Zinc	SW 6010B	091310B-Th	mg/kg	ND	2.00	5.03	5.00	90-110%	99.6%



# TRUESDAIL LABORATORIES, INC.

Report Continued

Revision 1; October 5, 2010

## INTERFERENCE CHECK STANDARD AB

Parameter	Method	Units	ICS Obs.	ICS Theo.	% Rec.	Control Limits
Arsenic	SW 6010B	mg/kg	1.87	2.00	93.5%	80-120%
Cadmium	SW 6010B	mg/kg	1.95	2.00	97.5%	80-120%
Chromium	SW 6010B	mg/kg	1.96	2.00	98.0%	80-120%
Cobalt	SW 6010B	mg/kg	1.90	2.00	95.0%	80-120%
Copper	SW 6010B	mg/kg	1.90	2.00	95.0%	80-120%
Mercury	SW 6020	mg/kg	0.00211	0.00200	106%	80-120%
Nickel	SW 6010B	mg/kg	1.90	2.00	95.0%	80-120%
Silver	SW 6010B	mg/kg	1.77	2.00	88.5%	80-120%

## LABORATORY CONTROL SAMPLES

### SAMPLE DUPLICATES

Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Antimony	SW 6010B	mg/kg	90.1	100	90.1%	85-115%	990968	25.5	25.0	2.03%	≤20
Arsenic	SW 6010B	mg/kg	93.9	100	93.9%	85-115%	990968	3.93	3.24	19.4%	≤20
Barium	SW 6010B	mg/kg	100	100	100%	85-115%	990968	52.9	52.6	0.62%	≤20
Beryllium	SW 6010B	mg/kg	99.0	100	99.0%	85-115%	990968	ND	ND	0.00%	≤20
Cadmium	SW 6010B	mg/kg	103	100	103%	85-115%	990968	7.93	8.33	4.90%	≤20
Chromium	SW 6010B	mg/kg	100	100	100%	85-115%	990968	3410	3170	7.29%	≤20
Cobalt	SW 6010B	mg/kg	100	100	100%	85-115%	990968	6.04	6.34	4.85%	≤20
Copper	SW 6010B	mg/kg	100	100	100%	85-115%	990968	50.2	53.8	6.88%	≤20
Lead	SW 6010B	mg/kg	99.9	100	99.9%	85-115%	990968	5.46	5.64	3.30%	≤20
Mercury	SW 6020	mg/kg	0.104	0.100	104%	85-115%	990968	0.140	0.129	8.39%	≤20
Molybdenum	SW 6010B	mg/kg	94.1	100	94.1%	85-115%	990968	3.33	3.43	3.16%	≤20
Nickel	SW 6010B	mg/kg	99.4	100	99.4%	85-115%	990968	19.8	20.1	1.38%	≤20
Selenium	SW 6010B	mg/kg	91.4	100	91.4%	85-115%	990968	ND	ND	0.00%	≤20
Silver	SW 6010B	mg/kg	96.4	100	96.4%	85-115%	990968	ND	ND	0.00%	≤20
Thallium	SW 6010B	mg/kg	94.6	100	94.6%	85-115%	990968	ND	ND	0.00%	≤20
Vanadium	SW 6010B	mg/kg	96.5	100	96.5%	85-115%	990968	76.1	76.7	0.86%	≤20
Zinc	SW 6010B	mg/kg	108	100	108%	85-115%	990968	27.5	30.2	9.40%	≤20

013

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# TRUESDAIL LABORATORIES, INC.

Report Continued

## MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
990968	Antimony	SW 6010B	mg/kg	25.5	1.00	202	202	228	228	100%	75-125%
990968	Arsenic	SW 6010B	mg/kg	3.93	1.00	202	202	206	209	101%	75-125%
990968	Barium	SW 6010B	mg/kg	52.9	1.00	202	202	255	256	100%	75-125%
990968	Beryllium	SW 6010B	mg/kg	0.00	1.00	202	202	202	218	108%	75-125%
990968	Cadmium	SW 6010B	mg/kg	7.93	1.00	202	202	210	185	87.7%	75-125%
990968	Chromium	SW 6010B	mg/kg	34.10	20.0	170	3403	6813	6528	91.6%	75-125%
990968	Cobalt	SW 6010B	mg/kg	6.04	1.00	202	202	208	194	93.1%	75-125%
990968	Copper	SW 6010B	mg/kg	50.2	1.00	202	202	252	250	99.0%	75-125%
990968	Lead	SW 6010B	mg/kg	5.46	1.00	202	202	208	180	86.3%	75-125%
990968	Mercury	SW 6020	mg/kg	0.140	5.00	0.170	0.851	0.991	0.937	93.6%	75-125%
990968	Molybdenum	SW 6010B	mg/kg	3.33	1.00	202	202	206	198	96.4%	75-125%
990968	Nickel	SW 6010B	mg/kg	19.8	1.00	202	202	222	192	85.3%	75-125%
990968	Selenium	SW 6010B	mg/kg	0.00	1.00	202	202	202	167	82.7%	75-125%
990968	Silver	SW 6010B	mg/kg	0.00	1.00	202	202	202	208	103%	75-125%
990968	Thallium	SW 6010B	mg/kg	0.00	20.0	170	3403	3403	3282	96.5%	75-125%
990968	Vanadium	SW 6010B	mg/kg	76.1	1.00	202	202	278	261	91.2%	75-125%
990968	Zinc	SW 6010B	mg/kg	27.5	1.00	202	202	230	241	106%	75-125%

ND: Not detected, or below limit of detection.

DF: Dilution Factor

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*for* *San Carol*  
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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## Dry Weight Calculations

Date Calculated: 9/30/2010

	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	47.536	---	51.3	97.7021	97.7	2.00	4.11
Hexavalent Chromium	10.7602	---	51.3	22.1157	22.1	2.00	4.11
Hexavalent Chromium - Dup	10.8430	---	51.3	22.286	22.3	2.00	4.11
Hexavalent Chromium - MS	94.4081	---	51.3	194.040	194	4.00	8.22
Hexavalent Chromium - IMS	788.777	---	51.3	1621.196	1620	20.0	41.1
Hexavalent Chromium - PDMS	171.436	---	51.3	352.357	352	10.0	20.6
Antimony	12.42	1.00	51.3	25.5272	25.5	0.414	2.00
Arsenic	1.914	1.00	51.3	3.9339	3.93	0.414	0.851
Barium	25.74	1.00	51.3	52.904	52.9	0.414	1.00
Beryllium	0.3589	1.00	51.3	0.7377	ND	0.414	1.00
Cadmium	3.86	1.00	51.3	7.9336	7.93	0.414	0.851
Chromium	1659	20.0	51.3	3410	3410	8.28	17.0
Cobalt	2.937	1.00	51.3	6.0365	6.04	0.414	1.00
Copper	24.43	1.00	51.3	50.212	50.2	0.414	1.00
Lead	2.655	1.00	51.3	5.4569	5.46	0.414	1.00
Mercury	0.06799	5.00	51.3	0.13974	0.140	0.0414	0.100
Molybdenum	1.618	1.00	51.3	3.3255	3.33	0.414	1.00
Nickel	9.638	1.00	51.3	19.8093	19.8	0.414	1.00
Selenium	ND	1.00	51.3	ND	ND	0.414	1.00
Silver	ND	1.00	51.3	ND	ND	0.414	1.00
Thallium	ND	20.00	51.3	ND	ND	8.28	17.0
Vanadium	37.02	1.00	51.3	76.088	76.1	0.414	1.00
Zinc	13.38	1.00	51.3	27.500	27.5	0.414	2.00

