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August 15, 2008

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: Board Order R7-2006-0060  
PG&E Topock Compressor Station, Needles, California  
Interim Measure No. 3 Groundwater Treatment System  
Discharge to Injection Wells  
July 2008 Monitoring Report**

Dear Mr. Perdue:

Enclosed is the July 2008 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 (Water Board) under Order R7-2006-0060. The WDRs apply to IM No. 3 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 Onsite Project Manager

Enclosures:

July 2008 Monitoring Report for the IM No. 3 Groundwater Treatment System

cc: Abdi Haile, Water Board  
Cliff Raley, Water Board  
Tom Vandenberg, State Water Resources Control Board  
Aaron Yue, DTSC

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# **July 2008 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System**

## **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**

August 15, 2008

**CH2MHILL**  
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**July 2008 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**

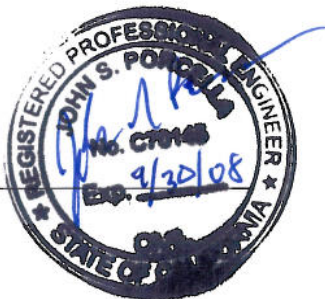
Prepared for  
Pacific Gas and Electric Company

August 15, 2008

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

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John Porcella, P.E.  
Project Engineer



# Contents

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	Page
<b>Acronyms and Abbreviations .....</b>	<b>v</b>
<b>1.0 Introduction.....</b>	<b>1-1</b>
<b>2.0 Sampling Station Locations.....</b>	<b>2-1</b>
<b>3.0 Description of Activities .....</b>	<b>3-1</b>
<b>4.0 Groundwater Treatment System Flow Rates .....</b>	<b>4-1</b>
<b>5.0 Sampling and Analytical Procedures .....</b>	<b>5-1</b>
<b>6.0 Analytical Results.....</b>	<b>6-1</b>
<b>7.0 Conclusions .....</b>	<b>7-1</b>
<b>8.0 Certification.....</b>	<b>8-1</b>

## Tables

1	Sampling Station Descriptions
2	Flow Monitoring Results
3	Board Order No. R7-2006-0060 Waste Discharge Requirements Influent Monitoring Results
4	Board Order No. R7-2006-0060 Waste Discharge Requirements Effluent Monitoring Results
5	Board Order No. R7-2006-0060 Waste Discharge Requirements Reverse Osmosis Concentrate Monitoring Results
6	Board Order No. R7-2006-0060 Waste Discharge Requirements Sludge Monitoring Results
7	Board Order No. R7-2006-0060 Waste Discharge Requirements Monitoring Information

## Figures

1	IM No. 3 Facility and Site Features
TP-PR-10-10-03	Effluent Metering Locations
TP-PR-10-10-11	Influent Metering Locations
TP-PR-10-10-04	Raw Water Storage and Treated Water Storage Tanks and Sampling Locations
TP-PR-10-10-08	Reverse Osmosis Storage Tank Sampling and Metering Locations
TP-PR-10-10-06	Sludge Storage Tanks Sampling Locations

## Appendix

A	July 2008 Laboratory Analytical Reports
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# Acronyms and Abbreviations

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BTEX	benzene, toluene, ethylbenzene, and xylenes
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
IM	Interim Measure
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
PST	Pacific Standard Time
TOC	total organic carbon
Truesdail	Truesdail Laboratories, Inc.
Water Board	California Regional Water Quality Control Board, Colorado River Basin Region
WDR	Waste Discharge Requirements

# 1.0 Introduction

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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 IM No. 3. 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 (Water Board) 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 Monitoring and Reporting Program (MRP) under the order requires monthly monitoring reports to be submitted by the fifteenth day of the following month.

**This report covers monitoring activities related to operation of the IM No. 3 groundwater treatment system during July 2008.** 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.



## 3.0 Description of Activities

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The treatment system was initially operated between July 25 and July 28, 2005 for the WDR-mandated startup phase. Discharge to the injection wells was initiated July 31, 2005 after successfully completing the startup phase in accordance with Order R7-2004-0103. Full-time operation of the treatment system commenced in August 2005.

Influent to the treatment facility, permitted by Order R7-2006-0060 (successor to Order R7-2004-0103), includes the following components:

- 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 July 2008, extraction wells TW-3D and PE-1 operated at a target pump rate of at 135 gallons per minute (gpm) excluding periods of planned and unplanned downtime. Extraction wells TW-2S and TW-2D were not operated during July 2008. The operational run time for the IM groundwater extraction system (combined or individual pumping) was approximately 97 percent during the July 2008 reporting period.

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 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.

## 4.0 Groundwater Treatment System Flow Rates

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The July 2008 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 reverse osmosis concentrate flow rate was measured by a flow meter at the piping carrying water from reverse osmosis concentrate tank T-701 to the truck load-out station (Figure TP-RP-10-10-08).

The IM No. 3 facility treated approximately 5,806,000 gallons of extracted groundwater during July 2008. The IM No. 3 facility also treated approximately 640 gallons of water generated from the groundwater monitoring program and 33,400 gallons of injection well backwashing/re-development water. Two containers of solids from the IM No. 3 facility were transported offsite during July 2008.

Periods of planned and unplanned extraction system down time (that together resulted in approximately 3 percent downtime during July 2008) 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 10, 2008 (unplanned):** The extraction well system was offline from 4:46 p.m. until 4:54 p.m. and from 11:55 p.m. to 12:01 a.m. (on July 11, 2008) when the City of Needles power supply imbalance alarmed and shut down the extraction wells. Extraction system downtime was 14 minutes.
- **July 16, 2008 (planned):** The extraction well system was offline from 2:08 a.m. to 7:20 p.m. to perform scheduled monthly maintenance. Extraction system downtime was 17 hours and 12 minutes.
- **July 20, 2008 (unplanned):** The extraction well system was offline from 7:35 a.m. to 12:41 p.m. when lightning struck the plant causing the extraction well system to shut down. Extraction system downtime was 5 hours and 6 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 United States Environmental Protection Agency (EPA).

During July 2008, analysis of pH was conducted at Truesdail for each sample. Starting November 20, 2007, analysis of pH was also conducted by field method pursuant to the 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, reverse osmosis concentrate, and sludge sampling were conducted in accordance with the sampling frequency required by the MRP. The sampling analytical results are shown in Tables 3, 4, 5, and 6, respectively.

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

## 6.0 Analytical Results

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Laboratory reports for samples collected in July 2008 were prepared by certified analytical laboratories, and are presented in Appendix A.

The July 2008 analytical results from groundwater treatment system influent, effluent, reverse osmosis concentrate, and sludge samples are presented in Tables 3, 4, 5, and 6, respectively.

In accordance with the WDR reporting requirements, the following sampling frequency was followed:

- The influent was sampled monthly; the sampling date was July 2, 2008. Results are presented in Table 3.
- The effluent was sampled weekly; the sampling dates were July 2, 10, 17, 23 and 30, 2008. Results are presented in Table 4.
- The reverse osmosis concentrate was sampled monthly; the sampling date was July 2, 2008. Results are presented in Table 5.
- The sludge was sampled monthly; the sampling date was July 10, 2008. In accordance with the WDRs, sludge is required to be sampled each time it is transported offsite (unless sludge is transported offsite more frequently than monthly, in which case the sampling frequency is monthly). Results are presented in Table 6.
- The sludge is required to have an aquatic bioassay test quarterly; the Third Quarter 2008 aquatic bioassay test was performed on a sludge sample collected July 10, 2008. Results are presented in Table 6.

Table 7 identifies the laboratory that performed each analysis and lists the following required information:

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

## 7.0 Conclusions

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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, and 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.

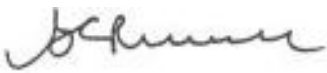
## 8.0 Certification

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On August 12, 2005, PG&E submitted a signature delegation letter to the Water Board, delegating PG&E signature authority to Mr. Curt Russell and Ms. Yvonne Meeks for correspondence regarding Board Order R7-2004-0103. Order R7-2006-0600 is the successor to Order 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 Onsite Project Manager

Date: \_\_\_\_\_ August 15, 2008

## Tables

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**TABLE 1**  
**Sampling Station Descriptions**  
*July 2008 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**  
*July 2008 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,c</sup> (gpm)</b>	<b>Reverse Osmosis Concentrate <sup>b</sup> (gpm)</b>
July 2008 Average Monthly Flowrate	130.1	127.4	5.3

**Notes:**

gpm: gallons per minute.

<sup>a</sup> Extraction wells TW-3D and PE-1 were operated during July 2008.

<sup>b</sup> The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during July 2008 is approximately 2 percent, which is within the range of acceptable accuracy (considering the margin of error for onsite instrumentation, the water contained within the sludge, purge water and injection well development water treated at the IM No. 3 facility; in addition to the water from extraction wells and differences in the inventory of water in the treatment system between the beginning and end of the reporting period).

<sup>c</sup> Effluent was discharged primarily into IW-03 during July 2008; some effluent was discharged into IW-02 on July 25, 2008. Approximately 1,000 gallons were injected into IW-02 on July 25, 2008; however, the monthly flow data records do not include this flow due to a malfunction in the field communicator wire connecting the flow meter (FIT 1202). Repairs to the field communicator wire are being completed.

TABLE 3  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Influent Monitoring Results <sup>a</sup>  
July 2008 Monthly Report for Interim Measures 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	Lab <sup>c</sup> pH	Field <sup>d</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	pHunits	pHunits	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
			50.4	0.0070	0.153	0.0700	---	0.266	3.04	0.256	0.0090	0.0225	0.0150	0.0162	0.0048	0.130	0.0250	0.0182	0.0161	0.0168	0.127	0.0350	0.0010	1.20	2.40	0.115	
SC-100B-WDR-158	7/2/2008		5040	ND (0.100)	7790	7.44 J	7.10	1290	1300	ND (50.0)	ND (0.500)	ND (3.00)	ND (5.00)	ND (300)	1.33	ND (10.0)	2.74	ND (2.00)	ND (20.0)	23.1	ND (20.0)	2.88	ND (0.0050)	581	ND (20.0)	ND (20.0)	
RL			250	0.100	2.00	2.00	---	1.00	21.0	50.0	0.500	3.00	5.00	300	0.200	10.0	0.500	2.00	20.0	5.00	20.0	1.00	0.0050	25.0	20.0	20.0	

NOTES:

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

<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> pH results are J flagged because recent EPA requirements for pH analysis have 15-minute holding time.  
<sup>d</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 4  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Effluent Monitoring Results <sup>a</sup>  
July 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

WDRs Effluent Limits <sup>b</sup>	Ave. Monthly Max Daily	NA	NA	NA	6.5-8.4	6.5-8.4	25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		NA	NA	NA	6.5-8.4	6.5-8.4	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Required Sampling Frequency		Weekly							Monthly																	
<div></div>	Analytes Units <sup>c</sup>  MDL <sup>d</sup>	TDS	Turbidity	Specific Conductance	Lab <sup>e</sup> pH	Field <sup>f</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	pHunits	pHunits	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
		50.4	0.0070	0.153	0.0700	---	0.0532	0.0304	0.256	0.0090	0.0225	0.0150	0.0162	0.0048	0.130	0.0250	0.0182	0.0161	0.0168	0.127	0.0350	0.0010	2.40	2.40	0.115	
Sample ID	Date																									
SC-700B-WDR-158	7/2/2008	4510	ND (0.100)	7010	8.03 J	8.00	ND (1.00)	ND (0.200)	ND (50.0)	ND (0.500)	ND (3.00)	ND (5.00)	ND (300)	1.26	ND (10.0)	2.74	ND (2.00)	ND (20.0)	18.6	ND (20.0)	2.65	ND (0.0050)	526	53.7 J	ND (20.0)	
RL		250	0.100	2.00	2.00	---	1.00	0.200	50.0	0.500	3.00	5.00	300	0.200	10.0	0.500	2.00	20.0	5.00	20.0	1.00	0.0050	50.0	20.0	20.0	
SC-700B-WDR-159	7/10/2008	4450	ND (0.100)	6910	7.90 J	8.00	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
RL		250	0.100	2.00	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-160	7/17/2008	4030	ND (0.100)	6610	7.85 J	7.90	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
RL		250	0.100	2.00	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-161	7/23/2008	4200	ND (0.100)	6270	8.01 J	8.00	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
RL		250	0.100	2.00	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-162	7/30/2008	4140	ND (0.100)	6590	7.98 J	8.10	ND (1.00)	ND (0.200)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
RL		250	0.100	2.00	2.00	---	1.00	0.200	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

NOTES:

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

NA = not applicable

µg/L = micrograms per liter

mg/L = milligrams per liter

NTU = nephelometric turbidity units

µmhos/cm = micromhos per centimeter

ND = parameter not detected at the listed value

J = concentration or reporting limits estimated by laboratory or validation

RL = project reporting limit

MDL = method detection limit

N = nitrogen

<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> pH results are J flagged because recent EPA requirements for pH analysis have 15-minute holding time.

