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December 14, 2007

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  
November 2007 Monitoring Report**

Dear Mr. Perdue:

Enclosed is the November 2007 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 Colorado River Basin Regional Water Quality Control Board (Water Board) under Order R7-2006-0060. The WDRs apply to IM No. 3 Treatment System discharge by subsurface injection.

During November 2007, analysis of pH was conducted at Truesdail laboratories 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 – Clarification of Monitoring and Reporting Program Requirements, authorizing pH measurements to be conducted in the field.

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:

November 2007 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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# **November 2007 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**

December 14, 2007

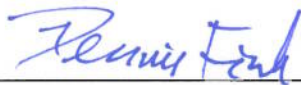
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**November 2007 Monitoring Report  
Interim Measure No. 3 Groundwater Treatment System  
Waste Discharge Requirements Order No. R7-2006-0060  
PG&E Topock Compressor Station  
Needles, California**

Prepared for  
Pacific Gas and Electric Company

December 14, 2007

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



Dennis Fink, P.E. No. 68986  
Project Engineer



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# Acronyms and Abbreviations

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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 November 2007.** 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 and figures 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 November 2007, extraction wells TW-3D and PE-1 operated at a target pump rate of 135 gallons per minute (gpm) excluding periods of planned and unplanned downtime. Extraction well TW-2D was operated for short periods while extraction well PE-1 was being serviced on November 5th and while collecting a groundwater sample on November 6th. The operational run time for the IM groundwater extraction system (combined or individual pumping) was 98 percent during the November 2007 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 November 2007 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 well 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 5,704,847 gallons of extracted groundwater during November 2007. The IM No. 3 facility also treated approximately 1,415 gallons of water generated from the groundwater monitoring program. One container of solids from the IM No. 3 facility was transported offsite during November 2007.

Periods of planned and unplanned extraction system down time (that together resulted in 2 percent downtime during November 2007) 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.

- **November 6, 2007 (planned):** The extraction well system was temporarily offline from 11:41 am until 11:44 am to complete operator training. Extraction system downtime was 3 minutes.
- **November 10, 2007 (unplanned):** The extraction well system was offline from 2:15 pm until 2:17 pm to re-start the facility after a City of Needles power failure. Extraction system downtime was 2 minutes.
- **November 14 and 15 2007 (planned):** The extraction well system was offline during November 14<sup>th</sup> and 15<sup>th</sup> two days to complete plant maintenance and re-start, as described below. The total extraction system downtime was 13 hours 31 minutes.
  - November 14<sup>th</sup> from 7:40 am until 4:03 pm to complete planned facility maintenance associated with the RO unit, iron oxidation tanks, and clarifier.
  - November 14<sup>th</sup> from 5:32 pm until 7:10 pm, and for one minute at 7:21 pm, while replacing a fouled microfilter strainer encountered while re-starting the facility.
  - November 14<sup>th</sup> from 7:23 pm until 8:38 pm to replace a failed gasket on the RO Unit discovered while re-starting the facility.
  - November 15<sup>th</sup> from 12:44 am until 12:57 am and 1:23 am until 3:24 am to operate the facility in a re-circulation mode to attain normal operating parameters while bringing the plant back on-line after maintenance activities.

- **November 19, 2007 (unplanned):** The extraction well system was offline from 2:28 am until 2:43 am and 3:14 am until 3:18 am to re-start the facility after failure of the variable frequency drive on pump P-400. Extraction system downtime was 19 minutes.
- **November 21, 2007 (unplanned):** The extraction well system was offline from 11:31 am until 11:33 am, 11:56 until 11:57 am, and 1:17 pm until 1:18 pm while testing the pipeline leak detection system. Extraction system downtime was 4 minutes.
- **November 26, 2007 (unplanned):** The extraction well system was offline from 1:30 pm until 1:34 pm, 1:39 pm until 1:42 pm, and 2:03 pm until 2:13 pm to complete testing of the City of Needles power supply and to transfer operations to generator power. Extraction system downtime was 17 minutes.
- **November 27, 2007 (unplanned):** The extraction well system was offline from 11:21 am until 11:41 am to return operation from generator power to City of Needles power. Extraction system downtime was 20 minutes.
- **November 28, 2007 (unplanned):** The extraction well system was offline from 3:15 pm until 3:21 pm to test City of Needles power. Extraction system downtime was 6 minutes.
- **November 30, 2007 (unplanned):** The extraction well system was offline from 11:02 am until 11:04 am to transfer operations from generator power to City of Needles power. Extraction system downtime was 2 minutes.
- **November 30, 2007 (unplanned):** The extraction well system was offline from 9:06 pm until 9:20 pm to transfer operations to generator power after a City of Needles power imbalance. Extraction system downtime was 14 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.

During November 2007, analysis of pH was conducted at Truesdail laboratories 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 – 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 was 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 November 2007 were prepared by certified analytical laboratories, and are presented in Appendix A.

The November 2007 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 November 7, 2007. Results are presented in Table 3.
- The effluent was sampled weekly; the sample dates were November 7, 13, 20, and 27, 2007. Results are presented in Table 4.
- The reverse osmosis concentrate was sampled monthly; the sample date was November 7, 2007. Results are presented in Table 5.
- The sludge was sampled monthly; the sample date was November 7, 2007. 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 Fourth Quarter 2007 aquatic bioassay test was performed on a sludge sample collected October 3, 2007. Results were presented in the October 2007 IM3 Monitoring Report issued to the Water Board November 15, 2007.

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

In addition to the WDR required parameters, one influent sample (collected November 7, 2007) was analyzed for dissolved manganese. The additional analysis was completed for IM No. 3 facility treatment process evaluation and overall water chemistry characterization. The concentration is comparable to historic influent conditions and the laboratory report is included in Appendix A.

## 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.

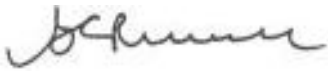
## 8.0 Certification

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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: \_\_\_\_\_ December 14, 2007





**TABLE 1**  
**Sampling Station Descriptions**  
*November 2007 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  
*November 2007 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System*

Parameter	System Influent <sup>a,b</sup> (gpm)	System Effluent <sup>b,c</sup> (gpm)	Reverse Osmosis Concentrate <sup>b</sup> (gpm)
November 2007 Average Monthly Flowrate	132.1	124.1	8.0

**Notes:**

gpm: gallons per minute.

<sup>a</sup> Extraction wells TW-3D and PE-1 were operated during November 2007. Extraction well TW-2D was operated for short periods on November 5<sup>th</sup> while extraction well PE-1 was being serviced and on November 6<sup>th</sup> to allow for a groundwater sample to be collected.

<sup>b</sup> The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates during November 2007 was less than 0.08 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 treated at the IM-3 facility in addition to the 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 into injection well IW-03 during November 2007.

TABLE 3  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Influent Monitoring Results <sup>a</sup>  
November 2007 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																							
<div> </div> <div>Analytes</div> <div>Units <sup>b</sup></div> <div>MDL</div>	<div> </div> <div>Date</div>	TDS	Turbidity	Specific Conductance	pH <sup>c</sup>	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Manganese <sup>d</sup> Dissolved	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
		mg/L	NTU	µmhos/cm	pHunits	µg/L	µg/L	µg/L	mg/L	µg/L	µg/L	µg/L	mg/L	µg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	mg/L	mg/L	mg/L	µg/L	µg/L
		50.4	0.0070	0.153	0.0700	0.053	2.9	0.26	0.0710	0.022	0.015	0.016	0.0048	3.4	0.0250	0.018	0.016	0.016	0.017	0.13	0.0350	0.0010	0.600	2.4	3.1
Sample ID	Date																								
SC-100B-WDR-124	11/7/2007	4720	ND (0.100)	7710	7.44 J	1410	1500	ND (50.0)	ND (0.500)	ND (3.0)	ND (5.0)	ND (300)	1.14	ND (10.0)	2.87	ND (2.0)	3.4	3.7	21.5	ND (20.0)	3.38	ND (0.0050)	599	ND (20.0)	ND (20.0)
RL		250	0.100	2.00	2.00	1.0	20.0	50.0	0.500	3.0	5.0	300	0.200	10.0	0.500	2.0	2.0	2.0	5.0	20.0	1.00	0.0050	12.5	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> Dissolved Manganese was collected in additional to WDR required parameters; the sample was field filtered

TABLE 4  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Effluent Monitoring Results<sup>a</sup>  
November 2007 Monthly Report for Interim Measures No.3 Groundwater Treatment System

WDRs Effluent Limits <sup>b</sup>	Ave. Monthly	NA	NA	NA	6.5-8.4	6.5-8.4	25	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
	Max Daily	NA	NA	NA	6.5-8.4	6.5-8.4	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Required Sampling Frequency		Weekly							Monthly																	
<div><div></div><div>Analytes Units<sup>c</sup></div><div>MDL<sup>d</sup></div></div>	Date	TDS	Turbidity	Specific Conductance	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	0.0700	0.053	0.14	0.26	0.0710	0.022	0.015	0.016	0.0048	3.4	0.0250	0.018	0.016	0.017	0.13	0.0350	0.0010	0.600	2.4	3.1	
Sample ID	Date																									
SC-700B-WDR-124	11/7/2007	4180	ND (0.100)	6620	8.12 J	---	ND (1.0)	ND (0.20)	ND (50.0)	ND (0.500)	ND (3.0)	ND (5.0)	ND (300)	1.14	ND (10.0)	2.35	ND (2.0)	47.1	16.2	ND (20.0)	2.75	ND (0.0050)	500	ND (20.0)	ND (20.0)	
	RL	250	0.100	2.00	2.00	---	1.0	0.20	50.0	0.500	3.0	5.0	300	0.200	10.0	0.500	2.0	2.0	5.0	20.0	1.00	0.0050	12.5	20.0	20.0	
SC-700B-WDR-125	11/13/2007	4280	ND (0.100)	6600	8.16 J	---	ND (1.0)	ND (1.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	RL	250	0.100	2.00	2.00	---	1.0	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-126	11/20/2007	4240	ND (0.100)	6680	8.19 J	8.00	ND (1.0)	0.25	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	RL	250	0.100	2.00	2.00	2.00	1.0	0.20	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-127	11/27/2007	4350	ND (0.100)	6960	8.22 J	8.20	ND (1.0)	ND (1.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
	RL	250	0.100	2.00	2.00	2.00	1.0	1.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

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 it is necessary that pH measurements be conducted in the field.

TABLE 5  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Reverse Osmosis Concentrate Results <sup>a</sup>  
November 2007 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																						
Sample ID	Date	Analytes Units <sup>b</sup>  MDL	TDS	Specific Conductance	pH <sup>c</sup>	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	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
			50.4	0.153	0.0700	0.00027	0.00014	0.00011	0.000075	0.000081	0.00019	0.000058	0.00013	0.0034	0.0250	0.000091	0.000084	0.000030	0.00064	0.000080	0.00011	0.000090	0.000062	0.0031
SC-701-WDR-124	11/7/2007		19400	26400	7.94 J	0.0048	ND (0.0010)	ND (0.0030)	ND (0.0050)	ND (0.300)	ND (0.0010)	ND (0.0020)	ND (0.0050)	ND (0.0100)	10.2	0.0024	0.0860	ND (0.00020)	0.0200	0.0141	0.0061	ND (0.0010)	0.0112	ND (0.0200)
RL			250	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.

