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April 14, 2006

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 R7-2004-0103  
WDID No. 7B 36 2033 001  
PG&E Topock Compressor Station, Needles, California  
Interim Measure No. 3 Groundwater Treatment System  
Discharge to Injection Well(s)  
Combined March 2006 and First Quarter 2006 Monitoring Report**

Dear Mr. Perdue:

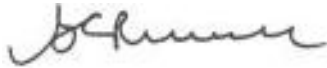
Enclosed is the Board Order R7-2004-0103 Combined March 2006 and First Quarter 2006 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, Interim Measure (IM) No. 3 Groundwater Treatment System. This report is being submitted in compliance with the Waste Discharge Requirements (WDRs) issued by the Colorado River Basin Regional Water Quality Control Board (Water Board) under Board Order R7-2004-0103.

WDRs under Board Order R7-2004-0103 apply to IM No. 3 Treatment System discharge by subsurface injection wells only. In addition, the Water Board issued WDRs for IM No. 3 Treatment System discharge to the Colorado River (Board Order R7-2004-0100) and IM No. 3 Treatment System discharge to the PG&E Compressor Station (Board Order R7-2004-0080). Reporting of Board Order R7-2004-0080 and Board Order R7-2004-0100 activities are submitted under separate covers.

Robert Perdue  
Page 2  
April 14, 2006

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

Sincerely,

A handwritten signature in dark ink, appearing to read "Curt Russell", with a stylized, cursive script.

Curt Russell  
Topock Onsite Project Manager

Enclosures:

Board Order R7-2004-0103 Combined March 2006 and First Quarter 2006 Monitoring Report  
for the IM No. 3 Groundwater Treatment System.

cc: José Cortez, Water Board  
Liann Chavez, Water Board  
Tom Vandenberg, Water Board  
Norman Shopay, DTSC

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# **March 2006 and First Quarter 2006 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System**

**Waste Discharge Requirements  
Board Order No. R7-2004-0103  
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**

April 14, 2006

**CH2MHILL**  
155 Grand Avenue, Suite 1000  
Oakland, CA 94612

**March 2006 and First Quarter 2006 Monitoring Report  
Interim Measures No. 3 Groundwater Treatment System  
Waste Discharge Requirements Order No. R7-2004-0103  
PG&E Topock Compressor Station  
Needles, California**

Prepared for  
Pacific Gas and Electric Company

April 14, 2006

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



Doug Landfear, P.E. No. C 66545  
Project Engineer



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# Acronyms and Abbreviations

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gpm	gallons per minute
IM	Interim Measure
MBC	MBC Applied Environmental Sciences Laboratories
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric Company
STL	Severn Trent Laboratories, Inc.
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.

California Regional Water Quality Control Board, Colorado River Basin Region (Water Board) Board Order No. R7-2004-0103 authorizes PG&E to inject treated groundwater into injection wells located on San Bernardino County Assessor's Parcel No. 650-151-06. The Monitoring and Reporting Program (MRP) under the order requires monthly monitoring reports to be submitted by the 15<sup>th</sup> day of the following month, and quarterly monitoring reports to be submitted by January 15, April 15, July 15, and October 15 of each year.

This report encompasses monitoring activities related to operation of the IM No. 3 groundwater treatment system during the month of March 2006, and includes the information required for the First Quarter 2006 by reference to the January 2006 Monitoring Report (submitted February 15, 2006) and the February 2006 Monitoring Report (submitted March 15, 2006).

In addition to Board Order No. R7-2004-0103, the Water Board issued Waste Discharge Requirements (WDRs) for IM No. 3 treatment system discharge to the Colorado River (Board Order R7-2004-0100) and IM No. 3 treatment system discharge to the PG&E Compressor Station (Board Order R7-2004-0080). To date, there has been no IM No. 3 treatment system discharge to the Colorado River or the PG&E Compressor Station. PG&E has no plans to discharge IM No. 3 treatment system effluent to the Colorado River or the PG&E Compressor Station at this time. Reporting of Board Order R7-2004-0080 and Board Order R7-2004-0100 activities will be submitted under separate cover.



## 2.0 Sampling Station Locations

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Table 1 lists the locations of sampling stations. The locations of the sampling stations are provided in 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 the WDRs. Full-time operation of the treatment system commenced in August 2005.

Activities during January 2006 and February 2006 were presented in the January 2006 Monitoring Report (submitted February 15, 2006) and the February 2006 Monitoring Report (submitted March 15, 2006), respectively. During March 2006, groundwater was pumped from extraction wells TW-3D and PE-1. The target groundwater extraction system pump rate was 135 gallons per minute (gpm) during March 2006 (excluding planned and unplanned downtime, which is described in Section 4.0).

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

- **Treated Effluent:** Treated water that is discharged to the injection well(s).
- **Reverse Osmosis Concentrate:** Treatment by-product that is transported and disposed offsite.
- **Sludge:** Treatment by-product that is transported offsite for disposal 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 March 2006 treatment system monthly average flow rates are presented in Table 2. 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).