<sup>f</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)  
Reverse Osmosis Concentrate Results <sup>a</sup>  
July 2008 Monthly Report for Interim Measures 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	Specific Conductance	Lab <sup>c</sup> pH	Field <sup>d</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	pHunits	pHunits	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
			126	0.153	0.0700	---	0.00027	0.00015	0.00011	0.000075	0.000081	0.00019	0.000058	0.00013	0.00065	0.0250	0.000091	0.000084	0.000030	0.00064	0.000081	0.00011	0.000090	0.000062	0.00058	
SC-701-WDR-158	7/2/2008		21000	28700	7.84 J	7.90	ND (0.0010)	ND (0.0010)	ND (0.0030)	ND (0.0050)	ND (0.300)	ND (0.0010)	ND (0.0020)	0.00685	0.0168	12.7	ND (0.0020)	0.101	ND (0.00020)	ND (0.0200)	0.00576	0.0638	ND (0.0010)	0.00580	ND (0.0200)	
RL			625	2.00	2.00	---	0.0010	0.0010	0.0030	0.0050	0.300	0.0010	0.0020	0.0050	0.0100	0.500	0.0020	0.0050	0.00020	0.0200	0.0050	0.0050	0.0010	0.0050	0.0200	

NOTES:

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

<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> pH results are J flagged because recent EPA requirements for pH analysis have 15-minute holding time.  
<sup>d</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)  
Sludge Monitoring Results<sup>a</sup>  
July 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly <sup>c</sup>																			Quarterly <sup>d</sup>
<div><div></div><div></div><div></div></div>	Analytes	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Bioassay
	Units <sup>b</sup>	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 at 750 mg/L
	MDL	0.0680	2.36	0.0236	0.0360	0.0104	0.0120	0.0204	0.0080	0.0136	0.0200	0.0224	0.0068	0.0204	0.0136	0.0064	0.0068	0.0292	0.0136	0.0124	5%
Sample ID	Date																				
SC-Sludge-WDR-159	7/10/2008	16400	204	211	79.5	96.9	299	43.5	ND (2.50)	86.6	102	ND (3.79)	31.3	0.564	ND (2.50)	ND (19.0)	17.4	ND (3.79)	163	110	100
RL		19.0	16.0	3.79	2.50	2.50	2.50	3.79	2.50	2.50	16.0	3.79	19.0	0.137	2.50	19.0	3.79	3.79	2.50	9.48	100

NOTES:

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

ND = parameter not detected at the listed reporting limit

J = concentration or reporting limits estimated by laboratory or validation

mg/kg = milligrams per killogram

mg/L = milligrams per liter

MDL = method detection 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 WDR

<sup>c</sup> Sludge shall be tested for the listed constituents each time sludge is transported offsite, unless transport is more frequent than monthly, in which case the sampling frequency shall be monthly

<sup>d</sup> Sludge shall have an aquatic bioassay test performed each time sludge is transported offsite, unless transport is more frequent than quaterly, in which case the sampling frequency shall be quarterly.

<sup>e</sup> Concentration of sludge per 1 liter of water.

TABLE 7

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

Monitoring Information

July 2008 Monthly Report for Interim Measures 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-158	John Deetz	7/2/2008	3:50:00 PM	TLI	EPA 120.1	SC	7/3/2008	Tina Acquiat
					TLI	EPA 200.7	B	7/14/2008	Hao Ton
					TLI	EPA 200.7	FE	7/14/2008	Hao Ton
					TLI	EPA 200.8	NI	7/10/2008	Linda Saetern
					TLI	EPA 200.8	AL	7/10/2008	Linda Saetern
					TLI	EPA 200.8	AS	7/10/2008	Linda Saetern
					TLI	EPA 200.8	BA	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CR	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CU	7/10/2008	Linda Saetern
					TLI	EPA 200.8	MO	7/10/2008	Linda Saetern
					TLI	EPA 200.8	PB	7/10/2008	Linda Saetern
					TLI	EPA 200.8	SB	7/10/2008	Linda Saetern
					TLI	EPA 200.8	ZN	7/10/2008	Linda Saetern
					TLI	EPA 200.8	MN	7/10/2008	Linda Saetern
					TLI	EPA 218.6	CR6	7/3/2008	Jean-Paul Gleeson
					TLI	EPA 300.0	SO4	7/3/2008	Giawad Ghenniwa
					TLI	EPA 300.0	FL	7/3/2008	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	7/3/2008	Giawad Ghenniwa
					FIELD	HACH	PH		John Deetz
					TLI	SM2130B	TRB	7/3/2008	Gautam Savani
					TLI	SM2540C	TDS	7/3/2008	Tina Acquiat
					TLI	SM4500-HB	PH	7/3/2008	Tina Acquiat/Iordan Stavrev
					TLI	SM4500NH3D	NH3N	7/8/2008	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	7/3/2008	Tina Acquiat
SC-700B	SC-700B-WDR-158	John Deetz	7/2/2008	3:50:00 PM	TLI	EPA 120.1	SC	7/3/2008	Tina Acquiat
					TLI	EPA 200.7	FE	7/14/2008	Hao Ton
					TLI	EPA 200.7	B	7/14/2008	Hao Ton
					TLI	EPA 200.8	MN	7/10/2008	Linda Saetern
					TLI	EPA 200.8	AL	7/10/2008	Linda Saetern
					TLI	EPA 200.8	AS	7/10/2008	Linda Saetern
					TLI	EPA 200.8	BA	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CU	7/10/2008	Linda Saetern
					TLI	EPA 200.8	MO	7/10/2008	Linda Saetern
					TLI	EPA 200.8	NI	7/10/2008	Linda Saetern
					TLI	EPA 200.8	SB	7/10/2008	Linda Saetern
					TLI	EPA 200.8	ZN	7/10/2008	Linda Saetern

TABLE 7

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

Monitoring Information

July 2008 Monthly Report for Interim Measures 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-158	John Deetz	7/2/2008	3:50:00 PM	TLI	EPA 200.8	PB	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CR	7/10/2008	Linda Saetern
					TLI	EPA 218.6	CR6	7/3/2008	Jean-Paul Gleeson
					TLI	EPA 300.0	FL	7/3/2008	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	7/3/2008	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	7/3/2008	Giawad Ghenniwa
					FIELD	HACH	PH		John Deetz
					TLI	SM2130B	TRB	7/3/2008	Gautam Savani
					TLI	SM2540C	TDS	7/3/2008	Tina Acquiat
					TLI	SM4500-HB	PH	7/3/2008	Tina Acquiat/Iordan Stavrev
					TLI	SM4500NH3D	NH3N	7/8/2008	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	7/3/2008	Tina Acquiat
SC-700B	SC-700B-WDR-159	J.Aide	7/10/2008	8:45:00 AM	TLI	EPA 120.1	SC	7/14/2008	Tina Acquiat
					TLI	EPA 200.8	CR	7/24/2008	Romuel Chaves
					TLI	EPA 218.6	CR6	7/11/2008	Jean-Paul Gleeson
					FIELD	HACH	PH		J. Aide
					TLI	SM2130B	TRB	7/11/2008	Gautam Savani
					TLI	SM2540C	TDS	7/14/2008	Tina Acquiat
					TLI	SM4500-HB	PH	7/11/2008	Ethel Suico
SC-700B	SC-700B-WDR-160	J.Aide	7/17/2008	8:30:00 AM	TLI	EPA 120.1	SC	7/18/2008	Tina Acquiat
					TLI	EPA 200.8	CR	7/18/2008	Linda Saetern
					TLI	EPA 218.6	CR6	7/18/2008	Jean-Paul Gleeson
					FIELD	HACH	PH		J. Aide
					TLI	SM2130B	TRB	7/18/2008	Gautam Savani
					TLI	SM2540C	TDS	7/18/2008	Tina Acquiat
					TLI	SM4500-HB	PH	7/18/2008	Gautam Savani
SC-700B	SC-700B-WDR-161	Ron Phelps	7/23/2008	11:00:00 AM	TLI	EPA 120.1	SC	7/24/2008	Tina Acquiat
					TLI	EPA 200.8	CR	7/24/2008	Romuel Chaves
					TLI	EPA 218.6	CR6	7/24/2008	Jean-Paul Gleeson
					FIELD	HACH	PH		Ron Phelps
					TLI	SM2130B	TRB	7/24/2008	Gautam Savani
					TLI	SM2540C	TDS	7/24/2008	Tina Acquiat
					TLI	SM4500-HB	PH	7/24/2008	Tina Acquiat
SC-700B	SC-700B-WDR-162	J. Aide	7/30/2008	11:40:00 AM	TLI	EPA 120.1	SC	7/31/2008	Tina Acquiat
					TLI	EPA 200.8	CR	7/31/2008	Romuel Chaves

TABLE 7

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

Monitoring Information

July 2008 Monthly Report for Interim Measures 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-162	J. Aide	7/30/2008	11:40:00 AM	TLI	EPA 218.6	CR6	7/31/2008	Jean-Paul Gleeson
					FIELD	HACH	PH		J. Aide
					TLI	SM2130B	TRB	7/31/2008	Gautam Savani
					TLI	SM2540C	TDS	7/31/2008	Tina Acquiat
					TLI	SM4500-HB	PH	7/31/2008	Tina Acquiat
SC-701	SC-701-WDR-158	John Deetz	7/2/2008	3:50:00 PM	TLI	EPA 120.1	SC	7/3/2008	Tina Acquiat
					TLI	EPA 200.8	NI	7/10/2008	Linda Saetern
					TLI	EPA 200.8	PB	7/10/2008	Linda Saetern
					TLI	EPA 200.8	ZN	7/10/2008	Linda Saetern
					TLI	EPA 200.8	V	7/10/2008	Linda Saetern
					TLI	EPA 200.8	TL	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CU	7/10/2008	Linda Saetern
					TLI	EPA 200.8	SB	7/10/2008	Linda Saetern
					TLI	EPA 200.8	MO	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CR	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CO	7/10/2008	Linda Saetern
					TLI	EPA 200.8	CD	7/10/2008	Linda Saetern
					TLI	EPA 200.8	BE	7/14/2008	Linda Saetern
					TLI	EPA 200.8	BA	7/10/2008	Linda Saetern
					TLI	EPA 200.8	AS	7/10/2008	Linda Saetern
					TLI	EPA 200.8	AG	7/14/2008	Linda Saetern
					TLI	EPA 200.8	SE	7/10/2008	Linda Saetern
					TLI	EPA 218.6	CR6	7/3/2008	Jean-Paul Gleeson
					TLI	EPA 245.1	HG	7/19/2008	Michel Mendoza
					TLI	EPA 300.0	FL	7/3/2008	Giawad Ghenniwa
					FIELD	HACH	PH		John Deetz
					TLI	SM2540C	TDS	7/3/2008	Tina Acquiat
					TLI	SM4500-HB	PH	7/3/2008	Tina Acquiat/Jordan Stavrev
Phase Seperator	SC-Sludge-WDR-159	Chris Knight	7/10/2008	8:40:00 AM	TLI	EPA 300.0	FL	7/11/2008	Giawad Ghenniwa
					TLI	EPA 6010B	NI	7/14/2008	Hao Ton
					TLI	EPA 6010B	ZN	7/14/2008	Hao Ton
					TLI	EPA 6010B	V	7/14/2008	Hao Ton
					TLI	EPA 6010B	TL	7/14/2008	Hao Ton
					TLI	EPA 6010B	AG	7/14/2008	Hao Ton
					TLI	EPA 6010B	PB	7/14/2008	Hao Ton
					TLI	EPA 6010B	CU	7/14/2008	Hao Ton