TABLE 6  
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)  
Sludge Monitoring Results<sup>a</sup>  
November 2007 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly <sup>c</sup>																		
<div><div></div><div>Analytes</div><div>Units <sup>b</sup></div><div>MDL</div></div>	<div><div></div><div>Sample ID</div><div>Date</div></div>	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper <sup>d</sup>	Fluoride	Lead <sup>d</sup>	Molybdenum <sup>d</sup>	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc <sup>d</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
		3.38	0.00029	0.315	0.230	0.0395	0.0329	0.0254	0.0400	0.132	0.100	0.164	0.110	0.0060	0.0691	0.0076	0.0099	0.112	0.0357	0.0907
SC-Sludge-WDR-124	11/7/2007	17900	242 J	ND (330)	66.6	103	91.7	32.2	ND (2.50)	37.4	90.1	ND (3.11)	ND (2.50)	ND (0.132)	ND (2.50)	ND (3.12)	2.42	9.27	108	126
RL		156	6.62	3.11	3.11	2.50	2.50	3.11	2.50	5.00	6.62	3.11	2.50	0.132	2.50	3.12	1.56	3.11	2.50	10.0

**NOTES:**  
(---) = not required by the WDR Monitoring and Reporting Program  
ND = parameter not detected at the listed value  
J = concentration or reporting limits estimated by laboratory or validation  
mg/kg = milligrams per kilogram  
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> Sample results are reported non-detect at (value) due to laboratory blank contamination.

TABLE 7

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

Monitoring Information

November 2007 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-124	Joe Aide	11/7/2007	1:40:00 PM	TLI	EPA 120.1	SC	11/8/2007	Tina Acquiat
					TLI	EPA 200.7	CU	11/12/2007	Mark Kotani
					TLI	EPA 200.7	FE	11/12/2007	Mark Kotani
					TLI	EPA 200.7	ZN	11/12/2007	Mark Kotani
					TLI	EPA 200.7	B	11/12/2007	Mark Kotani
					TLI	EPA 200.8	MND	11/13/2007	Linda Saetern
					TLI	EPA 200.8	AL	11/26/2007	Linda Saetern
					TLI	EPA 200.8	AS	11/13/2007	Linda Saetern
					TLI	EPA 200.8	BA	11/13/2007	Linda Saetern
					TLI	EPA 200.8	MN	11/13/2007	Linda Saetern
					TLI	EPA 200.8	MO	11/13/2007	Linda Saetern
					TLI	EPA 200.8	NI	11/13/2007	Linda Saetern
					TLI	EPA 200.8	PB	11/15/2007	Linda Saetern
					TLI	EPA 200.8	SB	11/13/2007	Linda Saetern
					TLI	EPA 200.8	CR	11/13/2007	Linda Saetern
					TLI	EPA 218.6	CR6	11/8/2007	Jean Paul Gleeson
					TLI	EPA 300.0	FL	11/9/2007	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	11/8/2007	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	11/9/2007	Giawad Ghenniwa
					TLI	SM2130B	TRB	11/8/2007	Gautam Savani
					TLI	SM2540C	TDS	11/9/2007	Tina Acquiat
					TLI	SM4500-HB	PH	11/8/2007	Tina Acquiat
					TLI	SM4500NH3B	NH3N	11/12/2007	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	11/8/2007	Tina Acquiat
SC-700B	SC-700B-WDR-124	Joe Aide	11/7/2007	1:10:00 PM	TLI	EPA 120.1	SC	11/8/2007	Tina Acquiat
					TLI	EPA 200.7	B	11/12/2007	Mark Kotani
					TLI	EPA 200.7	ZN	11/12/2007	Mark Kotani
					TLI	EPA 200.7	CU	11/12/2007	Mark Kotani
					TLI	EPA 200.7	FE	11/12/2007	Mark Kotani
					TLI	EPA 200.8	AS	11/13/2007	Linda Saetern
					TLI	EPA 200.8	SB	11/13/2007	Linda Saetern
					TLI	EPA 200.8	PB	11/15/2007	Linda Saetern
					TLI	EPA 200.8	NI	11/13/2007	Linda Saetern
					TLI	EPA 200.8	MO	11/13/2007	Linda Saetern
					TLI	EPA 200.8	MN	11/13/2007	Linda Saetern
					TLI	EPA 200.8	BA	11/13/2007	Linda Saetern

TABLE 7

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

Monitoring Information

November 2007 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-124	Joe Aide	11/7/2007	1:10:00 PM	TLI	EPA 200.8	AL	11/26/2007	Linda Saetern
					TLI	EPA 200.8	CR	11/13/2007	Linda Saetern
					TLI	EPA 218.6	CR6	11/8/2007	Jean Paul Gleeson
					TLI	EPA 300.0	FL	11/9/2007	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	11/8/2007	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	11/9/2007	Giawad Ghenniwa
					TLI	SM2130B	TRB	11/8/2007	Gautam Savani
					TLI	SM2540C	TDS	11/9/2007	Tina Acquiat
					TLI	SM4500-HB	PH	11/8/2007	Tina Acquiat
					TLI	SM4500NH3B	NH3N	11/12/2007	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	11/8/2007	Tina Acquiat
SC-700B	SC-700B-WDR-125	R. Phelps	11/13/2007	1:00:00 PM	TLI	EPA 120.1	SC	11/14/2007	Tina Acquiat
					TLI	EPA 200.8	CR	11/14/2007	Linda Saetern
					TLI	EPA 218.6	CR6	11/14/2007	Jean Paul Gleeson
					TLI	SM2130B	TRB	11/14/2007	Gautam Savani
					TLI	SM2540C	TDS	11/14/2007	Tina Acquiat
					TLI	SM4500-HB	PH	11/14/2007	Tina Acquiat
SC-700B	SC-700B-WDR-126	R. Phelps	11/20/2007	1:00:00 PM	TLI	EPA 120.1	SC	11/21/2007	Tina Acquiat
					TLI	EPA 200.8	CR	11/21/2007	Linda Saetern
					TLI	EPA 218.6	CR6	11/21/2007	Jean Paul Gleeson
					Field	FIELD DATA	PH	11/21/2007	R. Phelps
					TLI	SM2130B	TRB	11/21/2007	Gautam Savani
					TLI	SM2540C	TDS	11/21/2007	Tina Acquiat
					TLI	SM4500-HB	PH	11/21/2007	Tina Acquiat
SC-700B	SC-700B-WDR-127	David Chaney	11/27/2007	2:03:00 PM	TLI	EPA 120.1	SC	11/28/2007	Tina Acquiat
					TLI	EPA 200.8	CR	11/28/2007	Linda Saetern
					TLI	EPA 218.6	CR6	11/28/2007	Jean Paul Gleeson
					Field	FIELD DATA	PH	11/28/2007	David Chaney
					TLI	SM2130B	TRB	11/28/2007	Gautam Savani
					TLI	SM2540C	TDS	11/28/2007	Tina Acquiat
					TLI	SM4500-HB	PH	11/28/2007	Tina Acquiat
SC-701	SC-701-WDR-124	Joe Aide	11/7/2007	1:25:00 PM	TLI	EPA 120.1	SC	11/8/2007	Tina Acquiat
					TLI	EPA 200.7	ZN	11/12/2007	Mark Kotani
					TLI	EPA 200.7	FE	11/12/2007	Mark Kotani
					TLI	EPA 200.7	CU	11/12/2007	Mark Kotani



TABLE 7

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

Monitoring Information

November 2007 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-701	SC-701-WDR-124	Joe Aide	11/7/2007	1:25:00 PM	TLI	EPA 200.8	MN	11/13/2007	Linda Saetern
					TLI	EPA 200.8	SE	11/20/2007	Linda Saetern
					TLI	EPA 200.8	AG	11/13/2007	Linda Saetern
					TLI	EPA 200.8	CO	11/13/2007	Linda Saetern
					TLI	EPA 200.8	TL	11/13/2007	Linda Saetern
					TLI	EPA 200.8	SB	11/13/2007	Linda Saetern
					TLI	EPA 200.8	PB	11/15/2007	Linda Saetern
					TLI	EPA 200.8	NI	11/13/2007	Linda Saetern
					TLI	EPA 200.8	MO	11/13/2007	Linda Saetern
					TLI	EPA 200.8	CR	11/13/2007	Linda Saetern
					TLI	EPA 200.8	CD	11/13/2007	Linda Saetern
					TLI	EPA 200.8	BE	11/19/2007	Linda Saetern
					TLI	EPA 200.8	BA	11/13/2007	Linda Saetern
					TLI	EPA 200.8	AS	11/13/2007	Linda Saetern
					TLI	EPA 200.8	V	11/13/2007	Linda Saetern
					TLI	EPA 218.6	CR6	11/8/2007	Jean Paul Gleeson
					TLI	EPA 245.1	HG	11/9/2007	Michel Mendoza
					TLI	EPA 300.0	FL	11/9/2007	Giawad Ghenniwa
					TLI	EPA 300.0	NO3N	11/8/2007	Giawad Ghenniwa
					TLI	EPA 300.0	SO4	11/9/2007	Giawad Ghenniwa
					TLI	SM2540C	TDS	11/9/2007	Tina Acquiat
					TLI	SM4500-HB	PH	11/8/2007	Tina Acquiat
					TLI	SM4500NH3B	NH3N	11/12/2007	Iordan Stavrev
					TLI	SM4500NO2B	NO2N	11/8/2007	Tina Acquiat
Phase Seperator	SC-Sludge-WDR-124	Joe Aide	11/7/2007	2:00:00 PM	TLI	EPA 300.0	FL	11/9/2007	Giawad Ghenniwa
					TLI	EPA 6010B	NI	11/14/2007	Mark Kotani
					TLI	EPA 6010B	ZN	11/14/2007	Mark Kotani
					TLI	EPA 6010B	V	11/14/2007	Mark Kotani
					TLI	EPA 6010B	TL	11/14/2007	Mark Kotani
					TLI	EPA 6010B	PB	11/14/2007	Mark Kotani
					TLI	EPA 6010B	MO	11/14/2007	Mark Kotani
					TLI	EPA 6010B	CU	11/14/2007	Mark Kotani
					TLI	EPA 6010B	CR	11/14/2007	Mark Kotani
					TLI	EPA 6010B	CO	11/14/2007	Mark Kotani
					TLI	EPA 6010B	CD	11/14/2007	Mark Kotani
					TLI	EPA 6010B	BE	11/14/2007	Mark Kotani

TABLE 7

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

Monitoring Information

*November 2007 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-124	Joe Aide	11/7/2007	2:00:00 PM	TLI	EPA 6010B	BA	11/14/2007	Mark Kotani
					TLI	EPA 6010B	AS	11/14/2007	Mark Kotani
					TLI	EPA 6010B	SB	11/14/2007	Mark Kotani
					TLI	EPA 7471A	HG	11/9/2007	Michel Mendoza
					TLI	SM2540B	MOIST	11/7/2007	Gautam Savani
					TLI	SW 6020A	AG	11/21/2007	Michel Mendoza
					TLI	SW 6020A	SE	11/21/2007	Michel Mendoza
					TLI	SW 7199	CR6	11/13/2007	David Blackburn

TABLE 7

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

Monitoring Information

November 2007 Monthly Report for Interim Measures No.3 Groundwater Treatment System

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**NOTES:**

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

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

SC-701 = Sampling Location for all Reverse Osmosis Samples is tap on pipe T-701 (see attached P&ID TP-PR-10-10-08)

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

TLI = Truesdail Laboratories, Inc.