Groundwater treatment system flow rates and extraction system downtimes during January 2006 and February 2006 were presented in the January 2006 Monitoring Report (submitted February 15, 2006) and the February 2006 Monitoring Report (submitted March 15, 2006), respectively.

No planned extraction system downtime occurred during March 2006. Periods of unplanned extraction system downtime are summarized below.

- **March 5, 8, 10, 11 and 15, 2006:** Extraction well PE-1 was automatically shut down due to a low water level above the well pump. This alarm condition protects the submersible well pump from damage due to overheating. The well pump was re-started after groundwater levels had sufficiently recovered in the well. Periods of PE-1 downtime occurred on March 5 (9 minutes), March 8 (70 minutes), March 10 and 11 (overnight shutdown for 14 hours 54 minutes), and March 15 (11 minutes). Since March 15, the target pump rate from PE-1 was reduced from approximately 37 gpm to 36 gpm to reduce the potential for over-pumping in the well and resulting unplanned shutdown periods. Extraction well TW-3D continued to operate during each of these periods of PE-1 downtime and was temporarily increased to approximately 120 gpm during the longer downtime events until PE-1 was brought back into service.
- **March 7, 2006:** The extraction well system was shut down from 7:00 pm to 7:25 pm (26 minutes) due to power supply issues with City of Needles power.
- **March 25 and 26, 2006:** The extraction well system was shut down from 8:54 pm on March 25 to 2:42 am on March 26 to repair a pinhole leak on the reverse osmosis unit piping. Extraction system downtime was 5 hours 49 minutes.

## 5.0 Sampling and Analytical Procedures

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All samples were collected at the designated sampling locations and placed directly into containers provided by Truesdail Laboratories, Inc. (Truesdail) or Severn Trent Laboratories, Inc. (STL). Sample containers were labeled and packaged according to standard sampling procedures.

The samples were stored in a cooler at 4° Celsius and transported to Truesdail or STL via courier service under chain-of-custody documentation.

Truesdail is certified by the California Department of Health Services (Certification #1237) under the State of California's Environmental Laboratory Accreditation Program. STL is certified by the California Department of Health Services (Certification #1118) under the Environmental Laboratory Accreditation Program. MBC is certified by the California Department of Health Services (Certification # 1788) under the State of California's Environmental Laboratory Accreditation Program.

All analyses were performed in accordance with the latest edition of the "Guidelines Establishing Test Procedures for Analysis of Pollutants" (40 CFR Part 136), promulgated by the United States Environmental Protection Agency.

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 procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* (CH2M HILL, 2005). Quarterly groundwater monitoring analytical results for the injection area 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 prepared by the certified analytical laboratory(ies) are presented in Appendix A. The March 2006 analytical results from groundwater treatment system influent, effluent, reverse osmosis concentrate, and sludge samples are presented in Tables 3, 4, 5, and 6, respectively. Analytical results from January 2006 and February 2006 were presented in the January 2006 Monitoring Report (submitted February 15, 2006) and the February 2006 Monitoring Report (submitted March 15, 2006), respectively.

In accordance with the WDR reporting requirements, the following sampling frequency schedule was followed during March 2006:

- The influent was sampled monthly; sample date March 8, 2006.
- The effluent was sampled weekly; sample dates March 1, 8, 15, 22, and 29, 2006.
- The reverse osmosis concentrate was sampled monthly; sample date March 8, 2006.
- The sludge was sampled monthly; sample date March 8, 2006. WDR requirements state that sludge is to be sampled each time sludge is transported offsite unless sludge is transported offsite more frequently than monthly, in which case the sampling frequency shall be monthly.
- The sludge is required to have an aquatic bioassay test quarterly; an aquatic bioassay test was conducted with a sludge sample from the February 15, 2006 sampling event. The aquatic bioassay test results were presented in the February 2006 Monitoring Report submitted March 15, 2006.

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

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

## 7.0 Conclusions

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There were no exceedances of the 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.

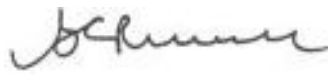
## 8.0 Certification

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PG&E submitted a signature delegation letter to the Water Board on August 12, 2005. The letter delegated PG&E signature authority to Mr. Curt Russell and Ms. Yvonne Meeks for correspondence regarding Board Order R7-2004-0103.

### 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: \_\_\_\_\_ April 14, 2006 \_\_\_\_\_





**TABLE 1**  
Sampling Station Descriptions  
*March 2006 Report for IM 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:**

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

TABLE 2  
Flow Monitoring Results  
*March 2006 Report for IM No. 3 Groundwater Treatment System*

Parameter	System Influent <sup>a,d</sup>	System Effluent <sup>b,d</sup>	Reverse Osmosis Concentrate <sup>c,d</sup>
Average Monthly Flowrate (gpm)	133.0	121.1	11.7

gpm: gallons per minute.

<sup>a</sup> Extraction wells TW-3D and PE-1 were operated during March 2006.

<sup>b</sup> All effluent was discharged into injection wells IW-2 during March 2006.

<sup>c</sup> Reverse Osmosis flow meter reading from FIT-701.