TABLE 7

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

Monitoring Information

*July 2008 Monthly Report for Interim Measures No.3 Groundwater Treatment System*

Location	Sample ID	Sampler Name	Sample Date	Sample Time	Lab	Analysis Method	Parameter	Analysis Date	Lab Technician
Phase Seperator	SC-Sludge-WDR-159	Chris Knight	7/10/2008	8:40:00 AM	TLI	EPA 6010B	CR	7/14/2008	Hao Ton
					TLI	EPA 6010B	CO	7/14/2008	Hao Ton
					TLI	EPA 6010B	CD	7/21/2008	Hao Ton
					TLI	EPA 6010B	BE	7/14/2008	Hao Ton
					TLI	EPA 6010B	BA	7/14/2008	Hao Ton
					TLI	EPA 6010B	AS	7/14/2008	Hao Ton
					TLI	EPA 6010B	SB	7/14/2008	Hao Ton
					TLI	EPA 7471A	HG	7/29/2008	Romuel Chaves
					TLI	SW 6020A	MO	7/14/2008	Linda Saetern
					TLI	SW 6020A	SE	7/14/2008	Linda Saetern
					TLI	SW 7199	CR6	7/23/2008	David Blackburn

TABLE 7

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

Monitoring Information

July 2008 Monthly Report for Interim Measures 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-159	Chris Knight	07/10/2008	8:40:00 AM	ATL	96-Hour Acute Aquatic Toxicity Screening Test	BIO	7/16//2008 - 07/20/2008	Laurie Montoya / Jacob 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.

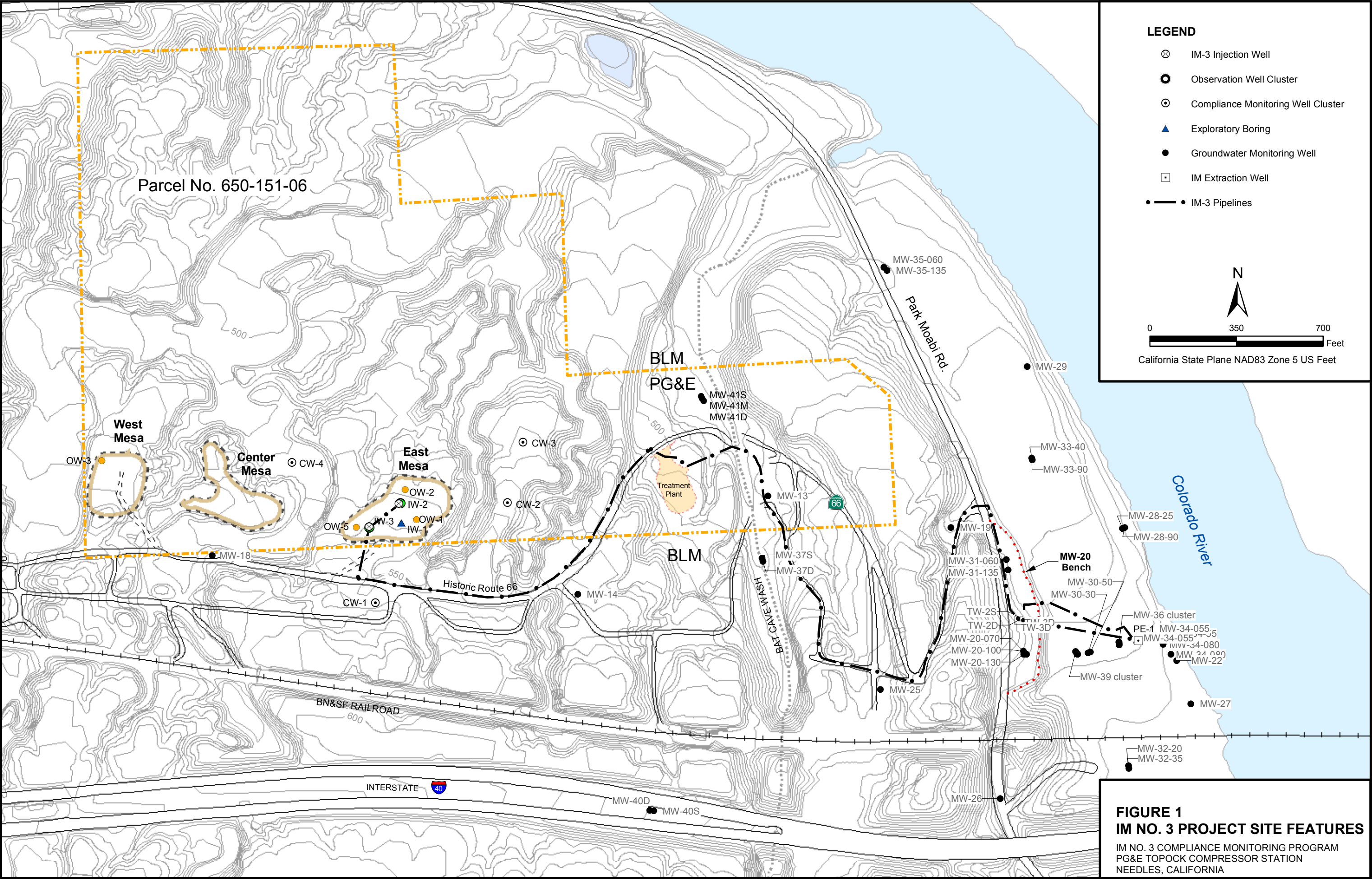
TLI = Truesdail Laboratories, Inc.

ATL = Aquatic Testing Laboratories

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

## Figures

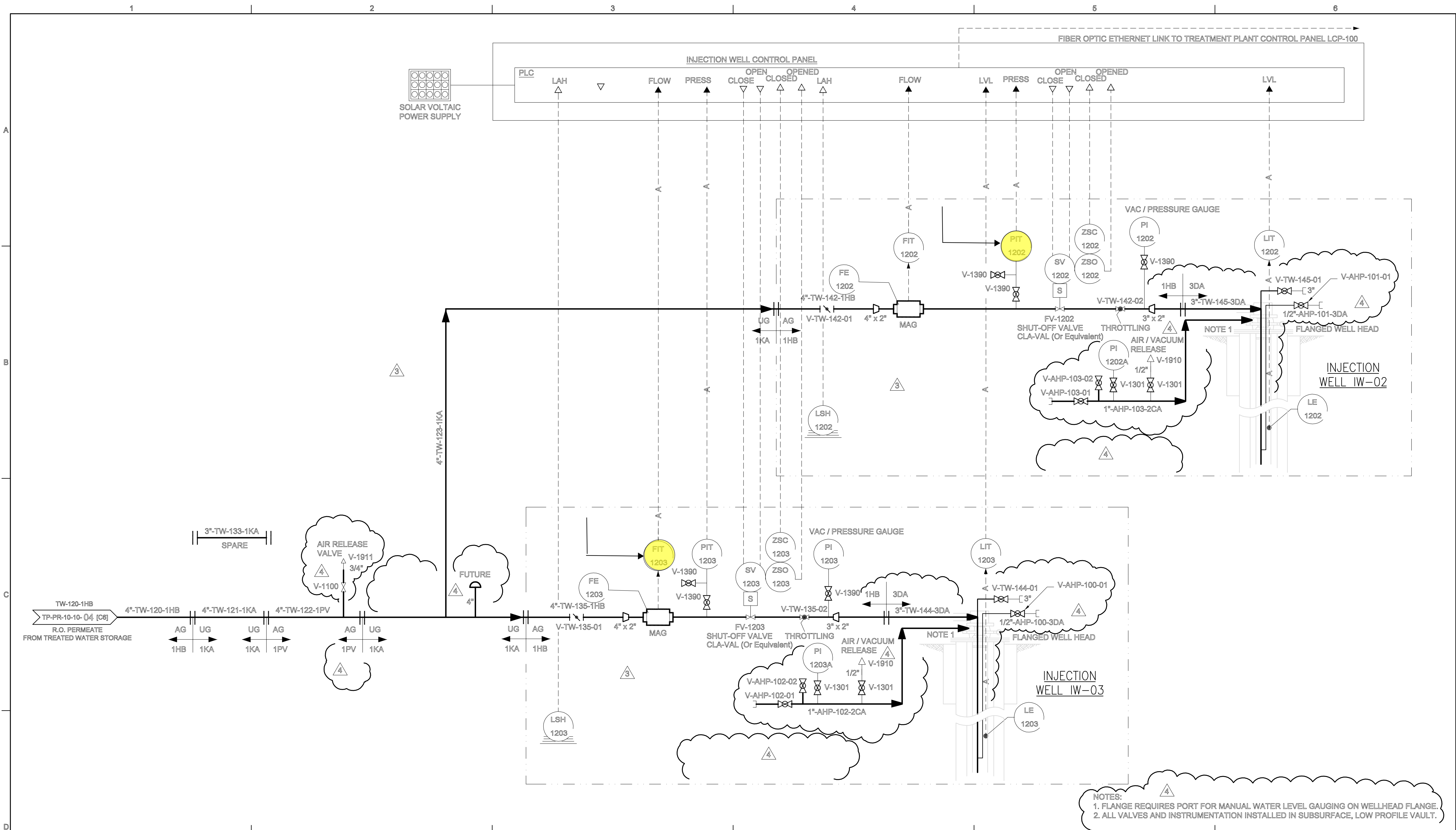
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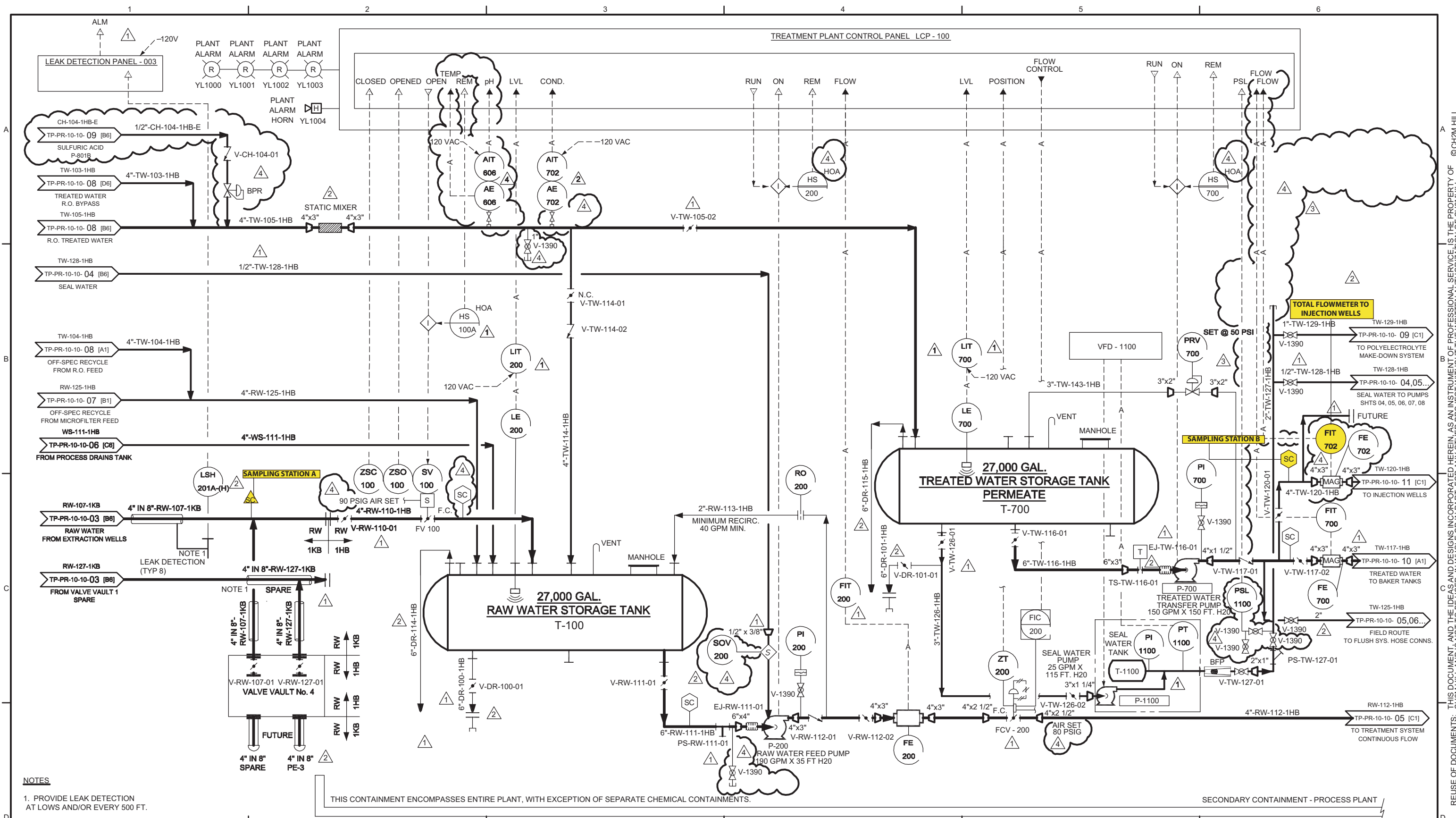






RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH4876 Exp. 5-30-05	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 4	DATE 03/10/05	PRINT DISTRIBUTION	STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM PROJ NO. 315994	PROCESS 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					

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.