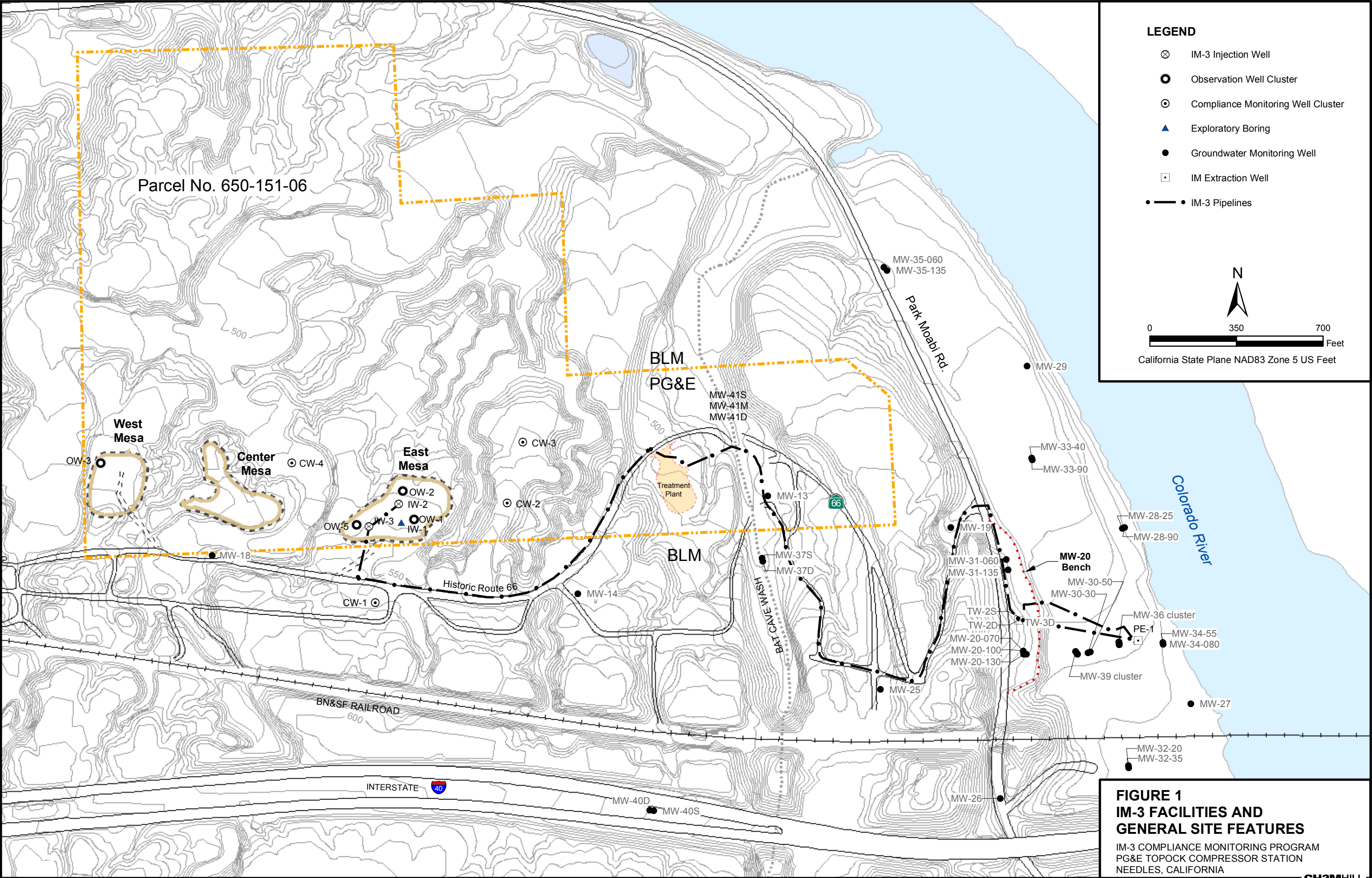
STL = Severn Trent Laboratories, Inc.

MBC = MBC Applied Environmental Sciences

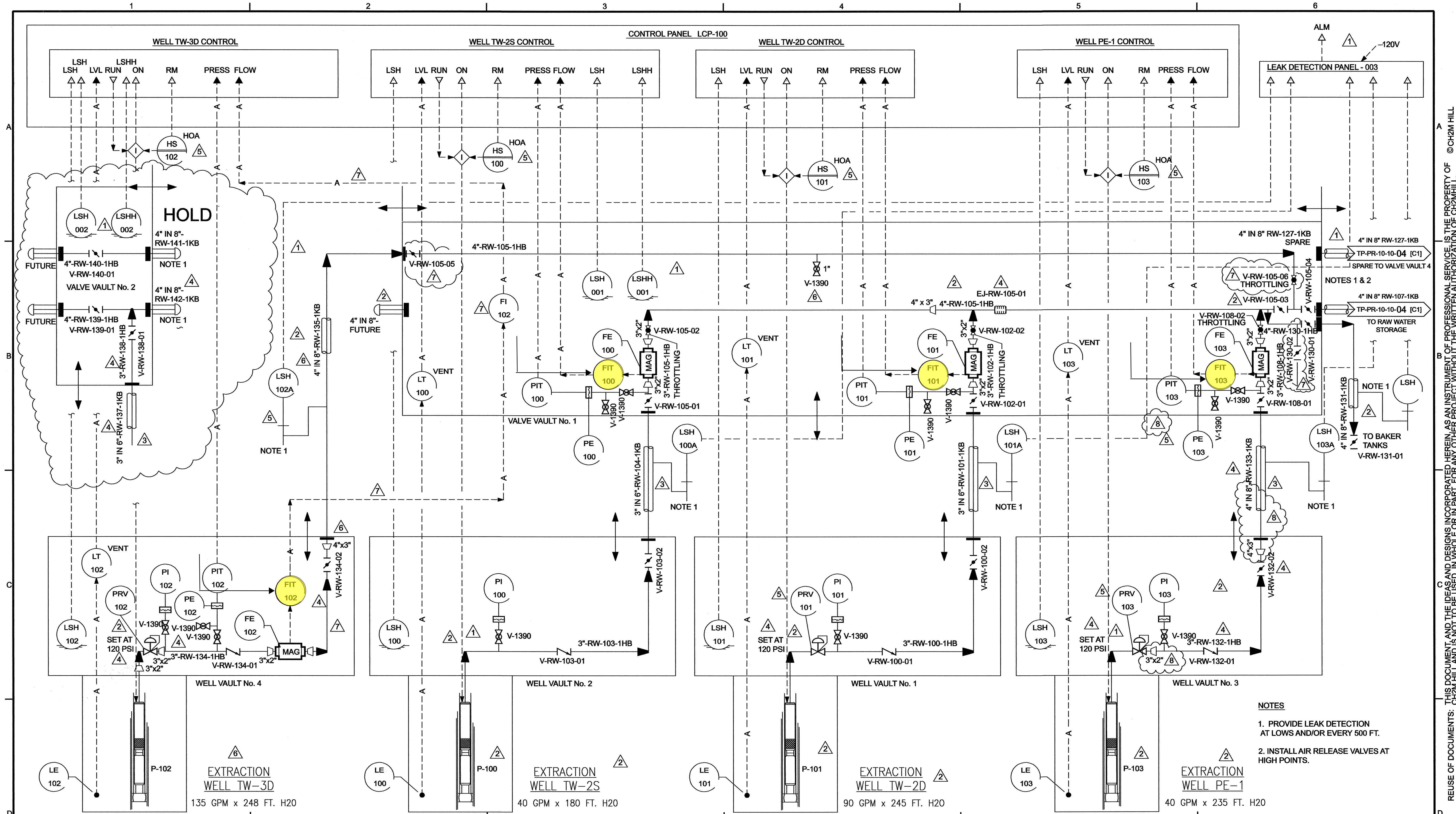
SC = specific conductance	MO = molybdenum
PH = pH	NI = nickel
TDS = total dissolved solids	PB = lead
TRB = turbidity	HG = mercury
CR = chromium	SE = selenium
CR6 = hexavalent chromium	TL = thallium
FL = fluoride	CO = cobalt
AL = aluminum	CD = cadmium
B = boron	BE = beryllium
FE = iron	AG = silver
MN = 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

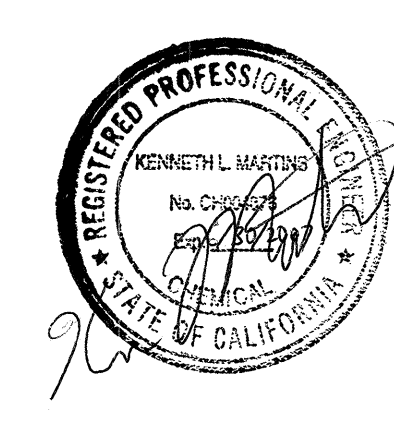
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- NOTES**
1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.
  2. INSTALL AIR RELEASE VALVES AT HIGH POINTS.