Sample Result in Dry Weight = [Sample<sub>ww</sub> / (100-%Moisture)]\*100

where:

Sample<sub>ww</sub> = Sample result in wet weight

**TRUESDAIL LABORATORIES, INC.**



**TOTAL SOLIDS BY SM 2540 B**

Date of Analysis: 09/15/10

Analytical Batch:	09SOLID10A
Oven Temp, °C:	105

[illegible]

Relative Percent Difference			
Sample ID	Sample	Sample Dup	RPD
990968	51.346	51.683	0.7

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

Where:

A = Weight of dried Residue + Dish, g

B = Weight of dish, g

C = Weight of wet sample + Dish, g

G. Savani  
Analyst Name

  
\_\_\_\_\_  
Analyst Signature

Hane  
Reviewer Name

  
Reviewer Signature

**TRUESDAIL LABORATORIES, INC.**  
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## CHAIN OF CUSTODY RECORD

[[M3plant-WDR-272]]

COC Number

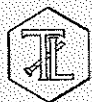
TURNAROUND TIME

DATE 09/01/10 PAGE 1 OF 1

SAMPLE INFORMATION						ANALYSIS RESULTS								TOTAL NUMBER OF CONTAINERS			
COMPANY	PROJECT NAME	PHONE	FAX	ADDRESS	P.O. NUMBER	SAMPLER SIGNATURE	SAMPLE ID.	DATE	TIME	DESCRIPTION	Anions (300.0) F	Bioassay 96hr Acute	Metals (6010B) Title 22, (includes Mercury)	Crb (7199)	NUMBER OF CONTAINERS	COMMENTS	
CH2M HILL	PG&E Topock IM3	530-229-3303	530-339-3303	155 Grand Ave Ste 1000 Oakland, CA 94612	408401.01.DM	<i>[Signature]</i>	SC-Sludge-WDR-272	09/01/10	—	Sludge	X	X	X	X	4		
										<div style="border: 1px solid black; padding: 5px;"> <p align="center"><b>For Sample Conditions: See Form Attached</b></p> </div>							
										<div style="border: 1px solid black; padding: 5px;"> <p align="center"><b>ALERT !! Level III QC</b></p> </div>							
Sample Dates 6-14-10																	

Sample	DATE
1	6-14-10
2	6-29-10
3	8-23-10

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL <input type="checkbox"/>	WARM <input type="checkbox"/>	°F
<i>[Signature]</i>	SAIDE	OMT	9-1-10 1536				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
<i>[Signature]</i>	Rafael Davila	T.H.I.	9-1-10 1530				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
<i>[Signature]</i>	Rafael Davila	T.H.I.	9-1-10 2130				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	YES <input type="checkbox"/>	NO <input type="checkbox"/>		
<i>[Signature]</i>	Amir Yurim	TH	9-1-10 2130				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
<i>[Signature]</i>							
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
<i>[Signature]</i>							



TRUESDAIL LABORATORIES, INC.



## Sample Integrity & Analysis Discrepancy Form

Client: E 2

Lab # 990968

Date Delivered: 9/1/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

16. Comments: \_\_\_\_\_

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



# LABORATORY REPORT



*"dedicated to providing quality aquatic toxicity testing"*

**Date:** September 8, 2010

**Client:** Truesdail Laboratories, Inc.  
14201 Franklin Avenue  
Tustin, CA 92780  
Attn: Mona Nassimi

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

**Laboratory No.:** A-10090301-001  
**Sample ID.:** 990968

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

Date Sampled: 09/01/10  
Date Received: 09/03/10  
Date Tested: 09/04/10 to 09/08/10

**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:

<u>Sample ID.</u>	<u>Results</u>
990968	PASS (LC50 > 750 mg/l)

**Quality Control:** Reviewed and approved by:

  
Joseph A. LeMay  
Laboratory Director

# FATHEAD MINNOW HAZARDOUS WASTE SCREEN BIOASSAY



Lab No.: A100903C1-CC1

Client/ID: Truesdail 940968

## TEST SUMMARY

Species: *Pimephales promelas*.

Fish length (mm): av: 27.7; min: 27; max: 30.

Fish weight (gm): av: 0.47; min: 0.42; max: 0.56.

Test chamber volume: 10 liters.

Temperature: 20 +/- 2°C.

Aeration: Single bubble through 30 bore tube.

Number of replicates: 2.

Dilution water: Soft reconstituted water (40 - 48 mg/l CaCO<sub>3</sub>).

QA/QC Batch No.: RT-100901.

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:	9-4-10				9-5-10 1000				9-6-10 1100				9-7-10 1100				9-8-10 1100			
Analyst:	JMT				JMT				JMT				JMT				JMT			
	°C	DO	pH		°C	DO	pH	# D	°C	DO	pH	# D	°C	DO	pH	# D	°C	DO	pH	# D
Control A	20.1	8.1	7.3		20.7	7.9	7.2	0	20.9	8.0	7.2	0	21.0	8.0	7.0	0	20.9	8.1	7.1	0
Control B	20.1	8.3	7.3		20.7	7.8	7.1	0	20.9	8.1	7.2	0	21.0	7.8	7.1	0	20.9	7.8	7.1	0
400 mg/l A	20.0	8.4	7.9		20.6	7.6	7.8	0	20.9	8.0	7.4	0	21.1	7.7	7.4	0	20.9	7.8	7.3	0
400 mg/l B	20.1	8.4	7.9		20.6	7.6	7.6	0	20.9	8.1	7.4	0	21.0	8.1	7.4	0	20.9	8.0	7.4	0
750 mg/l A	20.0	8.3	8.1		20.5	7.6	7.2	0	20.7	8.1	7.5	0	20.9	8.1	7.5	0	20.8	8.2	7.5	0
750 mg/l B	20.0	8.3	8.1		20.5	7.7	7.8	0	20.6	8.4	7.5	0	20.9	8.3	7.5	0	20.8	8.4	7.5	0
Comments: Extraction method: Mechanical shaking <input checked="" type="checkbox"/> None (aqueous solution) <input checked="" type="checkbox"/> Dissolved Oxygen (DO) readings in mg/l O <sub>2</sub> .																				