NOTES

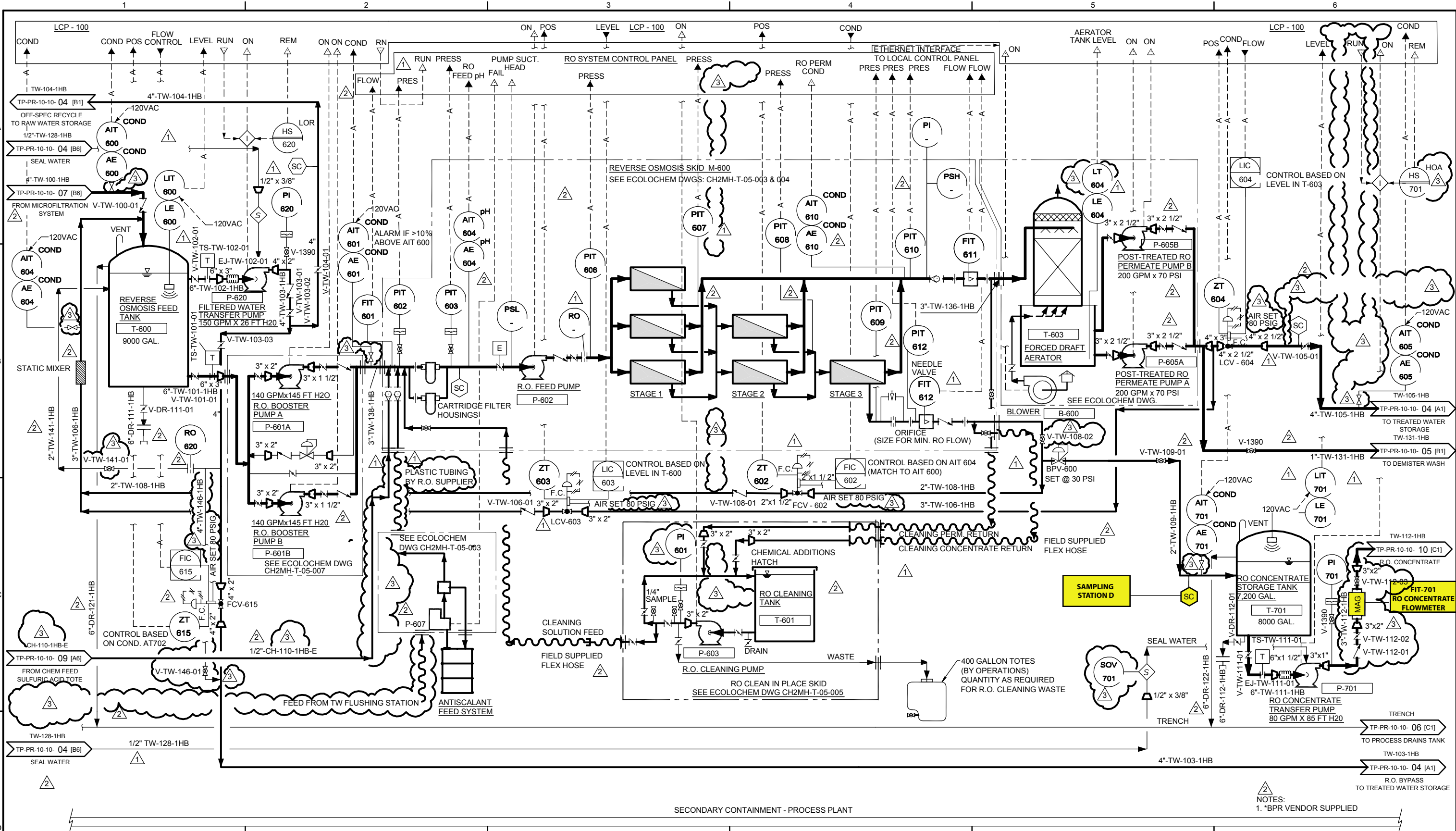
1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.

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

SECONDARY CONTAINMENT - PROCESS PLANT

RESPONSIBLE ENGINEER: Kenneth L. Martins CH4876 PE #	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			
	0	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	D	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	ADDED RECIRC. LINE AND PRV VALVE TO T-700 - APPROVED FOR CONSTRUCTION	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD		REVISED & APPROVED FOR CONSTRUCTION	4	/ /					
	4	09/21/05	REVISED PER AS-BUILT CONDITIONS	EFC	AJ	PIPING		GEN. ARRANG.		INTRA CO.									
										SCALE NONE					CH2MHILL		DWG. NO. TP-PR-10-10-04		REV. 4





RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH43876 Exp. 6-30-06	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 3	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 08 REVERSE OSMOSIS SYSTEM		
	0	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	REVIEWED	STATUS								
	1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	STRUCTURAL		INST & CONTROL		REV.	D	07/28/04						
	2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION	EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT	0	09/03/04	KLM	TP				
	3	09/21/05	REVISED PER AS-BUILT CONDITIONS	EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD	REVISED & APPROVED FOR CONSTRUCTION	3	/ /					
						PIPING		GEN. ARRANG.		INTRA CO.								
										SCALE NONE					CH2MHILL	DWG. NO. TP-PR-10-10-08	REV. 3	





**Appendix A**  
**July 2008 Laboratory Analytical Reports**

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# 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 23, 2008

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-158 PROJECT, GROUNDWATER  
MONITORING,  
TLI NO.: 976856

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-158 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 2, 2008, 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 collection times differed between the chain of custody and the sample containers. The sample times from the sample containers are reported at the request of Mr. Shawn Duffy's of CH2M Hill.

The straight run for the matrix spike for sample SC-700B-WDR-158 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.

The matrix spike run at a dilution of 5x for sample SC-701-WDR-154 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 10x dilution agree with those from the 5x run, the data from the 5x run is reported.

A result for Total Manganese by EPA 200.8 is reported in the matrix spike calculation although it is below the reporting limit due to the small amount of Manganese detected in the sample.

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.

*Seam Candia*  
for 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

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

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

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwaters

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

**Project No.:** 358342.TM.02.00

**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

## ANALYST LIST

TESTS		ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Tina Acquiat / Iordan Stavrev
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
SM 4500-NH3 B	Ammonia	Iordan Stavrev
SM 4500-NO2 B	Nitrite as N	Tina Acquiat
EPA 200.7	Metals by ICP	Hao Ton
EPA 200.8	Metals by ICP/MS	Linda Saetern
EPA 245.1	Mercury	Michel Mendoza
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

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**P.O. No.:** 358342.TM.02.00

## REPORT

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**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Prep/ Analyzed:** July 3, 2008

**Analytical Batch:** 07PH08D

**Investigation:**

**pH by SM 4500-H B**

### Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
976856-1	SC-700B-WDR-158	08:30	pH	0.0700	2.00	8.03
976856-2	SC-100B-WDR-158	08:32	pH	0.0700	2.00	7.44
976856-3	SC-701-WDR-158	08:35	pH	0.0700	2.00	7.84

### QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Difference (Units)</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	976857-2	7.30	7.30	0.00	+ 0.100 Units	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Difference (Units)</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
MRCVS	7.00	7.00	0.00	+ 0.100 Units	Yes
LCS	7.02	7.00	0.02	+ 0.100 Units	Yes
LCSD	7.03	7.00	0.03	+ 0.100 Units	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Sean Corder*  
for **Mona Nassimi, Manager**  
Analytical Services

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## REPORT

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**Laboratory No.:** 976856

**Date:** July 23, 2008  
**Collected:** July 2, 2008  
**Received:** July 2, 2008  
**Prep/ Analyzed:** July 3, 2008  
**Analytical Batch:** 07EC08A

**Investigation:**

**Specific Conductivity by EPA 120.1**

### Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976856-1	SC-700B-WDR-158	µmhos/cm	EPA 120.1	1.00	2.00	7010
976856-2	SC-100B-WDR-158	µmhos/cm	EPA 120.1	1.00	2.00	7790
976856-3	SC-701-WDR-158	µmhos/cm	EPA 120.1	1.00	2.00	28700

### QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Relative Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	976856-3	28700	28800	0.35%	≤ 10%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Blank	ND	<2.00	---	<2.00	Yes
CCS	704	706	99.7%	90% - 110%	Yes
CVS#1	977	996	98.1%	90% - 110%	Yes
LCS	704	706	99.7%	90% - 110%	Yes
LCSD	704	706	99.7%	90% - 110%	Yes

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
for **Mona Nassimi, Manager**  
Analytical Services

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**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Prep/ Analyzed:** July 3, 2008

**Analytical Batch:** 07TDS08B

**Investigation:**

**Total Dissolved Solids by SM 2540C**

### Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
976856-1	SC-700B-WDR-158	mg/L	SM 2540C	250	4510
976856-2	SC-100B-WDR-158	mg/L	SM 2540C	250	5040
976856-3	SC-701-WDR-158	mg/L	SM 2540C	625	21000

### QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Percent Difference</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Duplicate	976857-2	5660	5610	0.44%	≤ 5%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	497	500	99.4%	90% - 110%	Yes
LCS 2	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Sean Cantor*  
for Mona Nassimi, Manager  
Analytical Services

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**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Prep/ Analyzed:** July 3, 2008

**Analytical Batch:** 07TUC08D

**Investigation:**

**Turbidity by Method SM 2130B**

### Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976856-1	SC-700B-WDR-158	10:50	NTU	1.00	0.100	ND
976856-2	SC-100B-WDR-158	10:50	NTU	1.00	0.100	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976879-1	3.35	3.25	3.03%	< 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.38	8.00	105%	90% - 110%	Yes
LCS	8.30	8.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

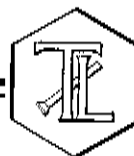
Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Shawn Duffy*  
for **Mona Nassimi, Manager**  
Analytical Services



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## REPORT

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Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

P.O. No.: 358342.TM.02.00

Prep. Batch: 07CrH08B

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Laboratory No.: 976856

Date: July 23, 2008

Collected: July 2, 2008

Received: July 2, 2008

Prep/ Analyzed: July 3, 2008

Analytical Batch: 07CrH08B

Investigation:

Hexavalent Chromium by IC Using Method EPA 218.6

### Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
976856-1	SC-700B-WDR-158	10:50	09:47	µg/L	1.05	0.20	ND
976856-2	SC-100B-WDR-158	10:50	10:25	µg/L	105	21.0	1300
976856-3	SC-701-WDR-158	11:06	10:54	µg/L	5.25	1.05	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976856-2	1300	1290	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	976856-1	0.00	1.06	1.00	1.06	1.10	1.06	104%	90-110%	Yes
MS	976856-2	1300	105	15.0	1575	2820	2875	96.5%	90-110%	Yes
MS	976856-3	0.00	5.25	1.00	5.25	5.72	5.25	109%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.16	5.00	103%	90% - 110%	Yes
MRCVS#1	9.62	10.0	96.2%	95% - 105%	Yes
MRCVS#2	9.53	10.0	95.3%	95% - 105%	Yes
MRCVS#3	9.64	10.0	96.4%	95% - 105%	Yes
LCS	5.17	5.00	103%	90% - 110%	Yes

ND: below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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## REPORT

**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.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Prep/ Analyzed:** July 8, 2008

**Analytical Batch:** 07NH3-E08A

**Investigation:**

**Ammonia as N by Method SM 4500-NH3 D**

### Analytical Results Ammonia as N

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Method</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976856-1	SC-700B-WDR-158	10:50	SM 4500-NH3 D	mg/L	1.00	0.500	ND
976856-2	SC-100B-WDR-158	10:50	SM 4500-NH3 D	mg/L	1.00	0.500	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976856-1	ND	ND	0.00%	≤ 20%	Yes

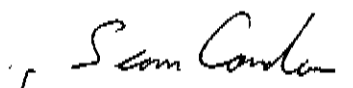
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	976856-2	0.00	1.00	6.00	6.00	5.67	6.00	94.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	---	<0.500	Yes
MRCCS	5.85	6.00	97.5%	90% - 110%	Yes
MRCVS#1	5.78	6.00	96.3%	90% - 110%	Yes
LCS	10.2	10.0	102%	90% - 110%	Yes

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**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi, Manager  
Analytical Services

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155 Grand Ave. Suite 1000  
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**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwaters

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Prep/ Analyzed:** July 3, 2008

**Analytical Batch:** 07AN08D

**Investigation:** Fluoride by Ion Chromatography using EPA 300.0

### Analytical Results Fluoride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
976856-1	SC-700B-WDR-158	10:50	11:22	mg/L	5.00	0.500	2.74
976856-2	SC-100B-WDR-158	10:50	11:34	mg/L	5.00	0.500	2.74
976856-3	SC-701-WDR-158	11:06	11:45	mg/L	5.00	0.500	12.7

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976814	2.34	2.35	0.43%	≤ 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	976814	2.34	1.00	4.00	4.00	6.20	6.34	96.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MROCS	4.13	4.00	103%	90% - 110%	Yes
MRCVS#1	3.12	3.00	104%	90% - 110%	Yes
LCS	4.15	4.00	104%	90% - 110%	Yes

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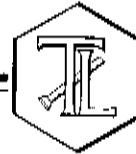
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**TRUESDAIL LABORATORIES, INC.**

*Seam Canda*  
for Mona Nassimi, Manager  
Analytical Services

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155 Grand Ave. Suite 1000  
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Attention: Shawn Duffy

Sample: Three (3) Groundwaters

Project Name: PG&E Topock Project

Project No.: 358342.TM.02.00

P.O. No.: 358342.TM.02.00

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Laboratory No.: 976856

Date: July 23, 2008

Collected: July 2, 2008

Received: July 2, 2008

Prep/ Analyzed: July 3, 2008

Analytical Batch: 07AN08D

Investigation:

Sulfate by Method EPA 300.0

### Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
976856-1	SC-700B-WDR-158	10:50	13:16	mg/L	100	50.0	526
976856-2	SC-100B-WDR-158	10:50	13:51	mg/L	50.0	25.0	581

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976856-1	526	532	1.13%	≤ 20%	Yes

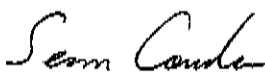
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	976856-1	526	100	10.00	1000	1540	1526	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.500	—	<0.500	Yes
MRCCS	20.2	20.0	101%	90% - 110%	Yes
MRCVS#1	14.9	15.0	99.3%	90% - 110%	Yes
MRCVS#2	15.0	15.0	100%	90% - 110%	Yes
LCS	20.2	20.0	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
for Mona Nassimi, Manager  
Analytical Services

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**Sample:** Three (3) Groundwaters

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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www.truesdail.com

**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Prep/ Analyzed:** July 3, 2008

**Analytical Batch:** 07AN08D

**Investigation:** Nitrate as N by Ion Chromatography using EPA 300.0

### Analytical Results Nitrate as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
976856-1	SC-700B-WDR-158	10:50	11:22	mg/L	5.00	1.00	2.65
976856-2	SC-100B-WDR-158	10:50	11:34	mg/L	5.00	1.00	2.88

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976856-2	2.88	3.04	5.41%	≤ 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	976856-2	2.88	5.00	4.00	20.0	22.9	22.9	100%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	—	<0.200	Yes
MRCCS	3.93	4.00	98.3%	90% - 110%	Yes
MRCVS#1	2.97	3.00	99.0%	90% - 110%	Yes
MRCVS#2	2.96	3.00	98.7%	90% - 110%	Yes
LCS	3.99	4.00	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

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## REPORT

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

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwaters

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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**Laboratory No.:** 976856

**Date:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Prep/ Analyzed:** July 3, 2008

**Analytical Batch:** 07NO208C

**Investigation:**

**Nitrite as N by Method SM 4500-NO2-B**

### Analytical Results for Nitrite as N

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
976856-1	SC-700B-WDR-158	10:50	13:22	mg/L	1.00	0.0050	ND
976856-2	SC-100B-WDR-158	10:50	13:23	mg/L	1.00	0.0050	ND

### QA/QC Summary

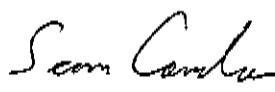
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976856-2	ND	ND	0.00%	< 20%	Yes

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	976856-2	0.00	1.00	0.0200	0.0200	0.0198	0.0200	99.0%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.0050	—	<0.0050	Yes
MRCCS	0.0198	0.0200	99.0%	90% - 110%	Yes
MRCVS#1	0.0200	0.0200	100%	90% - 110%	Yes
LCS	0.0400	0.0400	100%	90% - 110%	Yes
LCSD	0.0404	0.0400	101%	90% - 110%	Yes

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

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

**Samples:** Three (3) Groundwaters  
**Project Name:** PG&E Topock Project  
**Project No.:** 358342.TM.02.00  
**P.O. No.:** 358342.TM.02.00

**Investigation:** Total Metal Analyses as Requested

## REPORT

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**Laboratory No.:** 976856

**Reported:** July 23, 2008

**Collected:** July 2, 2008

**Received:** July 2, 2008

**Analyzed:** July 10 - 19, 2008

## Analytical Results

SAMPLE ID: SC-700B-WDR-158		Time Collected: 10:50		LAB ID: 976856-1				
Parameter	Method	Reported				Batch	Date	Time
		Value	DF	Units	RL		Analyzed	Analyzed
Aluminum	EPA 200.8	ND	1.00	µg/L	50.0	071008A	07/10/08	08:38
Antimony	EPA 200.8	ND	1.00	µg/L	3.00	071008A	07/10/08	08:38
Arsenic	EPA 200.8	ND	1.00	µg/L	5.00	071008A	07/10/08	08:38
Barium	EPA 200.8	ND	1.00	µg/L	300	071008A	07/10/08	08:38
Chromium	EPA 200.8	ND	1.00	µg/L	1.00	071008A	07/10/08	08:38
Copper	EPA 200.8	ND	1.00	µg/L	10.0	071008A	07/10/08	08:38
Lead	EPA 200.8	ND	1.00	µg/L	2.00	071008A	07/10/08	08:38
Manganese	EPA 200.8	ND	1.00	µg/L	20.0	071008A	07/10/08	08:38
Molybdenum	EPA 200.8	18.6	1.00	µg/L	5.00	071008A	07/10/08	08:38
Nickel	EPA 200.8	ND	1.00	µg/L	20.0	071008A	07/10/08	08:38
Zinc	EPA 200.8	ND	1.00	µg/L	20.0	071008A	07/10/08	08:38
Boron	EPA 200.7	1260	1.00	µg/L	200	071408A	07/14/08	10:47
Iron	EPA 200.7	53.7	1.00	µg/L	20.0	071408A	07/14/08	10:47

SAMPLE ID: SC-100B-WDR-158		Time Collected: 10:50		LAB ID: 976856-2				
Parameter	Method	Reported				Batch	Date	Time
		Value	DF	Units	RL		Analyzed	Analyzed
Aluminum	EPA 200.8	ND	1.00	µg/L	50.0	071008A	07/10/08	09:40
Antimony	EPA 200.8	ND	1.00	µg/L	3.00	071008A	07/10/08	09:40
Arsenic	EPA 200.8	ND	1.00	µg/L	5.00	071008A	07/10/08	09:40
Barium	EPA 200.8	ND	1.00	µg/L	300	071008A	07/10/08	09:40
Chromium	EPA 200.8	1290	5.00	µg/L	1.00	071008A	07/10/08	09:48
Copper	EPA 200.8	ND	1.00	µg/L	10.0	071008A	07/10/08	09:40
Lead	EPA 200.8	ND	1.00	µg/L	2.00	071008A	07/10/08	09:40
Manganese	EPA 200.8	ND	1.00	µg/L	20.0	071008A	07/10/08	09:40
Molybdenum	EPA 200.8	23.1	1.00	µg/L	5.00	071008A	07/10/08	09:40
Nickel	EPA 200.8	ND	1.00	µg/L	20.0	071008A	07/10/08	09:40
Zinc	EPA 200.8	ND	1.00	µg/L	20.0	071008A	07/10/08	09:40
Boron	EPA 200.7	1330	1.00	µg/L	200	071408A	07/14/08	10:52
Iron	EPA 200.7	ND	1.00	µg/L	20.0	071408A	07/14/08	10:52

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# TRUESDAIL LABORATORIES, INC.


Report Continued

SAMPLE ID: SC-701-WDR-158		Time Collected: 11:06		LAB ID: 976856-3				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	EPA 200.8	ND	5.00	µg/L	3.00	071008A	07/10/08	10:00
Arsenic	EPA 200.8	ND	5.00	µg/L	5.00	071008A	07/10/08	10:00
Barium	EPA 200.8	ND	5.00	µg/L	300	071008A	07/10/08	10:00
Beryllium	EPA 200.8	ND	5.00	µg/L	1.00	071408A	07/14/08	11:17
Cadmium	EPA 200.8	ND	5.00	µg/L	2.00	071008A	07/10/08	10:00
Chromium	EPA 200.8	ND	5.00	µg/L	1.00	071008A	07/10/08	10:00
Cobalt	EPA 200.8	6.85	5.00	µg/L	5.00	071008A	07/10/08	10:00
Copper	EPA 200.8	16.8	5.00	µg/L	10.0	071008A	07/10/08	10:00
Lead	EPA 200.8	ND	5.00	µg/L	2.00	071008A	07/10/08	10:00
Mercury	EPA 245.1	ND	1.00	µg/L	0.20	0719HG08A	07/19/08	N/A
Molybdenum	EPA 200.8	101	5.00	µg/L	5.00	071008A	07/10/08	10:00
Nickel	EPA 200.8	ND	5.00	µg/L	20.0	071008A	07/10/08	10:00
Selenium	EPA 200.8	5.76	5.00	µg/L	5.00	071008A	07/10/08	10:00
Silver	EPA 200.8	63.8	5.00	µg/L	5.00	071408A	07/14/08	11:17
Thallium	EPA 200.8	ND	5.00	µg/L	1.00	071008A	07/10/08	10:00
Vanadium	EPA 200.8	5.80	5.00	µg/L	5.00	071008A	07/10/08	10:00
Zinc	EPA 200.8	ND	5.00	µg/L	20.0	071008A	07/10/08	10:00

ND: Not detected, or below limit of detection.

DF: Dilution factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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www.truesdail.com

July 25, 2008

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-159 PROJECT, GROUNDWATER MONITORING, TLI NO.: 977066

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-159 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, 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 10, 2008, 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 the large number of samples in-house, the sample for Total Chromium analysis was analyzed by method EPA 200.8, rather than EPA 200.7 as requested on the chain of custody.