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

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

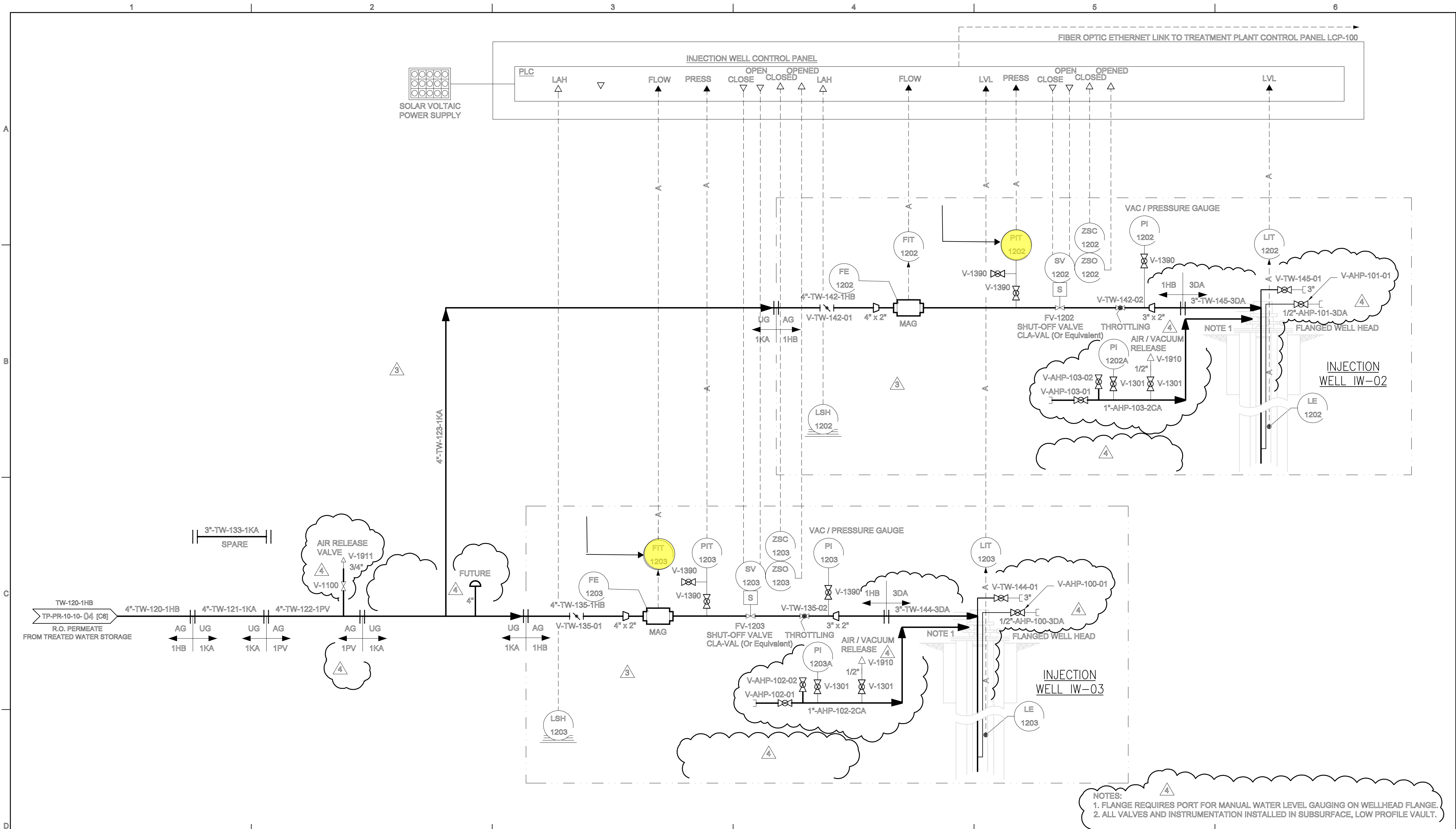
SCALE NONE

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

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

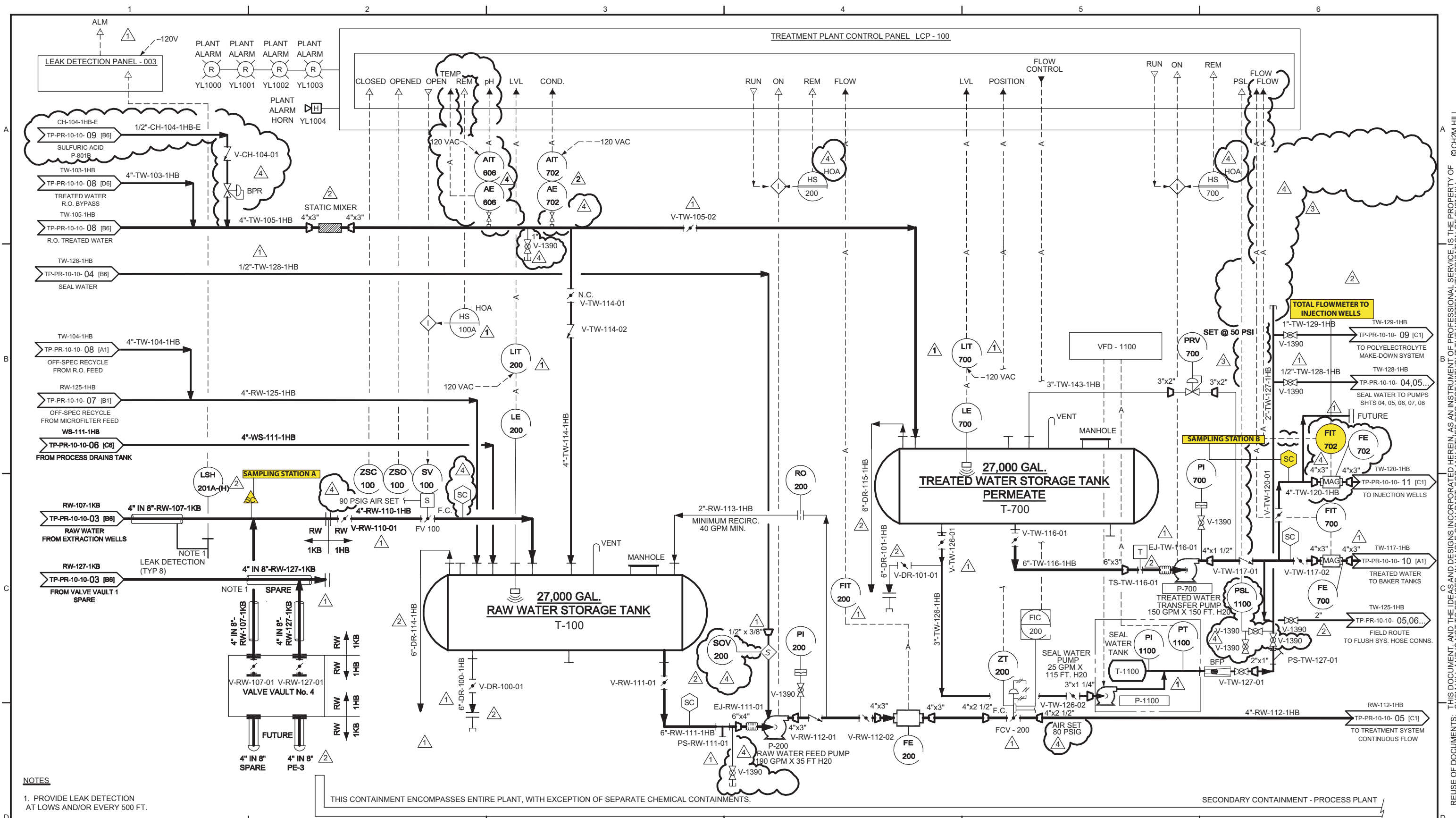
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RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH4876 Exp. 5-30-05	NO.	DATE	REVISION	BY	CHK	REVISION APPROVAL	REV 4	DATE 03/10/05	PRINT DISTRIBUTION	STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 EXPANDED GROUNDWATER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

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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		CLINT		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	









**Appendix A**  
**November 2007 Laboratory Analytical Reports**

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

November 4, 2007

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

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-124 PROJECT, GROUNDWATER  
MONITORING,  
TLI No.: 970934

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-124 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 November 7, 2007, 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 reported result at a dilution of 5x for Hexavalent Chromium, by EPA 218.6, for sample SC-701-WDR-124 was analyzed past the holding time. The straight run of the sample was within the holding time but was re-analyzed at a dilution of 5x, as the associated matrix spike did not recover due to matrix interference. Because the results from the re-analysis match the original run, the data is accepted.

The matrix spikes for samples SC-700B-WDR-124 and SC-701-WDR-124 fail due to the small amount of Hexavalent Chromium detected below the reporting limit.

The matrix spike for Total Barium by EPA 200.8 failed due to the amount of Barium detected in the sample which was below the contract required detection limit.

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.

*Sean Condon*  
for Mona Nassimi  
Manager, Analytical Services

*K.R.P. Iyer*

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwaters

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

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

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

**Laboratory No.:** 970934

**Date:** December 4, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
SM 4500-H B	pH	Tina Acquiat
SM 2540C	Total Dissolved Solids	Tina Acquiat
SM 4500-P B	Total Phosphorus	Kim Luck
SM 4500-Si D	Silica	Hope Trinidad
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
SM 2320 B	Alkalinity	Iordan Stavrev
EPA 200.7	Metals by ICP	Mark Kotani
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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EXCELLENCE IN INDEPENDENT TESTING



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## REPORT

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Attention: Shawn Duffy

Laboratory No.: 970934

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

Date: December 4, 2007  
Collected: November 7, 2007  
Received: November 7, 2007  
Prep/ Analyzed: November 8, 2007  
Analytical Batch: 11PH071

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>
970934-1	SC-100B-WDR-124	08:20	pH	0.0700	2.00	7.44
970934-2	SC-700B-WDR-124	08:24	pH	0.0700	2.00	8.12
970934-3	SC-701-WDR-124	08:30	pH	0.0700	2.00	7.94

### 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	970934-1	7.44	7.45	0.01	+ 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>
LCS	7.04	7.00	0.04	+ 0.100 Units	Yes
LCS #1	7.04	7.00	0.04	+ 0.100 Units	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*for Sean Candan*  
Mona Nassimi, Manager  
Analytical Services



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Laboratory No.: 970934

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

Date: December 4, 2007  
Collected: November 7, 2007  
Received: November 7, 2007  
Prep/ Analyzed: November 8, 2007  
Analytical Batch: 11EC07E

Investigation:

Specific Conductivity by EPA 120.1

### Analytical Results Specific Conductivity

TLI I.D.	Field I.D.	Units	Method	DF	RL	Results
970934-1	SC-100B-WDR-124	µmhos/cm	EPA 120.1	1.00	2.00	7710
970934-2	SC-700B-WDR-124	µmhos/cm	EPA 120.1	1.00	2.00	6620
970934-3	SC-701-WDR-124	µmhos/cm	EPA 120.1	1.00	2.00	26400

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970934-1	7710	7710	0.00%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
CCS	694	706	98.3%	90% - 110%	Yes
CVS#1	970	996	97.4%	90% - 110%	Yes
LCS	694	706	98.3%	90% - 110%	Yes

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Shawn Condon*  
for Mona Nassimi, Manager  
Analytical Services



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Project No.: 358342.TM.02.00

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

## REPORT

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Laboratory No.: 970934

Date: December 4, 2007

Collected: November 7, 2007

Received: November 7, 2007

Prep/ Analyzed: November 9, 2007

Analytical Batch: 11TDS07C

### Total Dissolved Solids by SM 2540C

Investigation:

## 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>
970934-1	SC-100B-WDR-124	mg/L	SM 2540C	250	4720
970934-2	SC-700B-WDR-124	mg/L	SM 2540C	250	4180
970934-3	SC-701-WDR-124	mg/L	SM 2540C	250	19400

## QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	970934-3	19400	19300	0.26%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	498	500	99.6%	90% - 110%	Yes
LCS 2	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

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

*Sean Condon*  
for Mona Nassimi, Manager  
Analytical Services

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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

## REPORT

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**Laboratory No.:** 970934

**Date:** December 4, 2007  
**Collected:** November 7, 2007  
**Received:** November 7, 2007  
**Prep/ Analyzed:** November 8, 2007  
**Analytical Batch:** 11TUC07G

**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>
970934-1	SC-100B-WDR-124	13:40	NTU	1.00	0.100	ND
970934-2	SC-700B-WDR-124	13:10	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	970929-1	0.098	0.102	4.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	8.30	8.00	104%	90% - 110%	Yes
LCS	8.34	8.00	104%	90% - 110%	Yes
LCS	8.20	8.00	103%	90% - 110%	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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## REPORT