	CONTROL		HIGH CONCENTRATION		Total Number Dead	
	Alkalinity	Hardness	Alkalinity	Hardness	Control	
Initial	30 mg/l CaCO <sub>3</sub>	45 mg/l CaCO <sub>3</sub>	32 mg/l CaCO <sub>3</sub>	48 mg/l CaCO <sub>3</sub>	Control	0 /20
Final	33 mg/l CaCO <sub>3</sub>	44 mg/l CaCO <sub>3</sub>	24 mg/l CaCO <sub>3</sub>	83 mg/l CaCO <sub>3</sub>	400 mg/l	0 /20
					750 mg/l	0 /20

RESULTS		
(the checked result applies based on fish survival rates)		
<input checked="" type="checkbox"/>	PASSED	LC50 > 750 mg/l (<40% dead in 750 mg/l conc.)
<input checked="" type="checkbox"/>	FAILED	≥40% dead in 750 mg/l (close to passing - definitive test recommended)
<input checked="" type="checkbox"/>	FAILED	LC50 < 400 mg/l (>60% dead in 400 mg/l conc.)



# TRUESDAIL LABORATORIES, INC.

14201 Franklin Avenue, Tustin, California 92780

## Laboratory Transmittal Form

Date: 09/02/10 Page: 1 of 1

Laboratory: Aquatic Testing Laboratories

Attention: Joe LeMay

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

City: Ventura State: CA Zip: 93003

Please sign, date, & return this form with results to:  
**TRUESDAIL LABORATORIES, INC.**

Attn: Mona Nassimi

14201 Franklin Avenue, Tustin, California 92780-7008

Please include **Truesdail Sample ID** on your invoice

Sample ID	Date	Time	Matrix	Tests/Methods Required												Container Qty.	Comments/Container Type
				Bioassay 96hr Acute													
990968	09/01/10	08:00 AM	Sludge	X											1	9 oz / Glass	
																Level 3 QC Required	
															1	Containers Total	

### Type of Service:

- ☒ Normal (5-10 day TAT) ☐ RUSH (5 day TAT)  
☐ URGENT (24-48 hr. TAT) ☐ Results needed by: \_\_\_\_\_

### Sample Conditions:

- Received on Ice? ☒ Yes ☐ No Sealed? Yes ☐ No  
Special Shipment/Handling or Storage Requirements:

Relinquished by: \_\_\_\_\_

Amir Marivani  
Signature

Amir Marivani  
Printed Name

Truesdail Labs, Inc.

Company

09/02/10  
Date

15:30  
Time

Received by: \_\_\_\_\_

Joe LeMay  
Signature

Joe LeMay  
Printed Name

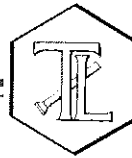
TL  
Company

7-3-10  
Date

0900  
Time

# 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 23, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-273 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 991053

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-273 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 8, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

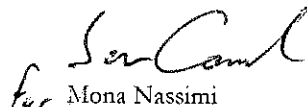
The result from the matrix spike for sample SC-700B-WDR-273 for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is reported.

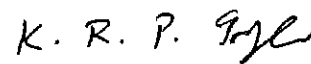
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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

**Laboratory No.:** 991053

**Date:** September 23, 2010

**Collected:** September 8, 2010

**Received:** September 8, 2010

## ANALYST LIST

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





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

**Laboratory No.:** 991053

**Date Received:** September 8, 2010

**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
991053-001	SC-700B-WDR-273	E120.1	NONE	9/8/2010	8:00	EC	7160	umhos/cm	2.00
991053-001	SC-700B-WDR-273	E200.8	NONE	9/8/2010	8:00	Chromium	1.3	ug/L	1.0
991053-001	SC-700B-WDR-273	E200.8	NONE	9/8/2010	8:00	Manganese	2.1	ug/L	1.0
991053-001	SC-700B-WDR-273	E218.6	LABFLT	9/8/2010	8:00	Chromium, hexavalent	ND	ug/L	0.20
991053-001	SC-700B-WDR-273	SM2130B	NONE	9/8/2010	8:00	Turbidity	0.114	NTU	0.100
991053-001	SC-700B-WDR-273	SM2540C	NONE	9/8/2010	8:00	Total Dissolved Solids	4460	mg/L	250

ND: Non Detected (below reporting limit)

mg/L: Milligrams per liter

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

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

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

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

# TRUESDAIL LABORATORIES, INC.

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 991053

Page 1 of 5

Printed 9/27/2010

Samples Received on 9/8/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-273	991053-001	09/08/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch 09EC10B

9/13/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991053-001 Specific Conductivity	umhos/cm	09/13/2010	1.00	0.0380	2.00	7160

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 991077-002

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	5450	5440	0.184	0 - 20

#### Lab Control Sample

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

#### Lab Control Sample Duplicate

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

#### MRCCS - Secondary

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

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	989.	1000	98.9	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 5

Project Number: 408401.01.DM

Printed 9/27/2010

## Chrome VI by EPA 218.6

Batch 09CrH10E

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991053-001 Chromium, Hexavalent	ug/L	09/10/2010 09:16	1.05	0.0210	0.20	ND

### Method Blank

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

### Duplicate

Lab ID = 991070-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	6.22	5.92	4.94	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.08	5.00	102	90 - 110

### Matrix Spike

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.36	5.25(5.25)	102	90 - 110

### Matrix Spike

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.26	1.24(1.06)	101	90 - 110

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.11	5.00	102	90 - 110

### MRCVS - Primary

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 3 of 5

Project Number: 408401.01.DM

Printed 9/27/2010

## Metals by EPA 200.8, Total

Batch 091610A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991053-001 Chromium	ug/L	09/16/2010 13:51	5.00	0.0950	1.0	1.3
Manganese	ug/L	09/16/2010 13:51	5.00	0.210	1.0	2.1

### Method Blank

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

### Duplicate

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	1.24	1.33	6.62	0 - 20
Manganese	ug/L	5.00	2.34	2.09	11.0	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.5	90 - 110
Manganese	ug/L	1.00	48.1	50.0	96.2	90 - 110

### Matrix Spike

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	234.	251(250.)	93.1	75 - 125
Manganese	ug/L	5.00	242	252(250.)	95.9	75 - 125

### Matrix Spike Duplicate

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	237	251(250.)	94.1	75 - 125
Manganese	ug/L	5.00	256	252(250.)	102	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.2	90 - 110
Manganese	ug/L	1.00	52.3	50.0	105	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.5	50.0	94.9	90 - 110
Manganese	ug/L	1.00	53.0	50.0	106	90 - 110

### Interference Check Standard A

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 4 of 5

Project Number: 408401.01.DM

Printed 10/1/2010

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.4	50.0	92.9	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.9	50.0	91.9	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.3	50.0	98.7	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.3	50.0	103	80 - 120

## Total Dissolved Solids by SM 2540 C

Batch 09TDS10B

9/13/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991053-001 Total Dissolved Solids	mg/L	09/13/2010	1.00	0.434	250.	4460

## Method Blank

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

## Duplicate

Lab ID = 991089-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	144.	148.	2.74	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	493.	500.	98.6	90 - 110

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Intention Blank



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 5

Project Number: 408401.01.DM

Printed 9/27/2010

## Turbidity by SM 2130 B

Batch 09TUC10F

9/9/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991053-001 Turbidity	NTU	09/09/2010	1.00	0.0140	0.100	0.114

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.116	0.114	1.74	0 - 20

### Lab Control Sample


Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.40	8.00	92.5	90 - 110

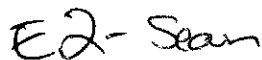
### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.44	8.00	93.0	90 - 110