The straight run for the matrix spike 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.

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.

*Seam Candan*  
for Mona Nassimi  
Manager, Analytical Services

*Ali Kharaif*  
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 Samples

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

**Project No.:** 358342.TM.02.00

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**Laboratory No.:** 977066

**Date:** July 25, 2008

**Collected:** July 10, 2008

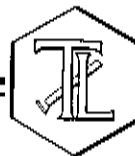
**Received:** July 10, 2008

## ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Ethel Suico
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chaves
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

# TRUESDAIL LABORATORIES, INC.

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## REPORT

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples  
Project Name: PG&E Topock Project  
Project No.: 358342.TM.02.00  
P.O. No.: 358342.TM.02.00  
Prep. Batch: 072408A

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

Laboratory No.: 977066

Date: July 25, 2008  
Collected: July 10, 2008  
Received: July 10, 2008  
Prep/ Analyzed: July 24, 2008  
Analytical Batch: 072408A

Investigation: Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer  
using EPA 200.8

### Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
977066	SC-700B-WDR-159	µg/L	EPA 200.8	14:31	1.00	1.00	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977344	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	977344	0.00	1.00	50.0	50.0	54.3	50.0	109%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	48.8	50.0	97.6%	90% - 110%	Yes
MRCVS#1	49.7	50.0	99.4%	90% - 110%	Yes
ICS	48.9	50.0	97.8%	80% - 120%	Yes
LCS	20.4	20.0	102%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Sean Carden*  
to Mona Nassimi, Manager  
Analytical Services

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## REPORT

14201 FRANKLIN AVENUE  
TUSTIN, CALIFORNIA 92780-7008  
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**Client:** E2 Consulting Engineers, Inc.  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Laboratory No.:** 977066

**Sample:** One (1) Groundwater Samples  
**Project Name:** PG&E Topock Project  
**Project No.:** 358342.TM.02.00  
**P.O. No.:** 358342.TM.02.00

**Date:** July 25, 2008  
**Collected:** July 10, 2008  
**Received:** July 10, 2008  
**Prep/ Analyzed:** July 11, 2008  
**Analytical Batch:** 07CrH08C

**Investigation:**

**Hexavalent Chromium by EPA 218.6**

### 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>
977066	SC-700B-WDR-159	08:45	11:10	µg/L	1.05	0.20	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977069-2	250	258	3.15%	< 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	977066	0.00	1.06	1.00	1.06	1.06	1.06	100%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.10	5.00	102%	90% - 110%	Yes
MRCVS#1	9.76	10.0	97.6%	95% - 105%	Yes
MRCVS#2	9.65	10.0	96.5%	95% - 105%	Yes
MRCVS#3	9.62	10.0	96.2%	95% - 105%	Yes
LQS	5.08	5.00	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

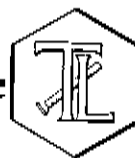
*Sam Conlan*  
for **Mona Nassimi, Manager**  
Analytical Services

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## REPORT

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TUSTIN, CALIFORNIA 92780-7008  
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**Client:** E2 Consulting Engineers, Inc.  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977066

**Date:** July 25, 2008

**Collected:** July 10, 2008

**Received:** July 10, 2008

**Prep/ Analyzed:** July 11, 2008

**Analytical Batch:** 07TUC08K

**Investigation:**

**Turbidity by Method SM 2130B**

### Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977066	SC-700B-WDR-159	08:45	NTU	1.00	0.100	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	977100-1	4.18	4.09	2.18%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	7.78	8.00	97.3%	90% - 110%	Yes
LCS	7.68	8.00	96.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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## REPORT

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TUSTIN, CALIFORNIA 92780-7008  
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**Client:** E2 Consulting Engineers, Inc.  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Laboratory No.:** 977066

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

**Date:** July 25, 2008

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

**Collected:** July 10, 2008

**Project No.:** 358342.TM.02.00

**Received:** July 10, 2008

**P.O. No.:** 358342.TM.02.00

**Prep/ Analyzed:** July 11, 2008

**Analytical Batch:** 07PH08J

**Investigation:**

pH by SM 4500-H B

### Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
977066	SC-700B-WDR-159	08:45	08:41	pH	0.0700	2.00	7.90

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	977066	7.90	7.91	0.01	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
MRCVS	7.04	7.00	0.04	+ 0.100 Units	Yes
LCS	7.02	7.00	0.02	+ 0.100 Units	Yes
LCSD	7.03	7.00	0.03	+ 0.100 Units	Yes

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*for Sam Candia*  
Mona Nassimi, Manager  
Analytical Services

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

## REPORT

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

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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

**Laboratory No.:** 977066

**Date:** July 25, 2008

**Collected:** July 10, 2008

**Received:** July 10, 2008

**Prep/ Analyzed:** July 14, 2008

**Analytical Batch:** 07EC08C

**Investigation:**

**Specific Conductivity by EPA 120.1**

### Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977066	SC-700B-WDR-159	µmhos/cm	EPA 120.1	1.00	2.00	6910

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977066	6910	6910	0.00%	≤ 10%	Yes
QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
Blank	ND	<2.00	---	<2.00	Yes	
CCS	702	706	99.4%	90% - 110%	Yes	
CVS#1	977	996	98.1%	90% - 110%	Yes	
LCS	702	706	99.4%	90% - 110%	Yes	
LCSD	702	706	99.4%	90% - 110%	Yes	

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Sam Gordon*  
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) Groundwater Samples

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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**Laboratory No.:** 977066

**Date:** July 25, 2008

**Collected:** July 10, 2008

**Received:** July 10, 2008

**Prep/ Analyzed:** July 14, 2008

**Analytical Batch:** 07TDS08D

**Investigation:**

**Total Dissolved Solids by SM 2540C**

### Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
977066	SC-700B-WDR-159	mg/L	SM 2540C	250	4450

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	977066	4450	4400	0.56%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	500	500	100%	90% - 110%	Yes
LCS 2	497	500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Seam Canada*  
for Mona Nassimi, Manager  
Analytical Services



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

[M3] Plant-WDR-159

Rec'd 07/10/08

977066

Number

TURNAROUND TIME 5 Days

DATE PAGE 1 OF 1

RUSH!

COMPANY	E2
PROJECT NAME	PG&E Topock
PHONE	(530) 229-3303 FAX (530) 339-3303
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612
P.O. NUMBER	358342.TM.02.00 TEAM 1
SAMPLERS (SIGNATURE)	

DATE	TIME	DESCRIPTION	C6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (SM2540C)	PH (SM4500HB)	Turbidity (SM2130)
7-10-08	0845	Water	X	X	X	X	X	X

NUMBER OF CONTAINERS	3
PH	7.7
EC	295
Temp	84.0
PH	7.7
EC	295
Temp	84.0

TOTAL NUMBER OF CONTAINERS

3

ALERT!!

Level III QC

For Sample Conditions  
See Form Attached

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SAMPLE CONDITIONS RECEIVED COOL <input type="checkbox"/> WARM <input type="checkbox"/> CUSTODY SEALED YES <input type="checkbox"/> NO <input type="checkbox"/>
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	
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	

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14201 FRANKLIN AVENUE  
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July 28, 2008

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-160 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 977227

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-160 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, 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 17, 2008, 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 the large number of samples in-house, the sample for Total Chromium analysis was analyzed by method EPA 200.8, rather than EPA 200.7 as requested on the chain of custody.

The straight run for the matrix spike 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.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

for Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

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

**Laboratory No.:** 977227

**Date:** July 28, 2008

**Collected:** July 17, 2008

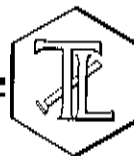
**Received:** July 17, 2008

## ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Gautam Savani
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Linda Saetern
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

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## REPORT

14201 FRANKLIN AVENUE  
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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 Samples

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Prep. Batch:** 071808A

**Laboratory No.:** 977227

**Date:** July 28, 2008

**Collected:** July 17, 2008

**Received:** July 17, 2008

**Prep/ Analyzed:** July 18, 2008

**Analytical Batch:** 071808A

**Investigation:** Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer  
using EPA 200.8

### Analytical Results Total Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>Run Time</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977227	SC-700B-WDR-160	µg/L	EPA 200.8	11:40	1.00	1.00	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	977069-1	ND	ND	0.00%	≤20%	Yes

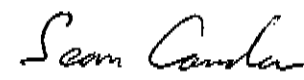
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance Limits	QC Within Control
MS	977069-1	0.00	1.00	50.0	50.0	50.0	50.0	100%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	—	<1.00	Yes
MRCCS	48.1	50.0	96.2%	90% - 110%	Yes
MRCVS#1	48.6	50.0	97.2%	90% - 110%	Yes
MRCVS#2	47.3	50.0	94.6%	90% - 110%	Yes
ICS	48.6	50.0	97.2%	80% - 120%	Yes
LCS	20.4	20.0	102%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

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## REPORT

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

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

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977227

**Date:** July 28, 2008

**Collected:** July 17, 2008

**Received:** July 17, 2008

**Prep/ Analyzed:** July 18, 2008

**Analytical Batch:** 07CrH08D

**Investigation:**

**Hexavalent Chromium by EPA 218.6**

### 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>
977227	SC-700B-WDR-160	08:30	13:30	µg/L	1.05	0.20	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977227	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	977227	0.00	1.06	1.00	1.06	1.06	1.06	100%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	5.04	5.00	101%	90% - 110%	Yes
MRCVS#1	9.84	10.0	98.4%	95% - 105%	Yes
LCS	5.02	5.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

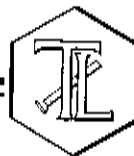
*for*   
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

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## REPORT

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

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

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977227

**Date:** July 28, 2008

**Collected:** July 17, 2008

**Received:** July 17, 2008

**Prep/ Analyzed:** July 18, 2008

**Analytical Batch:** 07TUC08M

**Investigation:**

**Turbidity by Method SM 2130B**

### Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977227	SC-700B-WDR-160	08:30	NTU	1.00	0.100	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977212-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.04	8.00	101%	90% - 110%	Yes
LCS	7.90	8.00	98.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi, Manager  
Analytical Services

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**Client:** E2 Consulting Engineers, Inc.  
155 Grand Ave, Suite 1000  
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**Project Name:** PG&E Topock Project

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977227

**Date:** July 28, 2008

**Collected:** July 17, 2008

**Received:** July 17, 2008

**Prep/ Analyzed:** July 18, 2008

**Analytical Batch:** 07PH08Q

**Investigation:**

pH by SM 4500-H B

### Analytical Results pH


<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
977227	SC-700B-WDR-160	08:30	08:20	pH	0.0700	2.00	7.85

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	977227	7.85	7.86	0.01	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
MRCVS	7.02	7.00	0.02	+ 0.100 Units	Yes
LCS	7.00	7.00	0.00	+ 0.100 Units	Yes

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services



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**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977227

**Date:** July 28, 2008

**Collected:** July 17, 2008

**Received:** July 17, 2008

**Prep/ Analyzed:** July 18, 2008

**Analytical Batch:** 07EC08E

**Investigation:**

**Specific Conductivity by EPA 120.1**

### Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977227	SC-700B-WDR-160	µmhos/cm	EPA 120.1	1.00	2.00	6610

### QA/QC Summary

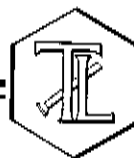
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977227	6610	6620	0.15%	≤ 10%	Yes
	QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
	Blank	ND	<2.00	---	<2.00	Yes
	CCS	701	706	99.3%	90% - 110%	Yes
	CVS#1	978	996	98.2%	90% - 110%	Yes
	LCS	701	706	99.3%	90% - 110%	Yes
	LCSD	701	706	99.3%	90% - 110%	Yes

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977227

**Date:** July 28, 2008

**Collected:** July 17, 2008

**Received:** July 17, 2008

**Prep/ Analyzed:** July 18, 2008

**Analytical Batch:** 07TDS08G

**Investigation:**

**Total Dissolved Solids by SM 2540C**

### Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
977227	SC-700B-WDR-160	mg/L	SM 2540C	250	4030

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	977227	4030	4070	0.49%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	500	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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9717227