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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

Prep. Batch: 11CrH07D

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Laboratory No.: 970934

Date: December 4, 2007

Collected: November 7, 2007

Received: November 7, 2007

Prep/ Analyzed: November 8, 2007

Analytical Batch: 11CrH07D

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
970934-1	SC-100B-WDR-124	13:40	12:07	mg/L	100	0.0200	1.50
970934-2	SC-700B-WDR-124	13:10	12:17	mg/L	1.05	0.00020	ND
970934-3	SC-701-WDR-124	13:25	13:31	mg/L	5.00	0.0010	ND J

### QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970934-1	1.50	1.55	3.28%	≤ 20%	Yes

QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	970934-1	1.50	100	0.0200	2.00	3.64	3.50	107%	90-110%	Yes
MS	970934-2	0.00	1.06	0.00100	0.00106	0.00118	0.00106	111%	90-110%	No
MS	970934-3	0.00	1.06	0.00100	0.00108	0.00	0.00106	0.00%	90-110%	No
MS	970934-3	0.00	5.00	0.00100	0.00500	0.00554	0.00500	111%	90-110%	No

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00474	0.00500	94.8%	90% - 110%	Yes
MRCVS#1	0.0103	0.0100	103%	95% - 105%	Yes
MRCVS#2	0.0103	0.0100	103%	95% - 105%	Yes
MRCVS#3	0.0103	0.0100	103%	95% - 105%	Yes
MRCVS#4	0.0103	0.0100	103%	95% - 105%	Yes
LCS	0.00477	0.00500	95.4%	90% - 110%	Yes
LCSD	0.00480	0.00500	96.0%	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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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.: 970934

Date: December 4, 2007

Collected: November 7, 2007

Received: November 7, 2007

Prep/ Analyzed: November 12, 2007

Analytical Batch: 11NH3-E07A

Investigation:

Ammonia as N by Method SM 4500-NH3 D

### Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
970934-1	SC-100B-WDR-124	13:40	SM 4500-NH3 D	mg/L	1.00	0.500	ND
970934-2	SC-700B-WDR-124	13:10	SM 4500-NH3 D	mg/L	1.00	0.500	ND
970934-3	SC-701-WDR-124	13:25	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	970980-1	6.28	6.48	3.13%	≤ 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	970980-1	6.28	1.00	10.0	10.0	12.8	16.3	65.2%	75-125%	No

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	10.3	10.0	103%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected)

DF: Dilution Factor.

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

*Seam Candan*  
for Mona Nassimi, Manager  
Analytical Services

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

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwaters

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

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

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

**Laboratory No.:** 970934

**Date:** December 4, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

**Prep/ Analyzed:** November 9, 2007

**Analytical Batch:** 11AN071

**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
970934-1	SC-100B-WDR-124	13:40	10:10	mg/L	5.00	0.500	2.87
970934-2	SC-700B-WDR-124	13:10	10:32	mg/L	5.00	0.500	2.35
970934-3	SC-701-WDR-124	13:25	10:55	mg/L	5.00	0.500	10.2

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970938-2	2.22	2.21	0.45%	≤ 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	970938-2	2.22	1.00	4.00	4.00	6.00	6.22	94.5%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	4.12	4.00	103%	90% - 110%	Yes
MRCVS#1	3.12	3.00	104%	90% - 110%	Yes
MRCVS#2	3.12	3.00	104%	90% - 110%	Yes
LCS	4.12	4.00	103%	90% - 110%	Yes
LCSD	4.07	4.00	102%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

*Sean Condon*  
Mona Nassimi, Manager  
Analytical Services

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Attention: Shawn Duffy

Laboratory No.: 970934

Sample: Three (3) Groundwaters

Date: December 4, 2007

Project Name: PG&E Topock Project

Collected: November 7, 2007

Project No.: 358342.TM.02.00

Received: November 7, 2007

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

Prep/ Analyzed: November 9, 2007

Analytical Batch: 11AN071

Investigation:

Sulfate by Method EPA 300.0

### Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
970934-1	SC-100B-WDR-124	13:40	15:06	mg/L	25.0	12.5	599
970934-2	SC-700B-WDR-124	13:10	15:18	mg/L	25.0	12.5	500
970934-3	SC-701-WDR-124	13:25	15:29	mg/L	100	50.0	2490

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970905	192	192	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	970905	192	10.0	20.0	200	388	392	98.0%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	20.0	20.0	100%	90% - 110%	Yes
MRCVS#1	15.1	15.0	101%	90% - 110%	Yes
MRCVS#2	15.1	15.0	101%	90% - 110%	Yes
MRCVS#3	15.0	15.0	100%	90% - 110%	Yes
LCS	20.1	20.0	101%	90% - 110%	Yes
LCSD	20.1	20.0	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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**TRUESDAIL LABORATORIES, INC.**

*Shawn Condon*  
for Mona Nassimi, Manager  
Analytical Services

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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.: 970934

Date: December 4, 2007

Collected: November 7, 2007

Received: November 7, 2007

Prep/ Analyzed: November 8, 2007

Analytical Batch: 11AN07H

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
970934-1	SC-100B-WDR-124	13:40	13:39	mg/L	5.00	1.00	3.38
970934-2	SC-700B-WDR-124	13:10	13:50	mg/L	5.00	1.00	2.75
970934-3	SC-701-WDR-124	13:25	14:02	mg/L	5.00	1.00	11.0

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970927-9	2.29	2.40	4.69%	≤ 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	970927-9	2.29	5.00	4.00	20.0	22.5	22.3	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	3.99	4.00	99.8%	90% - 110%	Yes
MRCVS#1	2.99	3.00	99.7%	90% - 110%	Yes
MRCVS#2	3.01	3.00	100%	90% - 110%	Yes
MRCVS#3	3.00	3.00	100%	90% - 110%	Yes
LCS	3.94	4.00	98.5%	90% - 110%	Yes
LCSD	3.99	4.00	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Seam Candan*  
for  
Mona Nassimi, Manager  
Analytical Services

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# 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:** 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.:** 970934

**Date:** December 4, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

**Prep/ Analyzed:** November 9, 2007

**Analytical Batch:** 11AN071

**Investigation:**

**Chloride by Ion Chromatography using EPA 300.0**

### Analytical Results Chloride

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
970934-1	SC-100B-WDR-124	13:40	14:32	mg/L	500	100	2580
970934-2	SC-700B-WDR-124	13:10	14:43	mg/L	500	100	2170
970934-3	SC-701-WDR-124	13:25	14:55	mg/L	2000	400	10300

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970905	21.9	21.9	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	970905	21.9	10.0	4.00	40.0	62.1	61.9	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	3.98	4.00	99.5%	90% - 110%	Yes
MRCVS#1	2.99	3.00	99.7%	90% - 110%	Yes
MRCVS#2	2.98	3.00	99.3%	90% - 110%	Yes
MRCVS#3	2.98	3.00	99.3%	90% - 110%	Yes
LCS	4.00	4.00	100%	90% - 110%	Yes
LCSD	4.00	4.00	100%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

*Moni Nassimi*  
Moni Nassimi, Manager  
Analytical Services



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Laboratory No.: 970934

Date: December 4, 2007

Collected: November 7, 2007

Received: November 7, 2007

Prep/ Analyzed: November 8, 2007

Analytical Batch: 11NO207E

Investigation:

Nitrite as N by Method SM 4500-NO2-B

### Analytical Results for Nitrite as N

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
970934-1	SC-100B-WDR-124	13:40	14:57	mg/L	1.00	0.0050	ND
970934-2	SC-700B-WDR-124	13:10	14:58	mg/L	1.00	0.0050	ND
970934-3	SC-701-WDR-124	13:25	14:59	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	970934-2	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	970934-2	0.00	1.00	0.0200	0.0200	0.0204	0.0200	102%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0233	0.0230	101%	90% - 110%	Yes
MRCVS#1	0.0198	0.0200	99.0%	90% - 110%	Yes
LCS	0.0292	0.0290	101%	90% - 110%	Yes

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TRUESDAIL LABORATORIES, INC.

  
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:** 111307A

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**Laboratory No.:** 970934

**Date:** December 4, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

**Prep/ Analyzed:** November 13, 2007

**Analytical Batch:** 111307A

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

### Analytical Results Total Dissolved Manganese

<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>
970934-1	SC-100B-WDR-124	13:40	10:33	mg/L	1.00	0.0020	0.0037

### QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970934-1 T	0.0034	0.0036	5.71%	< 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	970934-1 T	0.0034	1.00	0.0500	0.0500	0.0537	0.0534	101%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0508	0.0500	102%	95% - 105%	Yes
MRQVS#1	0.0495	0.0500	99.0%	90% - 110%	Yes
ICS	0.0481	0.0500	96.2%	80% - 120%	Yes
LCS	0.0507	0.0500	101%	90% - 110%	Yes

ND: below the reporting limit (Not Detected).

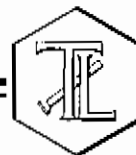
DF: Dilution Factor

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

*Moni Nassimi*  
Moni Nassimi, Manager  
Analytical Services

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## REPORT

Client: E2 Consulting Engineers, Inc.  
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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.: 970934

Date: December 4, 2007

Collected: November 7, 2007

Received: November 7, 2007

Prep/ Analyzed: November 8, 2007

Analytical Batch: 11TP07A

Investigation:

Total Phosphorus by SM 4500-P B

### Analytical Results Total Phosphorus

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
970934-1	SC-100B-WDR-124	13:40	mg/L	1.00	0.0200	0.0483
970934-2	SC-700B-WDR-124	13:10	mg/L	1.00	0.0200	0.136
970934-3	SC-701-WDR-124	13:25	mg/L	2.50	0.0500	1.19

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970934-3	1.19	1.18	0.84%	≤ 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	970934-3	1.19	2.50	0.130	0.325	1.49	1.52	92.3%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.124	0.130	95.4%	90% - 110%	Yes
MRCVS#1	0.128	0.130	98.5%	90% - 110%	Yes
LCS	0.128	0.130	98.5%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Shawn Condon*  
for Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

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Project No.: 358342.TM.02.00

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Laboratory No.: 970934

Date: December 4, 2007

Collected: November 7, 2007

Received: November 7, 2007

Prep/ Analyzed: November 13, 2007

Analytical Batch: 11Si07A

Investigation:

Silica by SM 4500-SI D

### Analytical Results Silica

TLI I.D.	Field I.D.	Sample Time	Units	DF	RL	Results
970934-1	SC-100B-WDR-124	13:40	mg/L	50.0	2.00	27.6
970934-2	SC-700B-WDR-124	13:10	mg/L	50.0	2.00	14.8
970934-3	SC-701-WDR-124	13:25	mg/L	50.0	2.00	67.4

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970934-3	67.4	68.4	1.47%	≤ 20%	Yes