<sup>d</sup> The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates is approximately 0.2 percent, which is within the range of acceptable accuracy considering the margin of error for onsite instrumentation, the water contained within the sludge, and differences in the inventory of water in the treatment system between the beginning and end of the reporting period.

TABLE 3  
Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)  
Influent Monitoring Results <sup>a</sup>  
March 2006 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																						
<div>Sample ID</div> <div>Date</div>	Analytes Units <sup>b</sup>	TDS	Turbidity	Specific Conductance	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	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
SC-100B-WDR-036	3/8/2006	5860 J	ND (0.1)	10500	7.44	2650	2280	ND (52)	ND (0.5)	ND (3.0)	ND (5.0)	ND (300)	1.66	31.3	2.46	2.40	ND (500)	14.2	ND (20)	3.32	0.0059	687	ND (300)	80.9

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 reporting limit  
J = concentration or reporting limits estimated by laboratory or validation

<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

TABLE 4  
Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)  
Effluent Monitoring Results<sup>a</sup>  
March 2006 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	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	50	16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Required Sampling Frequency		Weekly						Monthly																	
Sample ID	Analytes Units <sup>c</sup>	TDS	Turbidity	Specific Conductance	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	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
Date																									
SC-700B-WDR-037	3/1/2006	4170	ND (0.1)	7750	7.88	ND (1.0)	ND (1.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-036	3/8/2006	4040	ND (0.1)	7730	7.96	ND (1.0)	ND (1.0)	ND (52)	ND (0.5)	ND (3.0)	ND (5.0)	ND (300)	1.27	32.8	1.92	2.40	ND (500)	8.20	ND (20)	2.79	0.0073	482	ND (300)	33.2	
SC-700B-WDR-038	3/15/2006	4270 J	ND (0.1)	7720	7.74	ND (1.0)	ND (1.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-039	3/22/2006	4130	ND (0.1)	7460	7.93	ND (1.0)	ND (1.0)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
SC-700B-WDR-040	3/29/2006	4250 J	ND (0.1)	8530	8.06	ND (1.0)	ND (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 reporting limit  
J = concentration or reporting limits estimated by laboratory or validation

<sup>a</sup> 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)  
<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

TABLE 5  
Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)  
Reverse Osmosis Concentrate Results <sup>a</sup>  
March 2006 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency		Monthly																					
<div>Sample ID</div>	<div>Analytes Units <sup>b</sup> Date</div>	TDS	Specific Conductance	pH	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
		mg/L	µmhos/cm	pHUnits	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
SC-701-WDR-036	3/8/2006	22400	35800	7.88	ND (0.001)	ND (0.002)	ND (0.01)	ND (0.01)	ND (0.3)	ND (0.0052)	ND (0.0052)	ND (0.01)	0.062	11.4	ND (0.0052)	0.0611	ND (0.0002)	0.061	ND (0.021)	ND (0.01)	ND (0.0052)	0.0905	0.0615

**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 reporting limit  
J = concentration or reporting limits estimated by laboratory or validation

<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

TABLE 6  
Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)  
Sludge Monitoring Results<sup>a</sup>  
March 2006 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency			Monthly <sup>c</sup>																		
Sample ID	Date	Analytes Units <sup>b</sup>	Chromium	Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
			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
SC-SLUDGE-WDR-036	3/8/2006		25000	220	ND (42)J	15.0	110	ND (3.5)	ND (3.5)J	ND (35)	130	11.2	ND (3.5)	56.0	1.60	52.0	8.00	ND (7.0)	23.0	110	54.0

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

<sup>a</sup> Sampling Location for all Sludge Samples is the Sludge Collection Tanks (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.

TABLE 7

Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)

Monitoring Information

March 2006 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-036	Gary Sibble	3/8/2006	10:30:00 AM	TLI	EPA 120.1	SC	3/9/2006	Alex Hernandez
					TLI	EPA 150.1	PH	3/9/2006	Alex Hernandez
					TLI	EPA 160.1	TDS	3/9/2006	Emilia Haley
					TLI	EPA 180.1	TRB	3/9/2006	Gautam Savani
					TLI	EPA 200.7	ZN	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	AL	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	B	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	BA	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	CRT	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	FE	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	MN	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	NI	3/13/2006	Riddhi Patel
					TLI	EPA 200.8	SB	3/21/2006	Victoria Than
					TLI	EPA 200.8	PB	3/21/2006	Victoria Than
					TLI	EPA 200.8	MO	3/21/2006	Victoria Than
					TLI	EPA 200.8	AS	3/21/2006	Victoria Than
					TLI	EPA 200.8	CU	3/21/2006	Victoria Than
					TLI	EPA 300.0	FL	3/9/2006	Vanna Kho
					TLI	EPA 300.0	NO3N	3/9/2006	Vanna Kho
					TLI	EPA 300.0	SO4	3/10/2006	Vanna Kho
					TLI	EPA 350.2	NH3N	3/13/2006	Alex Hernandez
SC-700B	SC-700B-WDR-036	Gary Sibble	3/8/2006	10:40:00 AM	TLI	EPA 354.1	NO2N	3/9/2006	Hope Trinidad
					TLI	PA Method 218.	CR6	3/9/2006	Jorge Arriaga
					TLI	EPA 120.1	SC	3/9/2006	Alex Hernandez
					TLI	EPA 150.1	PH	3/9/2006	Alex Hernandez
					TLI	EPA 160.1	TDS	3/9/2006	Emilia Haley
					TLI	EPA 180.1	TRB	3/9/2006	Gautam Savani
					TLI	EPA 200.7	AL	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	B	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	BA	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	CRT	3/14/2006	Riddhi Patel
					TLI	EPA 200.7	FE	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	MN	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	NI	3/13/2006	Riddhi Patel