COC Number

TURNAROUND TIME

DATE 7/7/08

DATE 7/7/08

## CHAIN OF CUSTODY RECORD

**IM3Plant-WDR-160]**

**TRUESDAIL LABORATORIES, INC.**

14201 Franklin Avenue, Tustin, CA 92780-7008

**TEL: (714) 730-6239 FAX: (714) 730-6462**

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

977227

COMPANY	PROJECT NAME	PHONE	FAX	ADDRESS	P.O. NUMBER	SAMPLERS (SIGNATURE)	SAMPLE ID.	DATE	TIME	DESCRIPTION
E2	PG&E Topock	(530) 229-3303	FAX (530) 339-3303	155 Grand Ave Ste 1000 Oakland, CA 94612	358342.TM.02.00		SC-700B-WDR-160	9/9/08	0830	Water
<div style="float: right;"> <b>NUMBER OF CONTAINERS</b>            Temp - 84.9            EC - 7.58            pH - 7.9         </div>										
<div style="float: right;"> <b>TOTAL NUMBER OF CONTAINERS</b>            PH-7         </div>										

# TSR

**ALERT!!**

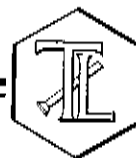
**Level III QC**

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL	WARM	°F
<i>[Signature]</i>	<i>A. De</i>		7-17-08 0830		<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES	NO	
<i>Rafael Davila</i>	<i>Rafael</i>	<i>T. L. I</i>	7-17-08	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
<i>Rafael Davila</i>	<i>Rafael</i>	<i>T. L. I</i>	7-17-08 20:00				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
<i>Rafael Davila</i>	<i>Rafael</i>	<i>T. L. I</i>	7-17-08 20:00				
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time				
<i>Rafael Davila</i>	<i>Rafael</i>	<i>T. L. I</i>	7-17-08 20:00				
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
<i>Rafael Davila</i>	<i>Rafael</i>	<i>T. L. I</i>	7-17-08 20:00				

033

# 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 31, 2008

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-161 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 977344

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-161 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, 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 23, 2008, 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 the large number of samples in-house, the sample for Total Chromium analysis was analyzed by method EPA 200.8, rather than EPA 200.7 as requested on the chain of custody.

The straight run for the matrix spike 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.

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.

*Seem Candia*  
for  
Mona Nassimi  
Manager, Analytical Services

*K.R.P. Iyer*  
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 Samples

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

**Project No.:** 358342.TM.02.00

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

**Laboratory No.:** 977344

**Date:** July 31, 2008

**Collected:** July 23, 2008

**Received:** July 23, 2008

## ANALYST LIST

ANALYST LIST		
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chaves
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

# TRUESDAIL LABORATORIES, INC.

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## REPORT

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

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Samples  
**Project Name:** PG&E Topock Project  
**Project No.:** 358342.TM.02.00  
**P.O. No.:** 358342.TM.02.00  
**Prep. Batch:** 072408A

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

**Laboratory No.:** 977344

**Date:** August 4, 2008  
**Collected:** July 23, 2008  
**Received:** July 23, 2008  
**Prep/ Analyzed:** July 24, 2008  
**Analytical Batch:** 072408A  
**Revision** 1

**Investigation:** Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer  
using EPA 200.8

### Analytical Results Total Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>Run Time</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977344-1	SC-700B-WDR-161	µg/L	EPA 200.8	14:07	1.00	1.00	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977344	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	977344	0.00	1.00	50.0	50.0	54.3	50.0	109%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	---	<1.00	Yes
MRCCS	48.8	50.0	97.6%	90% - 110%	Yes
MRCVS#1	49.7	50.0	99.4%	90% - 110%	Yes
ICS	48.9	50.0	97.8%	80% - 120%	Yes
LCS	20.4	20.0	102%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

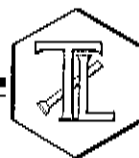
*for*   
Mona Nassimi, Manager  
Analytical Services

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

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# TRUESDAIL LABORATORIES, INC.

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## REPORT

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TUSTIN, CALIFORNIA 92780-7008  
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**Client:** E2 Consulting Engineers, Inc.  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Laboratory No.:** 977344

**Sample:** One (1) Groundwater Samples  
**Project Name:** PG&E Topock Project  
**Project No.:** 358342.TM.02.00  
**P.O. No.:** 358342.TM.02.00

**Date:** July 31, 2008  
**Collected:** July 23, 2008  
**Received:** July 23, 2008  
**Prep/ Analyzed:** July 24, 2008  
**Analytical Batch:** 07CrH08G

**Investigation:**

**Hexavalent Chromium by EPA 218.6**

### 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>
977344-1	SC-700B-WDR-161	11:00	10:54	µg/L	1.05	0.20	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977345-1	182	182	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	977344-1	0.00	1.06	1.00	1.06	1.08	1.06	102%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	—	<0.200	Yes
MRCSS	5.03	5.00	101%	90% - 110%	Yes
MRCVS#1	10.1	10.0	101%	95% - 105%	Yes
MRCVS#2	9.93	10.0	99.3%	95% - 105%	Yes
LCS	5.03	5.00	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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## REPORT

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TUSTIN, CALIFORNIA 92780-7008  
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www.truesdall.com

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

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977344

**Date:** July 31, 2008

**Collected:** July 23, 2008

**Received:** July 23, 2008

**Prep/ Analyzed:** July 24, 2008

**Analytical Batch:** 07TUC08Q

**Investigation:**

**Turbidity by Method SM 2130B**

### Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977344-1	SC-700B-WDR-161	11:00	NTU	1.00	0.100	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977353-4	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.05	8.00	101%	90% - 110%	Yes
LCS	8.00	8.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for Sean Carda*  
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

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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 Samples

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977344

**Date:** August 4, 2008

**Collected:** July 23, 2008

**Received:** July 23, 2008

**Prep/ Analyzed:** July 24, 2008

**Analytical Batch:** 07PH08V

Revision 1

**Investigation:**

pH by SM 4500-H B

### Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
977344-1	SC-700B-WDR-161	11:00	08:55	pH	0.0700	2.00	8.01

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance Limits	QC Within Control
Duplicate	977344-1	8.01	8.01	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
MRCVS	7.00	7.00	0.00	+ 0.100 Units	Yes
LCS	7.05	7.00	0.05	+ 0.100 Units	Yes

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

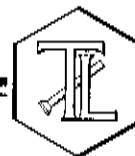
for *Sean Carter*  
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

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## REPORT

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

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

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977344

**Date:** August 4, 2008

**Collected:** July 23, 2008

**Received:** July 23, 2008

**Prep/ Analyzed:** July 24, 2008

**Analytical Batch:** 07EC08G

Revision 1

**Investigation:**

**Specific Conductivity by EPA 120.1**

### Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977344-1	SC-700B-WDR-161	µmhos/cm	EPA 120.1	1.00	2.00	6270

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977344-1	6270	6270	0.00%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	—	<2.00	Yes
CCS	696	706	98.6%	90% - 110%	Yes
CVS#1	978	996	98.2%	90% - 110%	Yes
LCS	696	706	98.6%	90% - 110%	Yes
LCSD	696	706	98.6%	90% - 110%	Yes

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

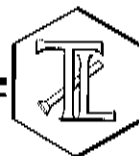
*Sean Condon*  
f. Mona Nassimi, Manager  
Analytical Services

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Established 1931

## REPORT

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

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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**Laboratory No.:** 977344

**Date:** July 31, 2008

**Collected:** July 23, 2008

**Received:** July 23, 2008

**Prep/ Analyzed:** July 24, 2008

**Analytical Batch:** 07TDS08J

**Investigation:**

**Total Dissolved Solids by SM 2540C**

### Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
977344-1	SC-700B-WDR-161	mg/L	SM 2540C	250	4200

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	977344-1	4200	4160	0.48%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	501	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Sam Cassin*  
for Mona Nassimi, Manager  
Analytical Services



TRUESDAIL LABORATORIES, INC.  
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# CHAIN OF CUSTODY RECORD

Rec'd 07/23/08  
977344

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 358342, TM.02.00 TEAM 1  
SAMPLERS (SIGNATURE) *[Signature]*

SAMPLE ID. SC-700B-WDR-161 DATE 7-23-08 11:00 DESCRIPTION Water

DATE	TIME	DESCRIPTION	Cr6 (218.6) Lab Filtered	Total Metals (200.7) Total Chromium	Specific Conductance (120.1)	TDS (500.0C)	PH (5M4500HB)	Turbidity (SM2130)	NUMBER OF CONTAINERS	COMMENTS
7-23-08	11:00	Water	x	x	x	x	x	x	3	7-23-08 PH-8.0 EC-6.97 Temp: 84.3 Temp: 11:06 PH 7
									3	TOTAL NUMBER OF CONTAINERS

COC Number  
TURNAROUND TIME  
DATE 7-23-08 PAGE 1 OF 1

ALERT!!  
Level III QC

For Sample Collection  
See Field Notebook

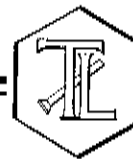
## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	<i>[Signature]</i>	Printed Name	Bonifacio	Company/ Agency	am	Date/ Time	7-23-08 11:00
Signature (Received)	Bonifacio Dayag	Printed Name	Bonifacio DAYAG	Company/ Agency	TL	Date/ Time	7-23-08 15:30
Signature (Relinquished)	Bonifacio Dayag	Printed Name	Bonifacio DAYAG	Company/ Agency	TL	Date/ Time	7-23-08 20:30
Signature (Received)	Hipolito	Printed Name	Hipolito	Company/ Agency	TL	Date/ Time	7-23-08 20:35
Signature (Relinquished)		Printed Name		Company/ Agency		Date/ Time	
Signature (Received)		Printed Name		Company/ Agency		Date/ Time	

SAMPLE CONDITIONS	
RECEIVED	COOL <input type="checkbox"/> WARM <input type="checkbox"/>
CUSTODY SEALED	YES <input type="checkbox"/> NO <input type="checkbox"/>
SPECIAL REQUIREMENTS:	

# TRUESDAIL LABORATORIES, INC.

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14201 FRANKLIN AVENUE  
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August 5, 2008

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-162 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 977541

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-162 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, 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 30, 2008, 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 the large number of samples in-house, the sample for Total Chromium analysis was analyzed by method EPA 200.8, rather than EPA 200.7 as requested on the chain of custody.

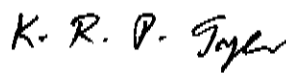
The straight run for the matrix spike for Hexavalent Chromium analysis by EPA 218.6 was just outside the retention time window. Because the matrix spike recovery was within acceptable limits and the results from the 5x dilution agree with those from the straight run, the data from the straight run is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

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.