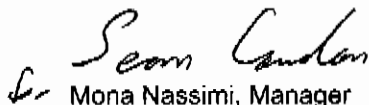
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	970934-2	14.8	50.0	0.400	20.0	31.9	34.8	85.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.183	0.170	108%	90% - 110%	Yes
MRCVS#1	0.382	0.400	95.5%	90% - 110%	Yes
LCS	0.344	0.340	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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EXCELLENCE IN INDEPENDENT TESTING



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

## REPORT

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**Laboratory No.:** 970934

**Date:** December 4, 2007  
**Collected:** November 7, 2007  
**Received:** November 7, 2007  
**Prep/ Analyzed:** November 13, 2007  
**Analytical Batch:** 11ALK07B

**Investigation:**

**Alkalinity by SM 2320B**

### Analytical Results Total Alkalinity, Bicarbonate, Carbonate

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>RL</u>	<u>Total Alkalinity</u>	<u>Bicarbonate</u>	<u>Carbonate</u>
970764-1	MW-20-70-136	mg/L	5.00	147	179	ND
970764-2	EB_101107	mg/L	5.00	96.0	117	ND
970764-3	MW-53D-101107	mg/L	5.00	450	549	ND

### 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	970934-1	147	150	2.02%	≤ 20%	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>
LCS	107	100	107%	90% - 110%	Yes

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

*Shawn Condon*  
for Mona Nassimi, Manager  
Analytical Services

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## REPORT

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155 Grand Ave. Suite 1000  
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**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

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**Laboratory No.:** 970934

**Reported:** December 4, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

**Analyzed:** November 9 - 26, 2007

## Analytical Results

SAMPLE ID: SC-100B-WDR-124		Time Collected: 13:40		LAB ID: 970934-1				
Parameter	Method	Reported				Batch	Date	Time
		Value	DF	Units	RL		Analyzed	Analyzed
Aluminum	EPA 200.8	ND	1.00	mg/L	0.0500	112607A	11/26/07	09:54
Antimony	EPA 200.8	ND	1.00	mg/L	0.0030	111307A	11/13/07	09:33
Arsenic	EPA 200.8	ND	1.00	mg/L	0.0050	111307A	11/13/07	09:33
Barium	EPA 200.8	ND	1.00	mg/L	0.300	111307A	11/13/07	09:33
Chromium	EPA 200.8	1.41	1.00	mg/L	0.0010	111307A	11/13/07	09:33
Copper	EPA 200.7	ND	1.00	mg/L	0.0100	111207A	11/12/07	11:40
Lead	EPA 200.8	ND	1.00	mg/L	0.0020	111507A	11/15/07	09:10
Manganese	EPA 200.8	0.0034	1.00	mg/L	0.0020	111307A	11/13/07	09:33
Molybdenum	EPA 200.8	0.0215	1.00	mg/L	0.0050	111307A	11/13/07	09:33
Nickel	EPA 200.8	ND	1.00	mg/L	0.0200	111307A	11/13/07	09:33
Zinc	EPA 200.7	ND	1.00	mg/L	0.0200	111207A	11/12/07	11:40
Boron	EPA 200.7	1.14	1.00	mg/L	0.200	111207A	11/12/07	11:40
Iron	EPA 200.7	ND	1.00	mg/L	0.0200	111207A	11/12/07	11:40

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# TRUESDAIL LABORATORIES, INC.

Report Continued

SAMPLE ID: SC-700B-WDR-124		Time Collected: 13:10		LAB ID: 970934-2				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Aluminum	EPA 200.8	ND	1.00	mg/L	0.0500	112607A	11/26/07	10:48
Antimony	EPA 200.8	ND	1.00	mg/L	0.0030	111307A	11/13/07	09:39
Arsenic	EPA 200.8	ND	1.00	mg/L	0.0050	111307A	11/13/07	09:39
Barium	EPA 200.8	ND	1.00	mg/L	0.300	111307A	11/13/07	09:39
Chromium	EPA 200.8	ND	1.00	mg/L	0.0010	111307A	11/13/07	09:39
Copper	EPA 200.7	ND	1.00	mg/L	0.0100	111207A	11/12/07	11:52
Lead	EPA 200.8	ND	1.00	mg/L	0.0020	111507A	11/15/07	10:11
Manganese	EPA 200.8	0.0471	1.00	mg/L	0.0020	111307A	11/13/07	09:39
Molybdenum	EPA 200.8	0.0162	1.00	mg/L	0.0050	111307A	11/13/07	09:39
Nickel	EPA 200.8	ND	1.00	mg/L	0.0200	111307A	11/13/07	09:39
Zinc	EPA 200.7	ND	1.00	mg/L	0.0200	111207A	11/12/07	11:52
Boron	EPA 200.7	1.14	1.00	mg/L	0.200	111207A	11/12/07	11:52
Iron	EPA 200.7	ND	1.00	mg/L	0.0200	111207A	11/12/07	11:52

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# TRUESDAIL LABORATORIES, INC.

Report Continued

SAMPLE ID: SC-701-WDR-124		Time Collected: 13:25		LAB ID: 970934-3				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	EPA 200.8	ND	5.00	mg/L	0.0030	111307A	11/13/07	10:21
Arsenic	EPA 200.8	ND	5.00	mg/L	0.0050	111307A	11/13/07	10:21
Barium	EPA 200.8	ND	5.00	mg/L	0.300	111307A	11/13/07	10:21
Beryllium	EPA 200.8	ND	5.00	mg/L	0.0010	111907A	11/19/07	13:57
Cadmium	EPA 200.8	ND	5.00	mg/L	0.0020	101307A	10/13/07	10:21
Chromium	EPA 200.8	0.0048	5.00	mg/L	0.0010	111307A	11/13/07	10:21
Cobalt	EPA 200.8	ND	5.00	mg/L	0.0050	111307A	11/13/07	10:21
Copper	EPA 200.7	ND	1.00	mg/L	0.0100	111207A	11/12/07	11:57
Lead	EPA 200.8	0.0024	5.00	mg/L	0.0020	111507A	11/15/07	10:46
Manganese	EPA 200.8	0.256	5.00	mg/L	0.0020	111307A	11/13/07	10:21
Mercury	EPA 245.1	ND	1.00	mg/L	0.00020	11HG07Aa	11/09/07	N/A
Molybdenum	EPA 200.8	0.0860	5.00	mg/L	0.0050	111307A	11/13/07	10:21
Nickel	EPA 200.8	0.0200	5.00	mg/L	0.0200	111307A	11/13/07	10:21
Selenium	EPA 200.8	0.0141	5.00	mg/L	0.0050	112007A	11/20/07	12:01
Silver	EPA 200.8	0.0061	5.00	mg/L	0.0050	111307A	11/13/07	10:21
Thallium	EPA 200.8	ND	5.00	mg/L	0.0010	111307A	11/13/07	10:21
Vanadium	EPA 200.8	0.0112	5.00	mg/L	0.0050	111307A	11/13/07	10:21
Zinc	EPA 200.7	ND	1.00	mg/L	0.0200	111207A	11/12/07	11:57
Iron	EPA 200.7	ND	1.00	mg/L	0.0200	111207A	11/12/07	11:57

ND: Not detected, or below limit of detection.

DF: Dilution factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Sara Casson*  
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 these laboratories.



TRUEBAIL LABORATORIES, INC.  
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(714) 730-4300 FAX: (714) 730-9402  
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# CHAIN OF CUSTODY RECORD

[RM3] Plant-WDR-124

COC Number

TURNAROUND TIME 10 Days

DATE PAGE 1 OF 1

COMPANY	EZ	PROJECT NAME	PG&E Topock	PHONE	(530) 228-3303	FAX	(530) 338-3303	ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER	358342.TM.02.00	YEAR	1	SAMPLER'S SIGNATURE	<i>[Signature]</i>				
SAMPLE ID.	DATE	TIME	DESCRIPTION	CH (218.6) Lab Filtered	Alkalinity (20.7)	Hardness (20.7) Fish Filtered M	Total Hardness (20.7) Fish Filtered M	Specific Conductance (120.1)	TDS (582.540)	PH (8.400/18)	Ammonia (300.0) F	Ammonia (300.0) F SO4, NO3, NO2	Chloride (301.0) F SO4, NO3, NO2	Magnesium (301.0) F SO4, NO3, NO2	Turbidity (302.130)	Ammonia (302.130)	Ammonia (302.130)	NUMBER OF CONTAINERS	COMMENTS
SC-10MB-WDR-124	11-9-07	13:45	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
SC-701B-WDR-124	11-9-07	13:45	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	
SC-701-WDR-124	11-9-07	13:45	Water	X	X	X	X	X	X	X	X	X	X	X	X	X	X	15	

Please add the following analytes to each of the samples.

Alk, Total Phos., Chloride, Ca, Mg, K, Na, Sr, and 6.7.10

Please add the following analytes to SC-701-WDR-124

NH<sub>3</sub>, Fe, Mn, NO<sub>2</sub>, NO<sub>3</sub>, SO<sub>4</sub> 11/7/07 SPD

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	<i>[Signature]</i>	Printed Name	Ador	Company/Agency	Out	Date/Time	11-9-07 15:00
Signature (Received)	<i>[Signature]</i>	Printed Name	Boyanog	Company/Agency	IC	Date/Time	11-7-07 13:00
Signature (Relinquished)		Printed Name		Company/Agency		Date/Time	
Signature (Received)		Printed Name		Company/Agency		Date/Time	
Signature (Relinquished)		Printed Name		Company/Agency		Date/Time	
Signature (Received)		Printed Name		Company/Agency		Date/Time	

SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °FCUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:



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www.truesdail.com

November 21, 2007

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-125 PROJECT, GROUNDWATER MONITORING, TLI NO.: 971071

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-125 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 November 13, 2007, 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.