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi  
Manager, Analytical Services



5

Batch: 09TDS10B

Date Calculated: 9/20/10

**Calculation as follows:**

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Analyst Printed Name

Analyst Signature

Reviewer Printed Name

Reviewer Signature

### TDS/EC CHECK

Date Calculated: 9/20/10

[illegible]

Rec'd 09/08/10  
991053

CHAIN OF CUSTODY RECORD

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

[IM3Plant-WDR-273]

COC Number  
TURNAROUND TIME 10 Days  
DATE 09/08/10 PAGE 1 OF 1

COMPANY	E2	PROJECT NAME		PG&E Topock	PHONE		(530) 229-3303	FAX	(530) 339-3303	ADDRESS		155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER	408401.01.DM	TEAM	1	SAMPLERS (SIGNATURE)					
SAMPLE I.D.	SC-700B-WDR-273	DATE	09/08/10	TIME	0800	DESCRIPTION	Water			C6 (218.6) Lab Filtered		Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS		3	COMMENTS			
																		TOTAL NUMBER OF CONTAINERS		3	PH - 7.30	

TIME Analysis PH 6.9 EC 7.30 TOTAL 0.003  
0800 0804

ALERT !!  
Level III QC

For Sample Condition  
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD										SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL	WARM	YES	NO	°F
<i>[Signature]</i>	David	PG&E	9/8/10 15:30	<i>[Signature]</i>	David	PG&E	9-8-10 15:30						
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED					
<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 15:30	<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 21:30						
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:					
<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 21:30	<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 21:30						
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time						
<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 21:30	<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 21:30						
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	Signature (Received)	Printed Name	Company/Agency	Date/Time						
<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 21:30	<i>[Signature]</i>	Rafael Davila	Rafael	9-8-10 21:30						

## Hexavalent Chromium

## Method EPA 218.6 and SW 7199 Sample pH Log

[illegible]



**Sample Integrity & Analysis Discrepancy Form**Client: E 2Lab # 991053Date Delivered: 9/8/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

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

16. Comments: \_\_\_\_\_

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

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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

September 28, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-274 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 991140

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-274 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 14, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

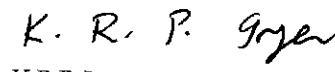
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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**Laboratory No.:** 991140

**Date:** September 28, 2010

**Collected:** September 14, 2010

**Received:** September 14, 2010

## ANALYST LIST

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



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

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

**Laboratory No.:** 991140  
**Date Received:** September 14, 2010

## Analytical Results Summary

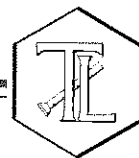
Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991140-001	SC-700B-WDR-274	E120.1	NONE	9/14/2010	14:45	EC	7190	umhos/cm	2.00
991140-001	SC-700B-WDR-274	E200.8	NONE	9/14/2010	14:45	Chromium	ND	ug/L	1.0
991140-001	SC-700B-WDR-274	E200.8	NONE	9/14/2010	14:45	Manganese	4.1	ug/L	1.0
991140-001	SC-700B-WDR-274	E218.6	LABFLT	9/14/2010	14:45	Chromium, hexavalent	ND	ug/L	0.20
991140-001	SC-700B-WDR-274	SM2130B	NONE	9/14/2010	14:45	Turbidity	0.106	NTU	0.100
991140-001	SC-700B-WDR-274	SM2540C	NONE	9/14/2010	14:45	Total Dissolved Solids	4020	mg/L	250

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

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

# TRUESDAIL LABORATORIES, INC.

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 991140

Page 1 of 5

Printed 9/28/2010

Samples Received on 9/14/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix			
SC-700B-WDR-274	991140-001	09/14/2010 14:45	Water			
<b>Specific Conductivity - EPA 120.1</b>		Batch 09EC10C	9/15/2010			
Parameter	Unit	Analyzed	DF	MDL	RL	Result
991140-001 Specific Conductivity	umhos/cm	09/15/2010	1.00	0.0380	2.00	7190
Method Blank						
Parameter	Unit	DF	Result			
Specific Conductivity	umhos	1.00	ND			
Duplicate				Lab ID = 991140-001		
Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7200	7190	0.139	0 - 10
Lab Control Sample						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	698.	706.	98.9	90 - 110
Lab Control Sample Duplicate						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	694.	706.	98.3	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	992.	999.	99.3	90 - 110

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

007



# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 2 of 5

Project Number: 408401.01.DM

Printed 9/28/2010

## Chrome VI by EPA 218.6

Batch 09CrH10F

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991140-001 Chromium, Hexavalent	ug/L	09/17/2010 09:03	1.05	0.0210	0.20	ND

### Method Blank

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

### Duplicate

Lab ID = 991141-006

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	1.05	11.3	11.4	0.960	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.45	5.00	109	90 - 110

### Matrix Spike

Lab ID = 991140-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.31	1.24(1.06)	106	90 - 110

### MRCCS - Secondary

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

### MRCVS - Primary

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

### MRCVS - Primary

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

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**TRUESDAIL LABORATORIES, INC.***Report Continued***Client: E2 Consulting Engineers, Inc.****Project Name: PG&E Topock Project****Page 3 of 5****Project Number: 408401.01.DM****Printed 9/28/2010****Metals by EPA 200.8, Total**

Batch 091610A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991140-001 Chromium	ug/L	09/16/2010 14:27	5.00	0.0950	1.0	ND
Manganese	ug/L	09/16/2010 14:27	5.00	0.210	1.0	4.1

**Method Blank**

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

**Duplicate**

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	1.24	1.33	6.62	0 - 20
Manganese	ug/L	5.00	2.34	2.09	11.0	0 - 20

**Lab Control Sample**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.8	50.0	95.5	90 - 110
Manganese	ug/L	1.00	48.1	50.0	96.2	90 - 110

**Matrix Spike**

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	234.	251(250.)	93.1	75 - 125
Manganese	ug/L	5.00	242	252(250.)	95.9	75 - 125

**Matrix Spike Duplicate**

Lab ID = 991053-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	237	251(250.)	94.1	75 - 125
Manganese	ug/L	5.00	256	252(250.)	102	75 - 125

**MRCCS - Secondary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.2	90 - 110
Manganese	ug/L	1.00	52.3	50.0	105	90 - 110

**MRCVS - Primary**

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.5	50.0	94.9	90 - 110
Manganese	ug/L	1.00	53.0	50.0	106	90 - 110

**Interference Check Standard A**

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 4 of 5

Project Number: 408401.01.DM

Printed 9/28/2010

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	46.4	50.0	92.9	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.9	50.0	91.9	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.3	50.0	98.7	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.3	50.0	103	80 - 120

## Total Dissolved Solids by SM 2540 C

Batch 09TDS10C

9/16/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991140-001 Total Dissolved Solids	mg/L	09/16/2010	1.00	0.434	250.	4020

## Method Blank

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

## Duplicate

Lab ID = 991176-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	2660	2540	4.43	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	494.	500.	98.8	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

Page 5 of 5

Project Number: 408401.01.DM

Printed 9/28/2010

## Turbidity by SM 2130 B

Batch 09TUC10J

9/15/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991140-001 Turbidity	NTU	09/15/2010	1.00	0.0140	0.100	0.106

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 991140-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.108	0.106	1.87	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.96	8.00	99.5	90 - 110

### Lab Control Sample Duplicate

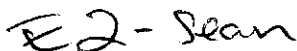
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	8.01	8.00	100	90 - 110

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

  
for Mona Nassimi

Manager, Analytical Services



## 5

Batch: 09TDS10C

Date Calculated: 9/20/10

**Calculation as follows:**

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

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

B = weight of dish in grams.

C = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Jenny  
Analyst Printed Name

  
\_\_\_\_\_  
Analyst Signature

\_\_\_\_\_  
Reviewer Printed Name

  
\_\_\_\_\_  
Reviewer Signature

### TDS/EC CHECK

**Date Calculated: 9/20/10**

[illegible]




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

# CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-274]

COMPANY E2  
PROJECT NAME PG&E Topock  
PHONE (530) 229-3303 FAX (530) 339-3303  
ADDRESS 155 Grand Ave Ste 1000  
Oakland, CA 94612  
P.O. NUMBER 408401.01.DM TEAM 1  
SAMPLERS (SIGNATURE) [Signature]

COMPANY	E2			PROJECT NAME	PG&E Topock			PHONE	(530) 229-3303			FAX	(530) 339-3303			ADDRESS	155 Grand Ave Site 1000 Oakland, CA 94612			P.O. NUMBER	408401.01.DM			SAMPLERS (SIGNATURE)				SAMPLE I.D.	DATE	TIME	DESCRIPTION	C18 (218.6) Lab Filtered	X	X	X	X	X	X	X	X	Turbidity (SM2130)	TDS (SM2540C)	Specific Conductance (120.1)	C18 Metals (200.7) Cr, Mn	NUMBER OF CONTAINERS	COMMENTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					

Source Time 14:45 Temp 82.5°F pH 7.3 @ 14:53 Fe 7.31 @ 14:54 Cr(6) 0.004 @ 14:58 Cr(T) 0.004 @ 15:05

For Sample Condition! See Form Attached

ALERT!!  
Level III QC

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
Signature (Received)	Printed Name	Company/Agency	Date/Time
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
Signature (Received)	Printed Name	Company/Agency	Date/Time
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time
Signature (Received)	Printed Name	Company/Agency	Date/Time

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

SPECIAL REQUIREMENTS:

## Hexavalent Chromium

## Method EPA 218.6 and SW 7199 Sample pH Log

Enviro\Ali\Cr6+ pH Log

al



TRUESDAIL LABORATORIES, INC.



## Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 991140

Date Delivered: 9/14/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

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

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

16. Comments: \_\_\_\_\_

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

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October 5, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-275 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 991276

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-275 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 22, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

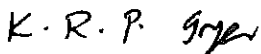
Total Chromium and Total Manganese were analyzed by EPA 200.8 rather than EPA 200.7 as requested on the chain of custody with Mr. Shawn Duffy's approval.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Manager, Analytical Services

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

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

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**Laboratory No.:** 991276

**Date:** October 5, 2010

**Collected:** September 22, 2010

**Received:** September 22, 2010

## ANALYST LIST

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





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

**Laboratory No.:** 991276  
**Date Received:** September 22, 2010

**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
991276-001	SC-700B-WDR-275	E120.1	NONE	9/22/2010	8:00	EC	7130	umhos/cm	2.00
991276-001	SC-700B-WDR-275	E200.8	NONE	9/22/2010	8:00	Chromium	ND	ug/L	1.0
991276-001	SC-700B-WDR-275	E200.8	NONE	9/22/2010	8:00	Manganese	1.0	ug/L	1.0
991276-001	SC-700B-WDR-275	E218.6	LABFLT	9/22/2010	8:00	Chromium, hexavalent	0.21	ug/L	0.20
991276-001	SC-700B-WDR-275	SM2130B	NONE	9/22/2010	8:00	Turbidity	ND	NTU	0.100
991276-001	SC-700B-WDR-275	SM2540C	NONE	9/22/2010	8:00	Total Dissolved Solids	4030	mg/L	250

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

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

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## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

P.O. Number: 408401.01.DM

Project Number: 408401.01.DM

Laboratory No. 991276

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Printed 10/5/2010

Samples Received on 9/22/2010 9:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-275	991276-001	09/22/2010 08:00	Water

### Specific Conductivity - EPA 120.1

Batch: 09EC101

9/24/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991276-001 Specific Conductivity	umhos/cm	09/24/2010	1.00	0.0380	2.00	7130

#### Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

#### Duplicate

Lab ID = 991276-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7110	7130	0.281	0 - 10

#### Lab Control Sample

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

#### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	708.	706.	100	90 - 110

#### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	699.	706.	99.0	90 - 110

#### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	987.	999.	98.8	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

## Chrome VI by EPA 218.6

Batch 10CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991276-001 Chromium, Hexavalent	ug/L	10/01/2010 09:03	1.05	0.0210	0.20	0.21

### Method Blank

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

### Duplicate

Lab ID = 991359-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	1.66	1.72	3.31	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.30	5.00	106	90 - 110

### Matrix Spike

Lab ID = 991276-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.27(1.06)	92.5	90 - 110

### Matrix Spike

Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.33	1.38(1.06)	96.0	90 - 110

### Matrix Spike

Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.09	5.47(5.25)	92.7	90 - 110

### Matrix Spike

Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.992	1.06(1.06)	93.6	90 - 110

### Matrix Spike

Lab ID = 991359-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.25	5.25(5.25)	100.	90 - 110

### Matrix Spike

Lab ID = 991359-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.927	1.06(1.06)	87.5	90 - 110

### Matrix Spike

Lab ID = 991359-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.26	6.97(5.25)	105	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

Matrix Spike						Lab ID = 991359-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.36	6.99(5.25)	107	90 - 110
Matrix Spike						Lab ID = 991359-005
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.39	6.13(5.25)	105	90 - 110
Matrix Spike						Lab ID = 991359-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.30	5.54(5.25)	95.4	90 - 110
Matrix Spike						Lab ID = 991359-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.984	1.06(1.06)	92.8	90 - 110
Matrix Spike						Lab ID = 991359-007
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.989	1.06(1.06)	93.3	90 - 110
Matrix Spike						Lab ID = 991359-008
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	757	794(525.)	92.9	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.21	5.00	104	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.96	10.0	99.6	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.78	10.0	97.8	95 - 105

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

## Metals by EPA 200.8, Total

Batch 092810A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991276-001 Chromium	ug/L	10/05/2010 12:20	5.00	0.0950	1.0	ND
Manganese	ug/L	10/05/2010 12:20	5.00	0.210	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 = 991276-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	0.949	1.04	9.17	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.6	90 - 110
Manganese	ug/L	1.00	48.0	50.0	96.1	90 - 110

### Matrix Spike

Lab ID = 991276-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	246	250.(250.)	98.6	75 - 125
Manganese	ug/L	5.00	245	251(250.)	97.7	75 - 125