TABLE 7

Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)

Monitoring Information

March 2006 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-036	Gary Sibble	3/8/2006	10:40:00 AM	TLI	EPA 200.7	ZN	3/13/2006	Riddhi Patel
					TLI	EPA 200.8	AS	3/21/2006	Victoria Than
					TLI	EPA 200.8	SB	3/21/2006	Victoria Than
					TLI	EPA 200.8	PB	3/21/2006	Victoria Than
					TLI	EPA 200.8	CU	3/21/2006	Victoria Than
					TLI	EPA 200.8	MO	3/21/2006	Victoria Than
					TLI	EPA 300.0	FL	3/9/2006	Vanna Kho
					TLI	EPA 300.0	NO3N	3/9/2006	Vanna Kho
					TLI	EPA 300.0	SO4	3/10/2006	Vanna Kho
					TLI	EPA 350.2	NH3N	3/13/2006	Alex Hernandez
					TLI	EPA 354.1	NO2N	3/9/2006	Hope Trinidad
					TLI	PA Method 218.	CR6	3/9/2006	Jorge Arriaga
SC-700B	SC-700B-WDR-037	David Chaney	3/1/2006	3:00:00 PM	TLI	EPA 120.1	SC	3/3/2006	Alex Hernandez
					TLI	EPA 150.1	PH	3/2/2006	Alex Hernandez
					TLI	EPA 160.1	TDS	3/2/2006	Emilia Haley
					TLI	EPA 180.1	TRB	3/2/2006	Gautam Savani
					TLI	EPA 6010B	CRT	3/3/2006	Riddhi Patel
					TLI	SW 7199	CR6	3/2/2006	Jorge Arriaga
SC-700B	SC-700B-WDR-038	Jay Piper	3/15/2006	3:35:00 PM	TLI	EPA 120.1	SC	3/16/2006	Alex Hernandez
					TLI	EPA 150.1	PH	3/16/2006	Alex Hernandez
					TLI	EPA 160.1	TDS	3/16/2006	Emilia Haley
					TLI	EPA 180.1	TRB	3/16/2006	Gautam Savani
					TLI	EPA 200.7	CRT	3/20/2006	Riddhi Patel
					TLI	PA Method 218.	CR6	3/16/2006	Vanna Kho
SC-700B	SC-700B-WDR-039	J. Lundberg	3/22/2006	2:30:00 PM	TLI	EPA 120.1	SC	3/24/2006	Alex Hernandez
					TLI	EPA 150.1	PH	3/23/2006	Alex Hernandez
					TLI	EPA 160.1	TDS	3/24/2006	Emilia Haley
					TLI	EPA 180.1	TRB	3/23/2006	Gautam Savani
					TLI	EPA 200.7	CRT	3/31/2006	Riddhi Patel
					TLI	PA Method 218.	CR6	3/23/2006	Jorge Arriaga
SC-700B	SC-700B-WDR-040	Chris Knight	3/29/2006	2:00:00 PM	TLI	EPA 120.1	SC	3/30/2006	Alex Hernandez
					TLI	EPA 150.1	PH	3/30/2006	Alex Hernandez
					TLI	EPA 160.1	TDS	3/30/2006	Emilia Haley



TABLE 7

Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)