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 Condon*  
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

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

**Laboratory No.:** 971071

**Date:** November 21, 2007

**Collected:** November 13, 2007

**Received:** November 13, 2007

## 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	Linda Saetern
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

# TRUESDAIL LABORATORIES, INC.

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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

**Laboratory No.:** 971071

**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:** 111407A

**Date:** November 21, 2007  
**Collected:** November 13, 2007  
**Received:** November 13, 2007  
**Prep/ Analyzed:** November 14, 2007  
**Analytical Batch:** 111407A

**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>
971071	SC-700B-WDR-125	mg/L	EPA 200.8	13:19	1.00	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	971070	0.00139	0.00134	3.66%	≤20%	Yes

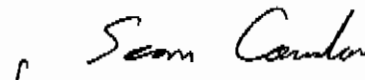
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	971070	0.00139	1.00	0.0500	0.0500	0.0460	0.0514	89.2%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0486	0.0500	97.2%	90% - 110%	Yes
MRCVS#1	0.0516	0.0500	103%	90% - 110%	Yes
ICS	0.0477	0.0500	95.4%	80% - 120%	Yes
LCS	0.0467	0.0500	93.4%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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

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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: 111407A

Laboratory No.: 971071

Date: November 21, 2007  
Collected: November 13, 2007  
Received: November 13, 2007  
Prep/ Analyzed: November 14, 2007  
Analytical Batch: 111407A

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
971071	SC-700B-WDR-125	mg/L	EPA 200.8	13:19	1.00	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	971070	0.00139	0.00134	3.66%	≤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	971070	0.00139	1.00	0.0500	0.0500	0.0460	0.0514	89.2%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0486	0.0500	97.2%	90% - 110%	Yes
MRCVS#1	0.0516	0.0500	103%	90% - 110%	Yes
ICS	0.0477	0.0500	95.4%	80% - 120%	Yes
LCS	0.0467	0.0500	93.4%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Sean Condor*  
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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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.:** 971071

**Date:** November 21, 2007

**Collected:** November 13, 2007

**Received:** November 13, 2007

**Prep/ Analyzed:** November 14, 2007

**Analytical Batch:** 11TUC07K

**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>
971071	SC-700B-WDR-125	13:00	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	971063-4	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.52	8.00	94.0%	90% - 110%	Yes
LCS	7.55	8.00	94.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

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

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

**Attention:** Shawn Duffy

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

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

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

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

**Laboratory No.:** 971071

**Date:** November 21, 2007

**Collected:** November 13, 2007

**Received:** November 13, 2007

**Prep/ Analyzed:** November 14, 2007

**Analytical Batch:** 11PH07N

**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>
971071	SC-700B-WDR-125	13:00	09:45	pH	0.0700	2.00	8.16

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	971072-1	7.39	7.39	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
LCS	7.04	7.00	0.04	+ 0.100 Units	Yes
LCS #1	7.05	7.00	0.05	+ 0.100 Units	Yes

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

*for*   
Mona Nassimi, Manager  
Analytical Services



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

**Attention:** Shawn Duffy

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

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

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

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

**Laboratory No.:** 971071

**Date:** November 21, 2007

**Collected:** November 13, 2007

**Received:** November 13, 2007

**Prep/ Analyzed:** November 14, 2007

**Analytical Batch:** 11EC07G

**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>
971071	SC-700B-WDR-125	µmhos/cm	EPA 120.1	1.00	2.00	6600

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	971074	1470	1470	0.00%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
CCS	695	706	98.4%	90% - 110%	Yes
CVS#1	978	998	98.0%	90% - 110%	Yes
LCS	695	706	98.4%	90% - 110%	Yes

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

*Seem Condon*  
for **Mona Nassimi, Manager**  
Analytical Services

# 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

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(714) 730-6239 • FAX (714) 730-6462  
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**Laboratory No.:** 971071

**Date:** November 21, 2007

**Collected:** November 13, 2007

**Received:** November 13, 2007

**Prep/ Analyzed:** November 14, 2007

**Analytical Batch:** 11TDS07D

**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>
971071	SC-700B-WDR-125	mg/L	SM 2540C	250	4280

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	971072-1	4910	4950	0.41%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	500	500	100%	90% - 110%	Yes
LCS 2	498	500	99.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*for Sean Conner*  
Mona Nassimi, Manager  
Analytical Services



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# CHAIN OF CUSTODY RECORD

[IM3] Plant-WDR-125]

971071

COC Number

TURNAROUND TIME 10 Days

DATE PAGE 1 OF 1

COMPANY E2	PROJECT NAME PG&E Topock	PHONE (530) 229-3303	FAX (530) 339-3303	ADDRESS 155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER 358342.TM.02.00	TEAM 1	SAMPLERS (SIGNATURE) 	DATE 11-13-07	TIME 13:00	DESCRIPTION Water	NUMBER OF CONTAINERS 3										COMMENTS PH=2
SAMPLE I.D. SC-700B-WDR-125											TOTAL NUMBER OF CONTAINERS 3										

Rec'd 11/13/07

971071

ALERT !!  
Level III QC

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
	Rafael Dominguez	PG&E	11-13-07 13:00
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
	Rafael Dominguez	T-L-T	11-13-07 3:00
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time
	Shabunir Shah	TLI	11/13/07 20:45
Signature (Received)	Printed Name	Company/ Agency	Date/ Time
	Shabunir Shah	TLI	11/13/07 20:45

### SAMPLE CONDITIONS

RECEIVED COOL ☐ WARM ☐ °F

CUSTODY SEALED YES ☐ NO ☐

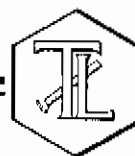
### SPECIAL REQUIREMENTS:

For Sample Conditions  
See Form Attached



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December 4, 2007

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-126 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 971274

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-126 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 November 20, 2007, 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.

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 Condon*  
for Mona Nassimi  
Manager, Analytical Services

*K. R. P. Iyer*

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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

**Attention:** Shawn 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](http://www.truesdail.com)

**Laboratory No.:** 971274

**Date:** December 4, 2007

**Collected:** November 20, 2007

**Received:** November 20, 2007

## 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	Linda Saetern
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson

# 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

**Laboratory No.:** 971274

**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:** December 4, 2007  
**Collected:** November 20, 2007  
**Received:** November 20, 2007  
**Prep/ Analyzed:** November 21, 2007  
**Analytical Batch:** 11CrH07M

**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>
971274	SC-700B-WDR-126	13:00	07:04	mg/L	1.05	0.00020	0.00025

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	971264	0.00379	0.00378	0.26%	< 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	971274	0.000254	1.06	0.00100	0.00106	0.00135	0.00131	103%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCSS	0.00520	0.00500	104%	90% - 110%	Yes
MRCVS#1	0.00991	0.0100	99.1%	95% - 105%	Yes
MRCVS#2	0.00977	0.0100	97.7%	95% - 105%	Yes
LCS	0.00518	0.00500	104%	90% - 110%	Yes
LCSD	0.00519	0.00500	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

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.

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

## REPORT

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

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

**Attention:** Shawn Duffy

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

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

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

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

**Prep. Batch:** 112107A

**Laboratory No.:** 971274

**Date:** December 4, 2007

**Collected:** November 20, 2007

**Received:** November 20, 2007

**Prep/ Analyzed:** November 21, 2007

**Analytical Batch:** 112107A

**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>
971274	SC-700B-WDR-126	mg/L	EPA 200.8	13:05	1.00	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970934-2	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	970934-2	0.00	1.00	0.0500	0.0500	0.0438	0.0500	87.6%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0486	0.0500	97.2%	90% - 110%	Yes
MRCVS#1	0.0450	0.0500	90.0%	90% - 110%	Yes
ICS	0.0488	0.0500	97.6%	80% - 120%	Yes
LCS	0.0472	0.0500	94.4%	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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(714) 730-6239 · FAX (714) 730-6462  
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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.:** 971274

**Date:** December 4, 2007

**Collected:** November 20, 2007

**Received:** November 20, 2007

**Prep/ Analyzed:** November 21, 2007

**Analytical Batch:** 11EC07K

**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>
971274	SC-700B-WDR-126	µmhos/cm	EPA 120.1	1.00	2.00	6680

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	971274	6680	6680	0.00%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
CCS	697	706	98.7%	90% - 110%	Yes
CVS#1	978	996	98.2%	90% - 110%	Yes
LCS	697	706	98.7%	90% - 110%	Yes

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

*Sean Condon*  
for Mona Nassimi, Manager  
Analytical Services

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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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.:** 971274

**Date:** December 4, 2007

**Collected:** November 20, 2007

**Received:** November 20, 2007

**Prep/ Analyzed:** November 21, 2007

**Analytical Batch:** 11TUC07Q

**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>
971274	SC-700B-WDR-126	13:00	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	971281	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.55	8.00	94.4%	90% - 110%	Yes
LCS	7.58	8.00	94.8%	90% - 110%	Yes
LCS	7.60	8.00	95.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

*Sean Condon*  
for Mona Nassimi, Manager  
Analytical Services

# TRUESDAIL LABORATORIES, INC.

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**Client:** E2 Consulting Engineers, Inc.  
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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.:** 971274

**Date:** December 4, 2007

**Collected:** November 20, 2007

**Received:** November 20, 2007

**Prep/ Analyzed:** November 21, 2007

**Analytical Batch:** 11TDS07G

**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>
971274	SC-700B-WDR-126	mg/L	SM 2540C	250	4240

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	971274	4240	4270	0.35%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	499	500	99.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

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

*for Sean Condon*  
Mona Nassimi, Manager  
Analytical Services

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

**Attention:** Shawn Duffy

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

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

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

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

**Laboratory No.:** 971274

**Date:** December 4, 2007

**Collected:** November 20, 2007

**Received:** November 20, 2007

**Prep/ Analyzed:** November 21, 2007

**Analytical Batch:** 11PH07U

**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>
971274	SC-700B-WDR-126	13:00	08:14	pH	0.0700	2.00	8.19

### QA/QC Summary

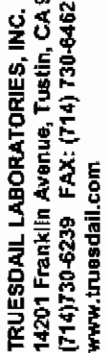
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance Limits	QC Within Control
Duplicate	971274	8.19	8.19	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
LCS	7.03	7.00	0.03	+ 0.100 Units	Yes
LCS #1	7.02	7.00	0.02	+ 0.100 Units	Yes
LCS #2	7.01	7.00	0.01	+ 0.100 Units	Yes

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

  
Mona Nassimi, Manager  
Analytical Services

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**CHAIN OF CUSTODY RECORD**  
[IM3Plant-WDR-126]

14201 Franklin Avenue, Tustin, CA 92780-7008  
 (714) 730-6239 FAX: (714) 730-8462  
[www.truesdail.com](http://www.truesdail.com)

Rec'd 11/20/07  
 Lab.# 971274  
 COC Number  
 TURNAROUND TIME 10 Days  
 DATE 11-20-07 PAGE 1

[illegible]

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

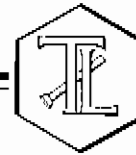
**For Sample Conditions  
See Form Attached**

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



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www.truesdail.com

December 4, 2007

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-127 PROJECT, GROUNDWATER  
MONITORING, TLI NO.: 971388

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-127 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 November 27, 2007, 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.