### Matrix Spike Duplicate

Lab ID = 991276-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	246	250.(250.)	98.3	75 - 125
Manganese	ug/L	5.00	233	251(250.)	92.9	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	48.3	50.0	96.5	90 - 110
Manganese	ug/L	1.00	46.5	50.0	93.1	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	49.4	50.0	98.9	90 - 110
Manganese	ug/L	1.00	51.0	50.0	102	90 - 110

### Interference Check Standard A

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

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Printed 10/5/2010

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	51.3	50.0	103	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	50.9	50.0	102	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	53.1	50.0	106	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	49.7	50.0	99.4	80 - 120

**TRUESDAIL LABORATORIES, INC.**

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&amp;E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

**Total Dissolved Solids by SM 2540 C**

Batch 09TDS10D

9/24/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991276-001 Total Dissolved Solids	mg/L	09/24/2010	1.00	0.434	250.	4030

## Method Blank

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

## Duplicate

Lab ID = 991214-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	174.	179.	2.83	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	491.	500.	98.2	90 - 110

## Lab Control Sample Duplicate

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

**Turbidity by SM 2130 B**

Batch 09TUC100

9/23/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991276-001 Turbidity	NTU	09/23/2010	1.00	0.0140	0.100	ND

## Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

## Duplicate

Lab ID = 991276-001

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

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.71	8.00	96.4	90 - 110

## Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.75	8.00	96.9	90 - 110

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**TRUESDAIL LABORATORIES, INC.**

*Report Continued*

**Client: E2 Consulting Engineers, Inc.**

**Project Name: PG&E Topock Project**

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**Project Number: 408401.01.DM**

**Printed 10/5/2010**

Respectfully submitted,

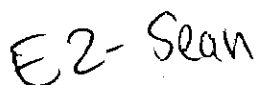
**TRUESDAIL LABORATORIES, INC.**

*for* 

Mona Nassimi

Manager, Analytical Services





3

## Calculations

Batch: 09TDS10D

Date Calculated: 9/24/10

[illegible]

**Calculation as follows:**

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

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

**B** = weight of dish in grams.

**C** = mL of sample filtered.

RL= reporting limit.

ND = not detected (below the reporting limit)

Emmy  
Analyst Printed Name

  
\_\_\_\_\_  
Analyst Signature

Hoy  
Reviewer Printed Name

  
\_\_\_\_\_  
Reviewer Signature

### TDS/EC CHECK

**Date Calculated: 9/24/10**

[illegible]

Not enough  $\star$   
Spl





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# CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-275]

COC Number

10 Days

TURNAROUND TIME

DATE 09/22/10

PAGE 1 OF 1

991276

COMPANY E2	PROJECT NAME PG&E Topock	PHONE (530) 229-3303	FAX (530) 339-3303	ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER 408401.01.DM	TEAM 1	SAMPLERS (SIGNATURE) 	DATE 09/22/10	TIME 0800	DESCRIPTION Water	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Cr, Mn	Specific Conductance (120.1)	TDS (SM2540C)	Turbidity (SM2130)	NUMBER OF CONTAINERS 3	COMMENTS
SAMPLE I.D. SC-700B-WDR-275										Water	x	x	x	x	x	3	TOTAL NUMBER OF CONTAINERS 3
ANALYSIS 0801										Cr6 TOTAL	EC	pH	7.22	7.0	3		

For Sample Condition:  
See Form Attached

ALERT!!  
Level III QOC

T. MP 816

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	RECEIVED	COOL	WARM	4.5°C °F
Signature (Received)	Printed Name	Company/Agency	Date/Time	CUSTODY SEALED	YES	NO	
Signature (Relinquished)	Printed Name	Company/Agency	Date/Time	SPECIAL REQUIREMENTS:			
Signature (Received)	Printed Name	Company/Agency	Date/Time				

# 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
08/27/10	990893-5	9.5	N/A	N/A	N/A	SB
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
08/27/10	990902	7.0	5.00	9.5	11:00	SB
08/27/10	990908-1	7.0	5.00	9.5	19:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
08/27/10	990909	7.0	5.00	9.5	19:00	SB
09/02/10	990966-1	7.0	5.00	9.5	8:15	SB
09/02/10	990967-1	7.0	5.00	9.5	8:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
09/09/10	991053	7.0	5.00	9.5	7:00	SB
09/09/10	991070	9.5	N/A	N/A	N/A	SB
09/15/10	991140	7.0	5.00	9.5	8:00	SB
09/15/10	991141-1	7.0	5.00	9.5	8:05	SB
↓	↓ -2	↓	↓	↓	8:10	↓
↓	↓ -3	↓	↓	↓	8:15	↓
↓	↓ -4	↓	↓	↓	8:20	↓
↓	↓ -5	↓	↓	↓	8:25	↓
↓	↓ -6	↓	↓	↓	8:30	↓
09/16/10	991173-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
09/23/10	991276	7.0	5.00	9.5	7:30	SB
09/30/10	991358	7.0	5.00	9.5	7:35	SB
09/30/10	991359-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓



# Sample Integrity & Analysis Discrepancy Form

Client: E 2Lab # 991276Date Delivered: 09/22/10 Time: 2:30 By: ☐ Mail ☒ Field Service ☐ Client

1. Was a Chain of Custody received and signed? ☒ Yes ☐ No ☐ N/A
2. Does Customer require an acknowledgement of the COC? ☐ Yes ☐ No ☒ N/A
3. Are there any special requirements or notes on the COC? ☐ Yes ☐ No ☒ N/A
4. If a letter was sent with the COC, does it match the COC? ☐ Yes ☐ No ☒ N/A
5. Were all requested analyses understood and acceptable? ☒ Yes ☐ No ☐ N/A
6. Were samples received in a chilled condition?  
Temperature (if yes) 4.5°C ☒ Yes ☐ No ☐ N/A
7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc.)? ☒ Yes ☐ No ☐ N/A
8. Were sample custody seals intact? ☐ Yes ☐ No ☒ N/A
9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A
10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A
11. Did sample labels indicate proper preservation?  
Preserved (if yes) by: ☐ Truesdail ☐ Client ☐ Yes ☐ No ☒ N/A
12. Were samples pH checked? pH = see C.O.C. ☒ Yes ☐ No ☐ N/A
13. Were all analyses within holding time at time of receipt?  
If not, notify Project Manager. ☒ Yes ☐ No ☐ N/A
14. Have Project due dates been checked and accepted?  
Turn Around Time (TAT): ☐ RUSH ☒ Std ☒ Yes ☐ No ☐ N/A
15. **Sample Matrix:** ☐ Liquid ☐ Drinking Water ☐ Ground Water ☐ Waste Water  
☐ Sludge ☐ Soil ☐ Wipe ☐ Paint ☐ Solid ☒ Other Water
16. Comments: \_\_\_\_\_
17. Sample Check-In completed by Truesdail Log-In/Receiving: Shabunna



# 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

October 5, 2010

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-276 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 991358

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-276 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 29, 2010, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Total Chromium 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.