Monitoring Information

March 2006 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-040	Chris Knight	3/29/2006	2:00:00 PM	TLI	EPA 180.1	TRB	3/30/2006	Gautam Savani
					TLI	EPA 200.7	CRT	3/31/2006	Riddhi Patel
					TLI	PA Method 218.	CR6	3/30/2006	Jorge Arriaga
SC-701	SC-701-WDR-036	Gary Sibble	3/8/2006	10:49:00 AM	TLI	EPA 120.1	SC	3/9/2006	Alex Hernandez
					TLI	EPA 150.1	PH	3/9/2006	Alex Hernandez
					TLI	EPA 160.1	TDS	3/9/2006	Emilia Haley
					TLI	EPA 200.7	BA	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	CRT	3/14/2006	Riddhi Patel
					TLI	EPA 200.7	NI	3/13/2006	Riddhi Patel
					TLI	EPA 200.7	ZN	3/13/2006	Riddhi Patel
					TLI	EPA 200.8	CU	3/21/2006	Victoria Than
					TLI	EPA 200.8	AG	3/21/2006	Victoria Than
					TLI	EPA 200.8	AS	3/21/2006	Victoria Than
					TLI	EPA 200.8	BE	3/22/2006	Victoria Than
					TLI	EPA 200.8	CO	3/21/2006	Victoria Than
					TLI	EPA 200.8	MO	3/21/2006	Victoria Than
					TLI	EPA 200.8	PB	3/21/2006	Victoria Than
					TLI	EPA 200.8	SB	3/21/2006	Victoria Than
					TLI	EPA 200.8	SE	3/21/2006	Victoria Than
					TLI	EPA 200.8	TL	3/21/2006	Victoria Than
					TLI	EPA 200.8	V	3/21/2006	Victoria Than
					TLI	EPA 200.8	CD	3/21/2006	Victoria Than
					TLI	EPA 245.1	HG	3/9/2006	Victoria Than
					TLI	EPA 300.0	FL	3/9/2006	Vanna Kho
					TLI	PA Method 218.	CR6	3/9/2006	Jorge Arriaga
SC-Sludge	SC-SLUDGE-WDR-036	Gary Sibble	3/8/2006	10:50:00 AM	STL	EPA 160.3	MOIST	3/15/2006	Florian Zimmermann
					TLI	EPA 300.0	FL	3/10/2006	Vanna Kho
					STL	EPA 6010B	SE-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	MO	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	AG	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	NI	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	NI-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	PB	3/14/2006	Josephine Asuncion

TABLE 7

Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)

Monitoring Information

March 2006 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-Sludge	SC-SLUDGE-WDR-036	Gary Sibble	3/8/2006	10:50:00 AM	STL	EPA 6010B	PB-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	PB-TCLP	3/25/2006	Josephine Asuncion
					STL	EPA 6010B	SB	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	SE	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	CU-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	SE-TCLP	3/25/2006	Josephine Asuncion
					STL	EPA 6010B	TH-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	TL	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	V	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	VA-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	ZN	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	ZN-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	SB-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	BA-TCLP	3/25/2006	Josephine Asuncion
					STL	EPA 6010B	AG-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	AG-TCLP	3/25/2006	Josephine Asuncion
					STL	EPA 6010B	AS	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	AS-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	AS-TCLP	3/25/2006	Josephine Asuncion
					STL	EPA 6010B	MO-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	BA-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	CU	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	BE	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	BE-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	CD	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	CD-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	CD-TCLP	3/25/2006	Josephine Asuncion
					STL	EPA 6010B	CO	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	CO-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	CRT	3/14/2006	Josephine Asuncion
					STL	EPA 6010B	CRT-STLC	3/29/2006	Josephine Asuncion
					STL	EPA 6010B	CRT-TCLP	3/25/2006	Josephine Asuncion
					STL	EPA 6010B	BA	3/14/2006	Josephine Asuncion
					STL	EPA 7471A	HG	3/13/2006	Hao Ton

TABLE 7

Board Order No. R7-2004-0103 Waste Discharge Requirements (WDRs)

Monitoring Information

March 2006 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-Sludge	SC-SLUDGE-WDR-036	Gary Sibble	3/8/2006	10:50:00 AM	STL	EPA 7471A	HG-STLC	3/28/2006	Hao Ton
					STL	EPA 7471A	HG-TCLP	3/28/2006	Hao Ton
					STL	SW 7199	CR6	3/10/2006	Yuriy Zakhrafov