Straight run for Hexavalent Chromium was outside Retention Time Window at the time of analysis. Therefore the analysis at a dilution of 5x with associate Matrix Spike at 5x were reported.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

*for Mona Nassimi*  
Mona Nassimi  
Manager, Analytical Services

*K.R.P. Iyer*

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

**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.:** 971388

**Date:** December 4, 2007

**Collected:** November 27, 2007

**Received:** November 27, 2007

## 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	Linda Saetern
EPA 218.6	Hexavalent Chromium	Jean-Paul Gleeson



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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.:** 971388

**Date:** December 4, 2007  
**Collected:** November 27, 2007  
**Received:** November 27, 2007  
**Prep/ Analyzed:** November 28, 2007  
**Analytical Batch:** 11CrH070

**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>
971388	SC-700B-WDR-127	14:03	08:33	mg/L	5.00	0.0010	ND

### QA/QC Summary

QC STD I.D.		Laboratory Number		Concentration		Duplicate Concentration		Relative Percent Difference		Acceptance limits		QC Within Control	
Duplicate		971384		0.00333		0.00330		0.90%		< 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	971388	0.00	5.00	0.00100	0.00500	0.00527	0.00500	105%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00500	0.00500	100%	90% - 110%	Yes
MRCVS#1	0.00986	0.0100	98.6%	95% - 105%	Yes
MRCVS#2	0.00974	0.0100	97.4%	95% - 105%	Yes
LCS	0.00499	0.00500	99.8%	90% - 110%	Yes
LCSD	0.00503	0.00500	101%	90% - 110%	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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**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.:** 971388

**Date:** December 4, 2007

**Collected:** November 27, 2007

**Received:** November 27, 2007

**Prep/ Analyzed:** November 28, 2007

**Analytical Batch:** 11TUC07T

**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>
971388	SC-700B-WDR-127	14:03	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	971382-8	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.70	8.00	96.3%	90% - 110%	Yes
LCS	7.50	8.00	93.8%	90% - 110%	Yes
LCS	7.52	8.00	94.0%	90% - 110%	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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## REPORT

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155 Grand Ave. Suite 1000  
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**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.:** 971388

**Date:** December 4, 2007

**Collected:** November 27, 2007

**Received:** November 27, 2007

**Prep/ Analyzed:** November 28, 2007

**Analytical Batch:** 11TDS07J

**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>
971388	SC-700B-WDR-127	mg/L	SM 2540C	250	4350

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	971388	4350	4300	0.58%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	499	500	99.8%	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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**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.:** 971388

**Date:** December 4, 2007

**Collected:** November 27, 2007

**Received:** November 27, 2007

**Prep/ Analyzed:** November 28, 2007

**Analytical Batch:** 11PH07X

**Investigation:**

pH by SM 4500-H B

### Analytical Results pH

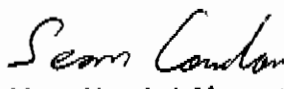
<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
971388	SC-700B-WDR-127	14:03	07:55	pH	0.0700	2.00	8.22

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	971388	8.22	8.22	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
LCS	7.05	7.00	0.05	+ 0.100 Units	Yes
LCS #1	7.04	7.00	0.04	+ 0.100 Units	Yes

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

*for*   
Mona Nassimi, Manager  
Analytical Services

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

## REPORT

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

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

**Laboratory No.:** 971388

**Attention:** Shawn Duffy

**Date:** December 4, 2007

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

**Collected:** November 27, 2007

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

**Received:** November 27, 2007

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

**Prep/ Analyzed:** November 28, 2007

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

**Analytical Batch:** 11EC07L

### 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>
971388	SC-700B-WDR-127	µmhos/cm	EPA 120.1	1.00	2.00	6960

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	971388	6960	6970	0.14%	≤ 10%	Yes
QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
CCS	697	706	98.7%	90% - 110%	Yes	
CVS#1	980	988	98.2%	90% - 110%	Yes	
LCS	697	706	98.7%	90% - 110%	Yes	

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*for Seem Candan*  
Mona Nassimi, Manager  
Analytical Services

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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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:** 112807A

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**Laboratory No.:** 971388

**Date:** December 4, 2007

**Collected:** November 27, 2007

**Received:** November 27, 2007

**Prep/ Analyzed:** November 28, 2007

**Analytical Batch:** 112807A

**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>
971388	SC-700B-WDR-127	mg/L	EPA 200.8	09:51	1.00	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	971388	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	971388	0.00	1.00	0.0500	0.0500	0.0510	0.0500	102%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0490	0.0500	98.0%	90% - 110%	Yes
MRCVS#1	0.0480	0.0500	96.0%	90% - 110%	Yes
ICS	0.0511	0.0500	102%	80% - 120%	Yes
LCS	0.0487	0.0500	97.4%	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 these laboratories.



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# CHAIN OF CUSTODY RECORD

[IM3Plant-WDR-127]

971388

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) *David Chen*

SAMPLE I.D. SC-700B-WDR-127 DATE 11-27-07 TIME 1403 DESCRIPTION Water

COMMENTS									
NUMBER OF CONTAINERS									
3 PH-802									
3 TOTAL NUMBER OF CONTAINERS									

RUSH!!

ALERT !!  
Level III QC

For Sample Conditions  
See Form Attached

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	<i>David Chen</i>	Printed Name	David Chen	Company/Agency	CHAMN HILL CIVIL	Date/Time	11-27-07 1500
Signature (Received)	<i>Rafael Davila</i>	Printed Name	Rafael Davila	Company/Agency	T.L.I	Date/Time	11-27-07 3:00
Signature (Relinquished)	<i>Rafael Davila</i>	Printed Name	Rafael Davila	Company/Agency	T.L.I	Date/Time	11-27-07 20:30
Signature (Received)	<i>Rafael Davila</i>	Printed Name	Rafael Davila	Company/Agency	T.L.I	Date/Time	11-27-07 20:30
Signature (Relinquished)		Printed Name		Company/Agency		Date/Time	
Signature (Received)		Printed Name		Company/Agency		Date/Time	
Signature (Relinquished)		Printed Name		Company/Agency		Date/Time	
Signature (Received)		Printed Name		Company/Agency		Date/Time	

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

SPECIAL REQUIREMENTS:

RUSH!!

Rec'd 11/27/07

971388

COC Number

TURNAROUND TIME 5 Days

DATE 11-27-07 PAGE 1 OF 1





# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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November 28, 2007

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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-124 PROJECT, SLUDGE  
MONITORING,  
TLI No.: 970936

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-124 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 November 7, 2007, 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 dilution factors are reported on a dry weight basis.

Results above the reporting limit were detected in the Method Blank (Blank Beads) for Antimony by SW 6010B. The sample result is over ten times the blank detection, therefore the data was accepted.

The recovery for the Matrix Spike for Hexavalent Chromium by SW 7199 is below the acceptance limits, possibly due to matrix interference. Therefore, a post digestion matrix spike (PDMS) was analyzed, per the method requirement, and was within acceptance limits.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

*Shawn Condor*  
for Mona Nassimi  
Manager, Analytical Services

*K. R. P. Iyer*

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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

**Attention:** Shawn Duffy

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

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

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

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**Laboratory No.:** 970936

**Date:** November 28, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

## ANALYST LIST

METHOD	PARAMETER	ANALYST
EPA 300.0	Fluoride	Giawad Ghenniwa
SM 2540 B	% Moisture	Gautam Savani
SW 6010B	Metals by ICP	Mark Kotani
SW 6020	Metals by ICP/MS	Michel Mendoza
SW 7471A	Mercury	Michel Mendoza
SW 7199	Hexavalent Chromium	David Blackburn

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## REPORT

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

**Attention:** Shawn Duffy

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

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

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

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

**Prep. Batch:** 11CrH07G

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**Laboratory No.:** 970936

**Date:** November 28, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

**Prep/ Analyzed:** November 13, 2007

**Analytical Batch:** 11CrH07G

### Investigation:

Hexavalent Chromium by IC Using Method SW 7199

### Analytical Results Hexavalent Chromium

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
970936	SC-Sludge-WDR-124	14:00	14:27	mg/kg	10.0	6.62	242

### QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970936	242	234	3.36%	< 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	970936	242	10.0	26.5	265	424	507	68.7%	75-125%	No
IMS	970936	242	40.0	66.2	2648	2800	2890	96.6%	75-125%	Yes
PDMS	970936	242	10.0	53.0	530	747	772	95.4%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0530	0.0500	106%	90% - 110%	Yes
MRCVS#1	0.0540	0.0500	108%	90% - 110%	Yes
LCS	0.0482	0.0500	96.4%	80% - 120%	Yes
LCSD	0.0499	0.0500	99.8%	80% - 120%	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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# TRUESDAIL LABORATORIES, INC.

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

**Attention:** Shawn Duffy

## REPORT

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

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

**Laboratory No.:** 970936

**Date:** November 28, 2007  
**Collected:** November 7, 2007  
**Received:** November 7, 2007  
**Prep/ Analyzed:** November 8, 2007  
**Analytical Batch:** 11SOLID07A

**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>
970936	SC-Sludge-WDR-124	14:00	%	69.8

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	970936	69.8	69.0	1.15%	≤ 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

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



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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

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

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

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

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

**Laboratory No.:** 970936

**Date:** November 28, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

**Prep/ Analyzed:** November 9, 2007

**Analytical Batch:** 11AN071

**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>
970936	SC-Sludge-WDR-124	14:00	12:04	mg/kg	20.0	6.62	90.1

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	970938-2	2.22	2.21	0.45%	≤ 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	970938-2	2.22	1.00	4.00	4.00	6.00	6.22	94.5%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	4.12	4.00	103%	90% - 110%	Yes
MRCVS#1	3.12	3.00	104%	90% - 110%	Yes
MRCVS#2	3.12	3.00	104%	90% - 110%	Yes
LCS	4.12	4.00	103%	90% - 110%	Yes
LCSD	4.07	4.00	102%	90% - 110%	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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# 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

**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

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**Laboratory No.:** 970936

**Reported:** November 28, 2007

**Collected:** November 7, 2007

**Received:** November 7, 2007

**Analyzed:** November 9 - 21, 2007

## Analytical Results

SAMPLE ID: SC-Sludge-WDR-124		Time Collected: 14:00		LAB ID: 970936				
Parameter	Method	Reported				Batch	Date	Time
		Value	DF	Units	RL		Analyzed	Analyzed
Antimony	SW 6010B	330	47.0	mg/kg	3.11	111407A	11/14/07	10:53
Arsenic	SW 6010B	66.6	47.0	mg/kg	3.11	111407A	11/14/07	10:53
Barium	SW 6010B	103	47.0	mg/kg	2.50	111407A	11/14/07	10:53
Beryllium	SW 6010B	91.7	47.0	mg/kg	2.50	111407A	11/14/07	10:53
Cadmium	SW 6010B	32.2	47.0	mg/kg	3.11	111407A	11/14/07	10:53
Chromium	SW 6010B	17900	4700	mg/kg	156	111407A	11/14/07	11:17
Cobalt	SW 6010B	ND	47.0	mg/kg	2.50	111407A	11/14/07	10:53
Copper	SW 6010B	37.4	47.0	mg/kg	5.00	111407A	11/14/07	10:53
Lead	SW 6010B	ND	47.0	mg/kg	3.11	111407A	11/14/07	10:53
Mercury	SW 7471A	ND	200	mg/kg	0.132	11HG07Ac	11/09/07	N/A
Molybdenum	SW 6010B	ND	47.0	mg/kg	2.50	111407A	11/14/07	10:53
Nickel	SW 6010B	ND	47.0	mg/kg	2.50	111407A	11/14/07	10:53
Selenium	SW 6020	ND	470	mg/kg	3.12	112107A	11/21/07	17:00
Silver	SW 6020	2.42	470	mg/kg	1.56	112107A	11/21/07	17:00
Thallium	SW 6010B	9.27	47.0	mg/kg	3.11	111407A	11/14/07	10:53
Vanadium	SW 6010B	108	47.0	mg/kg	2.50	111407A	11/14/07	10:53
Zinc	SW 6010B	126	47.0	mg/kg	10.0	111407A	11/14/07	10:53

### 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 Condo*  
Mona Nassimi, Manager  
Analytical Services



2936  
CHAIN OF CUSTODY RECORD  
[IM3Plant-WDR-124]

Rec'd 11/07/07  
Lab.# 970936

**For Sample Conditions  
See Form Attached**

ALERT !!
Level III QC

054