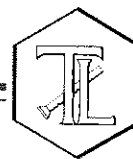
Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

*for Sen Carol*  
Mona Nassimi  
Manager, Analytical Services

*K. R. P. Iyer*  
K.R.P. Iyer  
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:** Two (2) Groundwater Samples

**Project Name:** PG&E Topock Project

**Project No.:** 408401.01.DM

**Laboratory No.:** 991358

**Date:** October 5, 2010

**Collected:** September 29, 2010

**Received:** September 29, 2010

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Jordan Stavrev
SM 4500-NO2 B	Nitrite as N	Jenny Tankunakorn
SM 2540C	Total Dissolved Solids	Jenny Tankunakorn
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Metals	Daniel Kang
EPA 218.6	Hexavalent Chromium	Sonya Bersudsky



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

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

**Laboratory No.:** 991358  
**Date Received:** September 29, 2010  
**Revision 1:** October 6, 2010

## Analytical Results Summary

Lab Sample ID	Field ID	Analysis Method	Extraction Method	Sample Date	Sample Time	Parameter	Result	Units	RL
991358-001	SC-700B-WDR-276	E120.1	NONE	9/29/2010	8:00	EC	7100	umhos/cm	2.00
991358-001	SC-700B-WDR-276	E200.8	NONE	9/29/2010	8:00	Chromium	ND	ug/L	1.0
991358-001	SC-700B-WDR-276	E200.8	NONE	9/29/2010	8:00	Manganese	1.1	ug/L	1.0
991358-001	SC-700B-WDR-276	E218.6	LABFLT	9/29/2010	8:00	Chromium, hexavalent	0.32	ug/L	0.20
991358-001	SC-700B-WDR-276	SM2130B	NONE	9/29/2010	8:00	Turbidity	0.119	NTU	0.100
991358-001	SC-700B-WDR-276	SM2540C	NONE	9/29/2010	8:00	Total Dissolved Solids	4100	mg/L	250
991358-001	SC-700B-WDR-276	SM4500NO2B	NONE	9/29/2010	8:00	Nitrite as N	ND	mg/L	0.0050
991358-002	SC-100B-WDR-276	SM4500NO2B	NONE	9/29/2010	12:00	Nitrite as N	ND	mg/L	0.0050

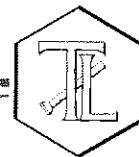
ND: Non Detected (below reporting limit)  
mg/L: Milligrams per liter.

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



# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

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

## REPORT

**Client:** E2 Consulting Engineers, Inc.

155 Grand Avenue, Suite 800

Oakland, CA 94612

**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project

**P.O. Number:** 408401.01.DM

**Project Number:** 408401.01.DM

**Laboratory No.** 991358

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Printed 10/5/2010

Samples Received on 9/29/2010 8:30:00 PM

Field ID	Lab ID	Collected	Matrix
SC-700B-WDR-276	991358-001	09/29/2010 08:00	Water
SC-100B-WDR-276	991358-002	09/29/2010 12:00	Water

### Nitrite SM 4500-NO2 B

Batch 09NO210M

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991358-001 Nitrite as Nitrogen	mg/L	09/30/2010 11:48	1.00	0.000200	0.0050	ND
991358-002 Nitrite as Nitrogen	mg/L	09/30/2010 11:49	1.00	0.000200	0.0050	ND

#### Method Blank

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

#### Duplicate

Lab ID = 991358-002

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

#### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0467	0.0450	104	90 - 110

#### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0471	0.0450	105	90 - 110

#### Matrix Spike

Lab ID = 991358-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0205	0.0200(0.0200)	102	75 - 125

#### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0296	0.0270	110	90 - 110

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

## MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Nitrite as Nitrogen	mg/L	1.00	0.0208	0.0200	104.	90 - 110

## Specific Conductivity - EPA 120.1

Batch 09EC10J

9/30/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991358-001 Specific Conductivity	umhos/cm	09/30/2010	1.00	0.0380	2.00	7100

## Method Blank

Parameter	Unit	DF	Result
Specific Conductivity	umhos	1.00	ND

## Duplicate

Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Specific Conductivity	umhos	1.00	7150	7100	0.702	0 - 10

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	700.	706.	99.2	90 - 110

## Lab Control Sample Duplicate

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

## MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Specific Conductivity	umhos	1.00	702.	706.	99.4	90 - 110

## MRCVS - Primary

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

## Chrome VI by EPA 218.6

Batch 10CrH10A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991358-001 Chromium, Hexavalent	ug/L	10/01/2010 09:13	1.05	0.0210	0.20	0.32

### Method Blank

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

### Duplicate

Lab ID = 991359-003

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	1.66	1.72	3.31	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.30	5.00	106	90 - 110

### Matrix Spike

Lab ID = 991276-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.19	1.27(1.06)	92.5	90 - 110

### Matrix Spike

Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	1.33	1.38(1.06)	96.0	90 - 110

### Matrix Spike

Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.09	5.47(5.25)	92.7	90 - 110

### Matrix Spike

Lab ID = 991359-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.992	1.06(1.06)	93.6	90 - 110

### Matrix Spike

Lab ID = 991359-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.25	5.25(5.25)	100.	90 - 110

### Matrix Spike

Lab ID = 991359-002

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.927	1.06(1.06)	87.5	90 - 110

### Matrix Spike

Lab ID = 991359-003

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.26	6.97(5.25)	105	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

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Matrix Spike						Lab ID = 991359-004
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	7.36	6.99(5.25)	107	90 - 110
Matrix Spike						Lab ID = 991359-005
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	6.39	6.13(5.25)	105	90 - 110
Matrix Spike						Lab ID = 991359-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	5.25	5.30	5.54(5.25)	95.4	90 - 110
Matrix Spike						Lab ID = 991359-006
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.984	1.06(1.06)	92.8	90 - 110
Matrix Spike						Lab ID = 991359-007
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.06	0.989	1.06(1.06)	93.3	90 - 110
Matrix Spike						Lab ID = 991359-008
Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	52.5	757	794(525.)	92.9	90 - 110
MRCCS - Secondary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	5.21	5.00	104	90 - 110
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.96	10.0	99.6	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.4	10.0	104	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	10.2	10.0	102	95 - 105
MRCVS - Primary						
Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium, Hexavalent	ug/L	1.00	9.78	10.0	97.8	95 - 105

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

## Metals by EPA 200.8, Total

Batch 100110A

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991358-001 Chromium	ug/L	10/01/2010 14:47	5.00	0.0950	1.0	ND
Manganese	ug/L	10/01/2010 14:47	5.00	0.210	1.0	1.1

### Method Blank

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

### Duplicate

Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Chromium	ug/L	5.00	ND	0	0	0 - 20
Manganese	ug/L	5.00	1.18	1.15	3.18	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.1	50.0	94.2	90 - 110
Manganese	ug/L	1.00	50.3	50.0	101	90 - 110

### Matrix Spike

Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected/Added	Recovery	Acceptance Range
Chromium	ug/L	5.00	251	250.(250.)	101	75 - 125
Manganese	ug/L	5.00	266	251(250.)	106	75 - 125

### MRCCS - Secondary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.6	50.0	95.2	90 - 110
Manganese	ug/L	1.00	50.5	50.0	101	90 - 110

### MRCVS - Primary

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.5	50.0	95.0	90 - 110
Manganese	ug/L	1.00	51.2	50.0	102	90 - 110

### Interference Check Standard A

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

### Interference Check Standard A

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

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

## Interference Check Standard A

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

## Interference Check Standard A

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

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	47.7	50.0	95.5	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Chromium	ug/L	1.00	45.9	50.0	91.8	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	51.4	50.0	103	80 - 120

## Interference Check Standard AB

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Manganese	ug/L	1.00	50.1	50.0	100	80 - 120

## Total Dissolved Solids by SM 2540 C

Batch 09TDS10F

9/30/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991358-001 Total Dissolved Solids	mg/L	09/30/2010	1.00	0.434	250.	4100

## Method Blank

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

## Duplicate

Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Total Dissolved Solids	mg/L	1.00	3900	4100	5.00	0 - 5

## Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	475.	500.	95.0	90 - 110

## Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Total Dissolved Solids	mg/L	1.00	470.	500.	94.0	90 - 110

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Report Continued

Client: E2 Consulting Engineers, Inc.