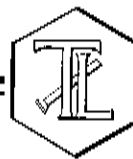
Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
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 Samples

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

**Project No.:** 358342.TM.02.00

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

**Laboratory No.:** 977541

**Date:** August 5, 2008

**Collected:** July 30, 2008

**Received:** July 30, 2008

## ANALYST LIST

EPA 120.1	Specific Conductivity	Tina Acquiati
SM 4500-H B	pH	Tina Acquiati
SM 2540C	Total Dissolved Solids	Tina Acquiati
SM 2130B	Turbidity	Gautam Savani
EPA 200.8	Total Chromium	Romuel Chaves
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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## REPORT

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

Attention: Shawn Duffy

Sample: One (1) Groundwater Samples  
Project Name: PG&E Topock Project  
Project No.: 358342.TM.02.00  
P.O. No.: 358342.TM.02.00  
Prep. Batch: 073108A

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

Laboratory No.: 977541

Date: August 5, 2008

Collected: July 30, 2008

Received: July 30, 2008

Prep/ Analyzed: July 31, 2008

Analytical Batch: 073108A

Investigation: Total Chromium by Inductively Coupled Argon Plasma Mass Spectrometer  
using EPA 200.8

### Analytical Results Total Chromium

TLI I.D.	Field I.D.	Units	Method	Run Time	DF	RL	Results
977541	SC-700B-WDR-162	µg/L	EPA 200.8	16:54	1.00	1.00	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	976778	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	976778	0.00	1.00	50.0	50.0	52.7	50.0	105%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<1.00	—	<1.00	Yes
MRCCS	51.1	50.0	102%	90% - 110%	Yes
MRCVS#1	50.4	50.0	101%	90% - 110%	Yes
MRCVS#2	49.8	50.0	99.6%	90% - 110%	Yes
ICS	48.7	50.0	97.4%	80% - 120%	Yes
LCS	19.9	20.0	99.5%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Sean Carls*  
for Mona Nassimi, Manager  
Analytical Services

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**Laboratory No.:** 977541

**Sample:** One (1) Groundwater Samples  
**Project Name:** PG&E Topock Project  
**Project No.:** 358342.TM.02.00  
**P.O. No.:** 358342.TM.02.00

**Date:** August 5, 2008  
**Collected:** July 30, 2008  
**Received:** July 30, 2008  
**Prep/ Analyzed:** July 31, 2008  
**Analytical Batch:** 07CrH081

**Investigation:**

**Hexavalent Chromium by EPA 218.6**

### 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>
977541	SC-700B-WDR-162	11:40	10:58	µg/L	1.05	0.20	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977541 5.25X	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	977541	0.00	1.06	1.00	1.06	1.05	1.06	99.1%	90 - 110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	4.99	5.00	99.8%	90% - 110%	Yes
MRCVS#1	9.95	10.0	99.5%	95% - 105%	Yes
LCS	4.98	5.00	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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

008



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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977541

**Date:** August 5, 2008

**Collected:** July 30, 2008

**Received:** July 30, 2008

**Prep/ Analyzed:** July 31, 2008

**Analytical Batch:** 07TUC08U

**Investigation:**

**Turbidity by Method SM 2130B**

### Analytical Results Turbidity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977541	SC-700B-WDR-162	11:40	NTU	1.00	0.100	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	977566-1	6.20	6.22	0.32%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.100	---	<0.100	Yes
LCS	8.05	8.00	101%	90% - 110%	Yes
LCS	8.10	8.00	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

  
Mona Nassimi, Manager  
Analytical Services

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977541

**Date:** August 5, 2008

**Collected:** July 30, 2008

**Received:** July 30, 2008

**Prep/ Analyzed:** July 31, 2008

**Analytical Batch:** 07PH08AA

**Investigation:**

pH by SM 4500-H B

### Analytical Results pH

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
977541	SC-700B-WDR-162	11:40	09:05	pH	0.0700	2.00	7.98

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	977541	7.98	7.98	0.00	+ 0.100 Units	Yes

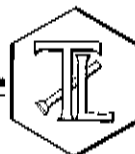
QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
MRCVS	7.01	7.00	0.01	+ 0.100 Units	Yes
LCS	7.01	7.00	0.01	+ 0.100 Units	Yes

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977541

**Date:** August 5, 2008

**Collected:** July 30, 2008

**Received:** July 30, 2008

**Prep/ Analyzed:** July 31, 2008

**Analytical Batch:** 07EC08K

**Investigation:**

**Specific Conductivity by EPA 120.1**

### Analytical Results Specific Conductivity

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
977541	SC-700B-WDR-162	µmhos/cm	EPA 120.1	1.00	2.00	6590

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977541	6590	6590	0.00%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<2.00	---	<2.00	Yes
CCS	697	706	98.7%	90% - 110%	Yes
CVS#1	984	996	98.8%	90% - 110%	Yes
LCS	697	706	98.7%	90% - 110%	Yes
LCSD	697	706	98.7%	90% - 110%	Yes

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Sean Candler*  
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) Groundwater Samples

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

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**Laboratory No.:** 977541

**Date:** August 5, 2008

**Collected:** July 30, 2008

**Received:** July 30, 2008

**Prep/ Analyzed:** July 31, 2008

**Analytical Batch:** 07TDS08N

**Investigation:**

**Total Dissolved Solids by SM 2540C**

### Analytical Results Total Dissolved Solids

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>RL</u>	<u>Results</u>
977541	SC-700B-WDR-162	mg/L	SM 2540C	250	4140

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	977541	4140	4160	0.24%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<25.0	---	<25.0	Yes
LCS 1	501	500	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*for*   
Monna Nassimi, Manager  
Analytical Services

175276

**TRUESDAL LABORATORIES, INC.**  
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[www.truesdal.com](http://www.truesdal.com)

**CHAIN OF CUSTODY RECORD**  
[IM3Plant-WDR-162]

COC Number

5 Days

## TURNAROUND TIME

DATE 7-30-01 PAGE 1 OF 1

[illegible]

**ALERT!!**

Level III QC

**HSR**

CHAIN OF CUSTODY SIGNATURE RECORD						SAMPLE CONDITIONS			
	Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time		RECEIVED	COOL	WARM	°F
	<i>[Signature]</i>	AIDE	OMT	7-30-08 1:40			<input type="checkbox"/>	<input type="checkbox"/>	
	<i>[Signature]</i>	Rafael Davis	Company/ Agency	7-30-08 1:50		CUSTOMDY SEALED	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
	<i>[Signature]</i>	Mushen	Company/ Agency	7-30-08 2:30		SPECIAL REQUIREMENTS:			
	<i>[Signature]</i>	Hushe	Company/ Agency	7-30-08 8:45					
	<i>[Signature]</i>	Hushe	Company/ Agency	7-30-08 8:45					
	<i>[Signature]</i>	Hushe	Company/ Agency	7-30-08 8:45					

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July 30, 2008

14201 FRANKLIN AVENUE  
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www.truesdail.com

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-159 PROJECT, SLUDGE  
MONITORING,

TLI NO.: 977067

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-159 project sludge monitoring. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on July 10, 2008, 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.

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 Sean Candan*  
for 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:** One (1) Soil Sample

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

**Project No.:** 358342.TM.02.00

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

**Laboratory No.:** 977067

**Date:** July 31, 2008

**Collected:** July 10, 2008

**Received:** July 10, 2008

## ANALYST LIST

EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Hao Ton
SW 6020	Metals by ICP/MS	Linda Saetern
SW 7471A	Mercury	Romuel Chaves
SW 7199	Hexavalent Chromium	David Blackburn

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

**Attention:** Shawn Duffy

**Sample:** One (1) Soil Sample

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Prep. Batch:** 07CrH08F

**Laboratory No.:** 977067

**Date:** July 31, 2008

**Collected:** July 10, 2008

**Received:** July 10, 2008

**Prep/ Analyzed:** July 23, 2008

**Analytical Batch:** 07CrH08F

### Investigation:

Hexavalent Chromium by IC Using Method SW 7199

### Analytical Results Hexavalent Chromium

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
977067	SC-Sludge-WDR-159	08:40	16:30	mg/kg	10.0	16.0	204

### QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977067	204	200	1.78%	< 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	977067	204	10.0	32.0	320	495	524	91.0%	75-125%	Yes
IMS	977067	204	40.0	78.8	3152	3240	3356	96.3%	75-125%	Yes
PDMS	977067	204	25.0	25.6	640	825	844	97.1%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.400	—	<0.400	Yes
MRCCS	2.16	2.00	108%	80% - 120%	Yes
MRCVS#1	2.14	2.00	107%	80% - 120%	Yes
LCS	2.11	2.00	106%	80% - 120%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

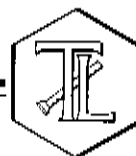
*for Sean Condon*  
Mona Nassimi, Manager  
Analytical Services

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**Attention:** Shawn Duffy

**Laboratory No.:** 977067

**Date:** July 31, 2008

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

**Collected:** July 10, 2008

**Project No.:** 358342.TM.02.00

**Received:** July 10, 2008

**P.O. No.:** 358342.TM.02.00

**Prep/ Analyzed:** July 16, 2008

**Analytical Batch:** 07SOLID08B

**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>
977067	SC-Sludge-WDR-159	08:40	%	75.0

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	977067	75.0	74.9	0.13%	≤ 20%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

Respectfully submitted,  
**TRUESDAIL LABORATORIES, INC.**

*Sean Condon*  
for Mona Nassimi, Manager  
Analytical Services

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

**Project No.:** 358342.TM.02.00

**P.O. No.:** 358342.TM.02.00

**Laboratory No.:** 977067

**Date:** July 31, 2008

**Collected:** July 10, 2008

**Received:** July 10, 2008

**Prep/ Analyzed:** July 11, 2008

**Analytical Batch:** 07AN08I

**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>
977067	SC-Sludge-WDR-159	08:40	12:53	mg/kg	1.00	16.0	102

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	977067	102	102	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	977067	102	1.00	320	320	428	422	102%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
Blank	ND	<0.200	---	<0.200	Yes
MRCCS	4.15	4.00	104%	90% - 110%	Yes
MRCVS#1	3.11	3.00	104%	90% - 110%	Yes
MRCVS#2	3.10	3.00	103%	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.**

*for*   
Mona Nassimi, Manager  
Analytical Services

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**Samples:** One (1) Soil Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 358342.TM.02.00  
**P.O. No.:** 358342.TM.02.00

**Investigation:** Total Metal Analyses as Requested

## REPORT

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**Laboratory No.:** 977067

**Reported:** July 31, 2008

**Collected:** July 10, 2008

**Received:** July 10, 2008

**Analyzed:** See Below

## Analytical Results

SAMPLE ID: SC-Sludge-WDR-159		Time Collected: 08:40		LAB ID: 977067				
Parameter	Method	Reported				Batch	Date	Time
		Value	DF	Units	RL		Analyzed	Analyzed
Antimony	SW 6010B	211	1.00	mg/kg	3.79	071408A	07/14/08	11:59
Arsenic	SW 6010B	79.5	1.00	mg/kg	2.50	071408A	07/14/08	11:59
Barium	SW 6010B	96.9	1.00	mg/kg	2.50	071408A	07/14/08	11:59
Beryllium	SW 6010B	299	1.00	mg/kg	2.50	071408A	07/14/08	11:59
Cadmium	SW 6010B	43.5	1.00	mg/kg	3.79	072108A	07/21/08	14:04
Chromium	SW 6010B	16400	10.0	mg/kg	19.0	071408A	07/14/08	13:02
Cobalt	SW 6010B	ND	1.00	mg/kg	2.50	071408A	07/14/08	11:59
Copper	SW 6010B	86.6	1.00	mg/kg	2.50	071408A	07/14/08	11:59
Lead	SW 6010B	ND	1.00	mg/kg	3.79	071408A	07/14/08	11:59
Mercury	SW 7471A	0.564	171	mg/kg	0.137	07HG08D	07/29/08	13:11
Molybdenum	SW 6020	31.3	100	mg/kg	18.96	071408B	07/14/08	16:32
Nickel	SW 6010B	ND	1.00	mg/kg	2.50	071408A	07/14/08	11:59
Selenium	SW 6020	ND	100	mg/kg	19.0	071408A	07/14/08	16:32
Silver	SW 6010B	17.4	1.00	mg/kg	3.79	071408A	07/14/08	11:59
Thallium	SW 6010B	ND	1.00	mg/kg	3.79	071408A	07/14/08	11:59
Vanadium	SW 6010B	163	1.00	mg/kg	2.50	071408A	07/14/08	11:59
Zinc	SW 6010B	110	1.00	mg/kg	9.48	071408A	07/14/08	11:59

### NOTES:

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

ND: Not detected, or below limit of detection.

DF: Dilution factor.

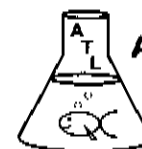
Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Sean Condon*  
for Mona Nassimi, Manager  
Analytical Services

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



# LABORATORY REPORT



**Aquatic  
Testing  
Laboratories**

*"dedicated to providing quality aquatic toxicity testing"*

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

**Date:** July 21, 2008  
**Client:** Truesdail Laboratories, Inc.  
14201 Franklin Avenue  
Tustin, CA 92780  
Attn: Sean Condon

**Laboratory No.:** A-08071501-001  
**Sample ID.:** 977067

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

Date Sampled: 07/10/08  
Date Received: 07/15/08  
Date Tested: 07/16/08 to 07/20/08

**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>
977067	PASS (LC50 > 750 mg/l)

**Quality Control:** Reviewed and approved by:

  
Joseph A. LeMay  
Laboratory Director