**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)

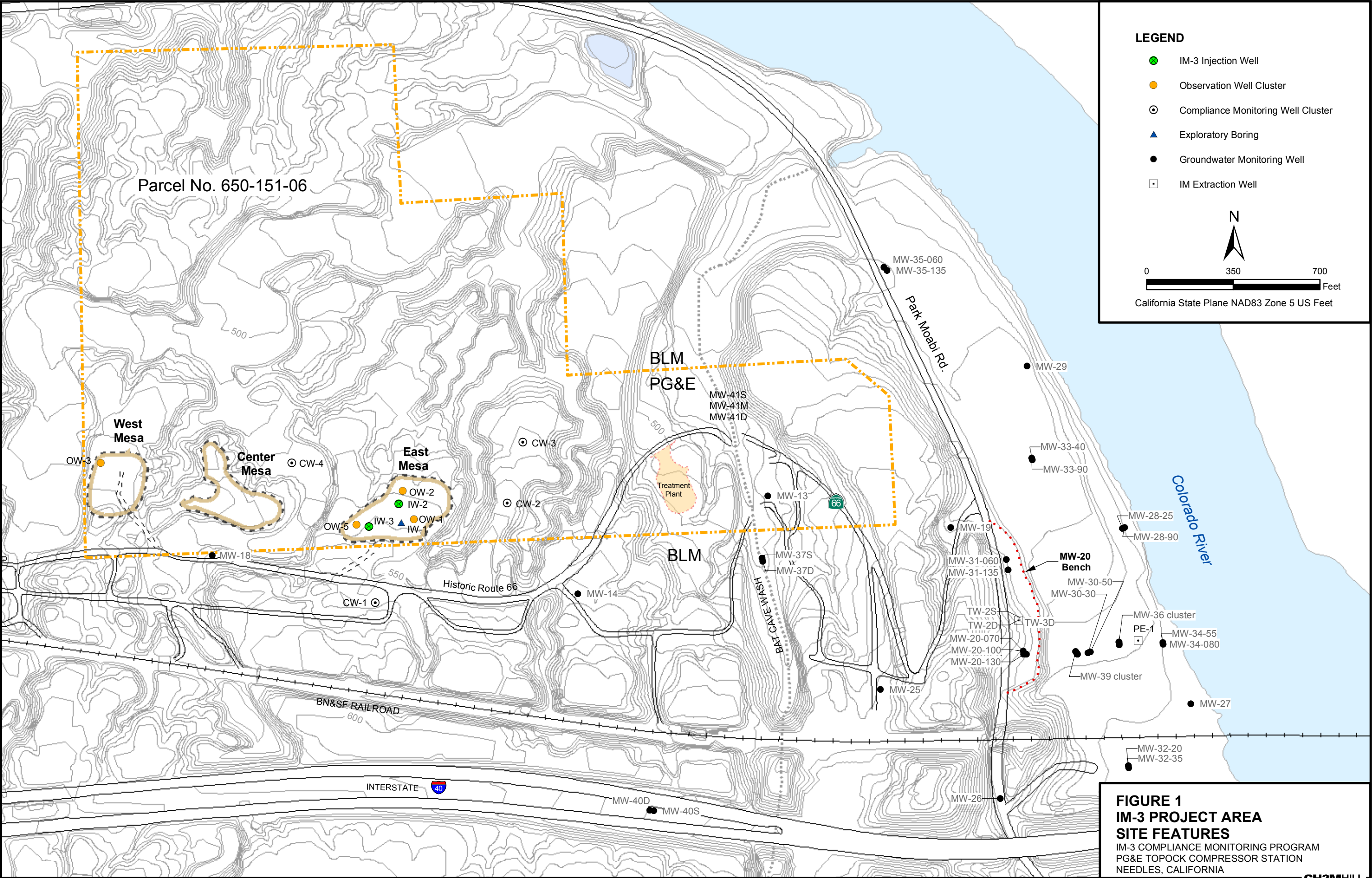
TLI = Truesdail Laboratories, Inc.

STL = Severn Trent Laboratories, Inc.

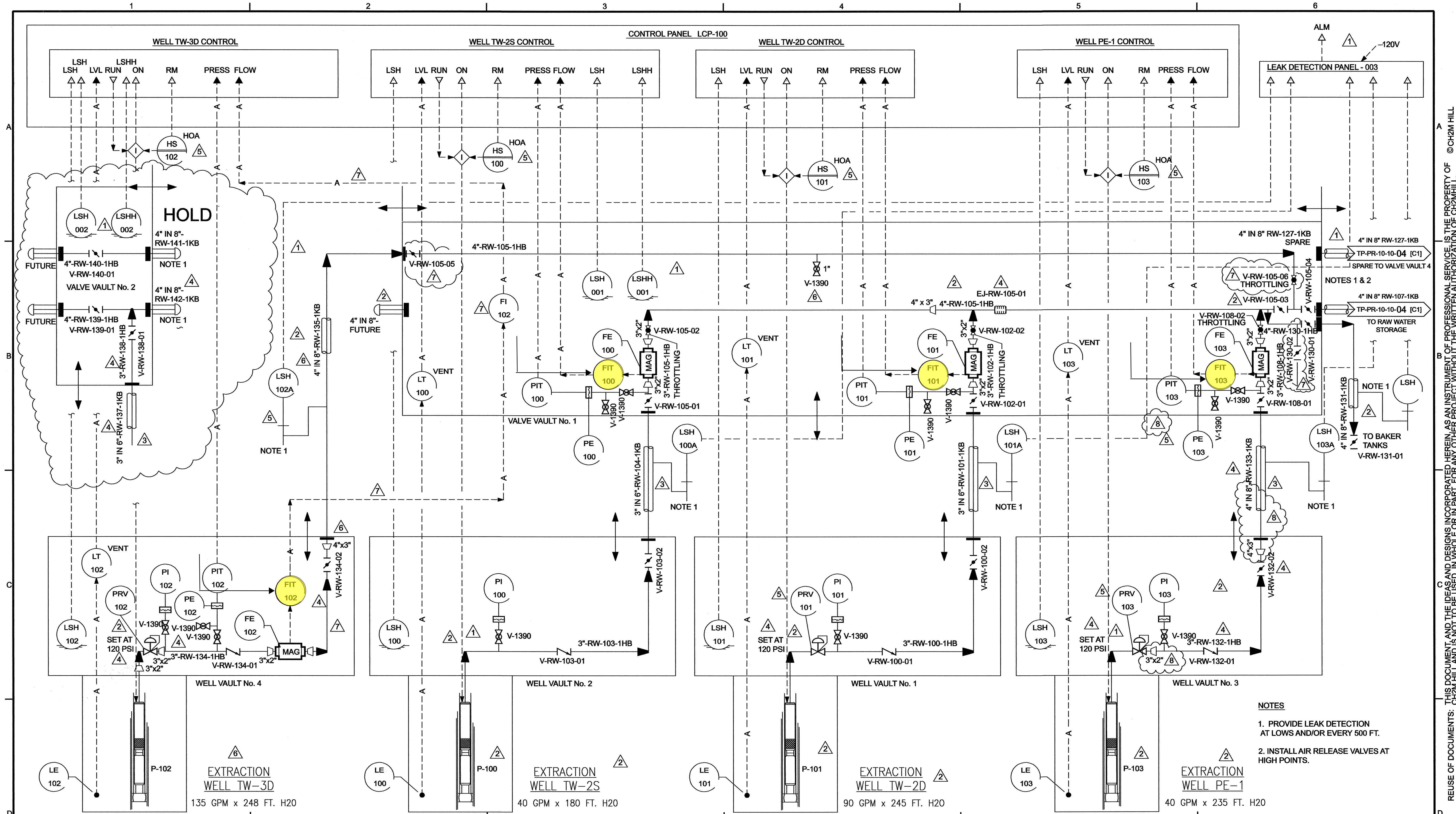
SC = specific conductance	MO = molybdenum
PH = pH	NI = nickel
TDS = total dissolved solids	PB = lead
TRB = turbidity	HG = mercury
CRT = chromium	SE = selenium
CR6 = hexavalent chromium	TL = thallium
FL = fluoride	CO = cobalt
AL = aluminum	CD = cadmium
B = boron	BE = beryllium
FE = iron	AG = silver
MN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