Project Name: PG&E Topock Project

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Project Number: 408401.01.DM

Printed 10/5/2010

## Turbidity by SM 2130 B

Batch 09TUC10S

9/30/2010

Parameter	Unit	Analyzed	DF	MDL	RL	Result
991358-001 Turbidity	NTU	09/30/2010	1.00	0.0140	0.100	0.119

### Method Blank

Parameter	Unit	DF	Result
Turbidity	NTU	1.00	ND

### Duplicate

Lab ID = 991358-001

Parameter	Unit	DF	Result	Expected	RPD	Acceptance Range
Turbidity	NTU	1.00	0.121	0.119	1.67	0 - 20

### Lab Control Sample

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.88	8.00	98.5	90 - 110

### Lab Control Sample Duplicate

Parameter	Unit	DF	Result	Expected	Recovery	Acceptance Range
Turbidity	NTU	1.00	7.92	8.00	99.0	90 - 110

Respectfully submitted,

**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi  
Manager, Analytical Services

### Total Dissolved Solids by SM 2540 C

## Calculations

Batch: 09TDS10F

Date Calculated: 9/30/10

[illegible]

**Calculation as follows:**

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

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

**B = weight of dish in grams.**

**C** = mL of sample filtered.

RL= reporting limit

ND = not detected (below the reporting limit)

Analyst Printed Name

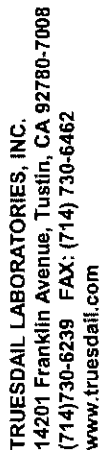
**Analyst Signature**

Reviewer Printed Name

Reviewer Signature \_\_\_\_\_







## CHAIN OF CUSTODY RECORD

**[IM3Plant-WDR-276]**

COC Number

TURNAROUND TIME

DATE 09/29/10

**PAGE 1 OF**

9583

[illegible]

5

700B-70	7.23	1002-003	8/5	0804
100B-73	8.26	1.175	748.	1208

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
<i>[Signature]</i>	<i>J. A. P. C.</i>	<i>MA+</i>	<i>9-29-10</i>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
<i>Bonifacio Dayag</i>	<i>B. DAYAG</i>	<i>TL1</i>	<i>9-29-10 1515</i>
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
<i>Bonifacio Dayag</i>	<i>B. DAYAG</i>	<i>TL1</i>	<i>9-29-10 2030</i>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
<i>Shakurina</i>	<i>Shakurina</i>	<i>TL-I</i>	<i>9/28/10 2013</i>
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
Signature (Received)	Printed Name	Company/ Agency	Date/ Time

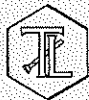
040

# 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
08/27/10	990893-5	9.5	N/A	N/A	N/A	SB
↓	↓ -6	↓	↓	↓	↓	↓
↓	↓ -7	↓	↓	↓	↓	↓
08/27/10	990902	7.0	5.00	9.5	11:00	SB
08/27/10	990908-1	7.0	5.00	9.5	19:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
08/27/10	990909	7.0	5.00	9.5	19:00	SB
09/02/10	990966-1	7.0	5.00	9.5	8:15	SB
09/02/10	990967-1	7.0	5.00	9.5	8:00	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
09/09/10	991053	7.0	5.00	9.5	7:00	SB
09/09/10	991070	9.5	N/A	N/A	N/A	SB
09/15/10	991140	7.0	5.00	9.5	8:00	SB
09/15/10	991141-1	7.0	5.00	9.5	8:05	SB
↓	↓ -2	↓	↓	↓	8:10	↓
↓	↓ -3	↓	↓	↓	8:15	↓
↓	↓ -4	↓	↓	↓	8:20	↓
↓	↓ -5	↓	↓	↓	8:25	↓
↓	↓ -6	↓	↓	↓	8:30	↓
09/16/10	991173-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
09/23/10	991276	7.0	5.00	9.5	7:30	SB
09/30/10	991358	7.0	5.00	9.5	7:35	SB
09/30/10	991359-1	9.5	N/A	N/A	N/A	SB
↓	↓ -2	↓	↓	↓	↓	↓
↓	↓ -3	↓	↓	↓	↓	↓
↓	↓ -4	↓	↓	↓	↓	↓
↓	↓ -5	↓	↓	↓	↓	↓
↓	↓ -6	↓	↓	↓	↓	↓

ali



TRUESDAIL LABORATORIES, INC.



## Sample Integrity & Analysis Discrepancy Form

Client: E2

Lab # 991358

Date Delivered: 9/29/10 Time: 21:30 By: ☐ Mail ☒ Field Service ☐ Client

1. Was a Chain of Custody received and signed? ☒ Yes ☐ No ☐ N/A
2. Does Customer require an acknowledgement of the COC? ☐ Yes ☐ No ☒ N/A
3. Are there any special requirements or notes on the COC? ☐ Yes ☐ No ☒ N/A
4. If a letter was sent with the COC, does it match the COC? ☐ Yes ☐ No ☒ N/A
5. Were all requested analyses understood and acceptable? ☒ Yes ☐ No ☐ N/A
6. Were samples received in a chilled condition?  
Temperature (if yes)? 3.4°C ☒ Yes ☐ No ☐ N/A
7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc.)? ☒ Yes ☐ No ☐ N/A
8. Were sample custody seals intact? ☐ Yes ☐ No ☐ N/A
9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A
10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A
11. Did sample labels indicate proper preservation?  
Preserved (if yes) by: ☒ Truesdail ☐ Client ☒ Yes ☐ No ☐ N/A
12. Were samples pH checked? pH = SEE C.O.C ☒ Yes ☐ No ☐ N/A
13. Were all analyses within holding time at time of receipt?  
If not, notify Project Manager. ☒ Yes ☐ No ☐ N/A
14. Have Project due dates been checked and accepted?  
Turn Around Time (TAT): ☐ RUSH ☒ Std ☒ Yes ☐ No ☐ N/A
15. **Sample Matrix:** ☐ Liquid ☐ Drinking Water ☐ Ground Water ☐ Waste Water  
☐ Sludge ☐ Soil ☐ Wipe ☐ Paint ☐ Solid ☒ Other WATER
16. Comments: \_\_\_\_\_
17. Sample Check-In completed by Truesdail Log-In/Receiving: Rafael Davila