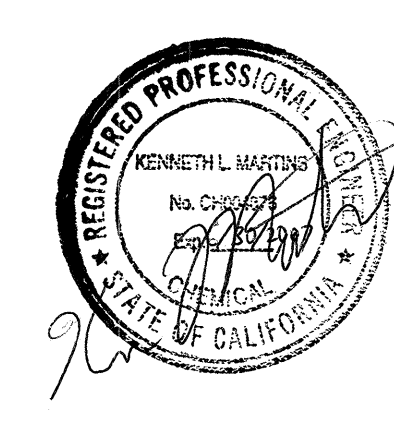
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- NOTES**
1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.
  2. INSTALL AIR RELEASE VALVES AT HIGH POINTS.



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	—	—

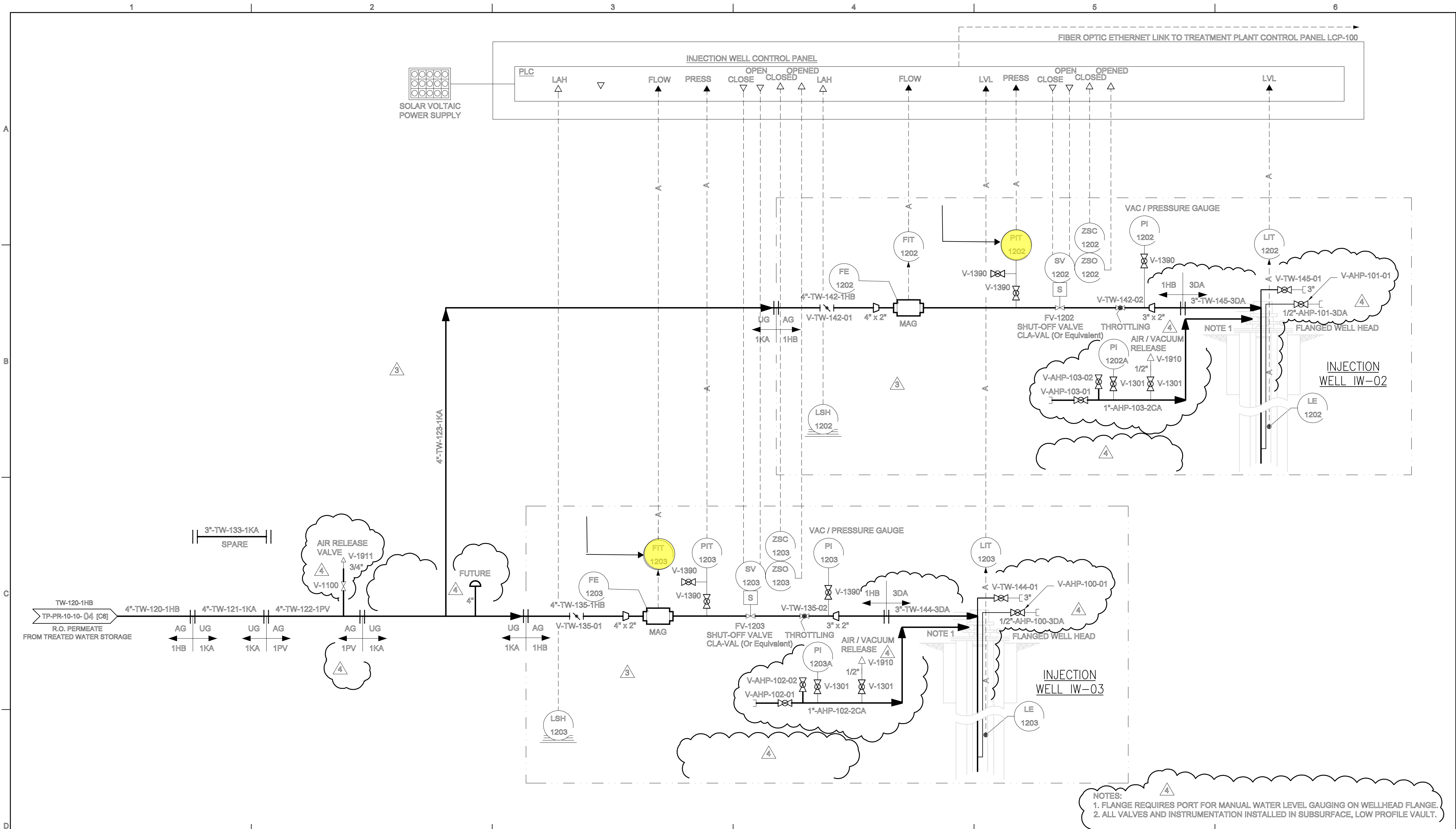
SCALE NONE

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

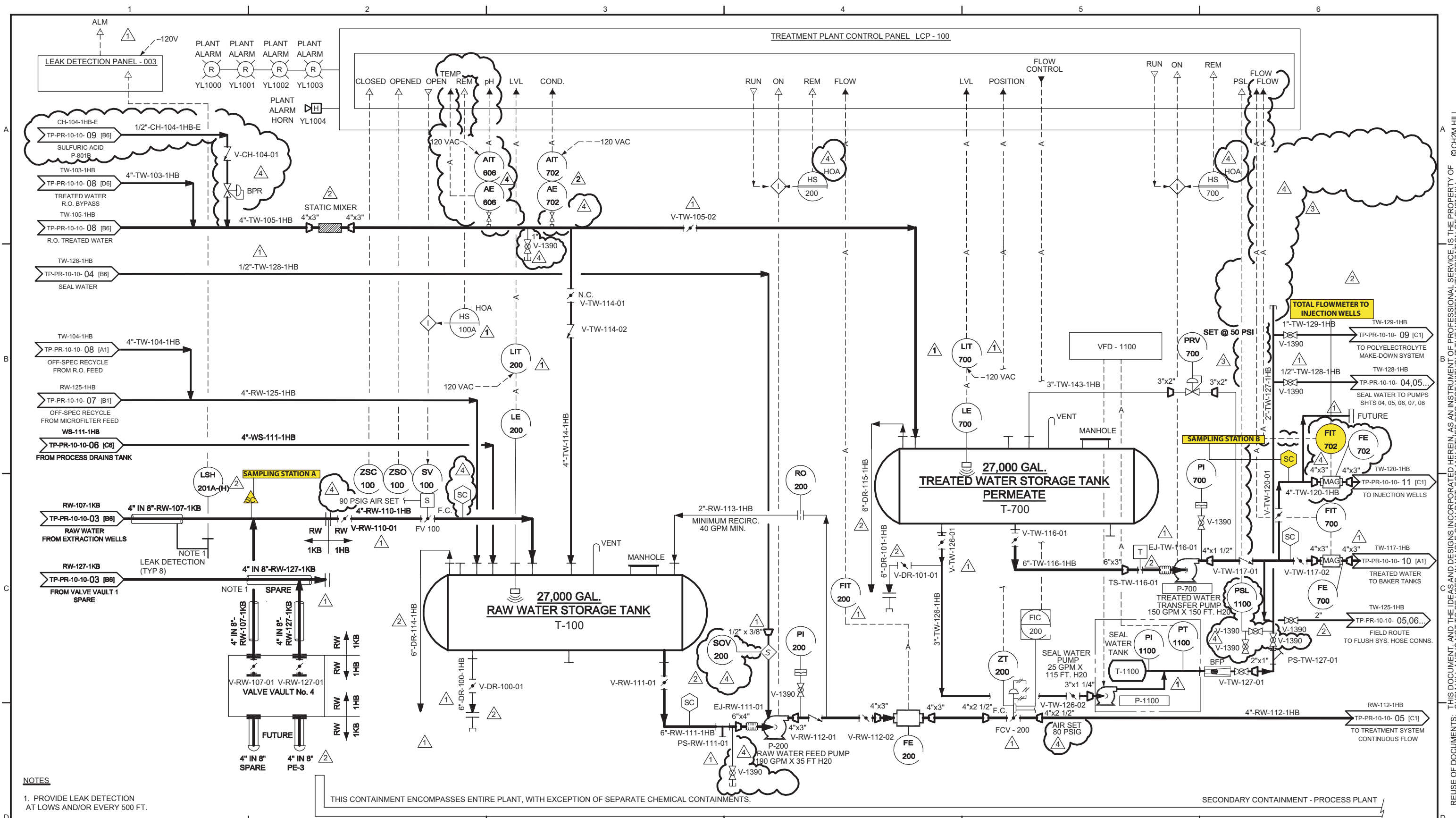
PROCESS AND INSTRUMENTATION DIAGRAM  
SHEET 03  
EXTRACTION WELLS  
PE-1, TW-2D, TW-2S AND TW-3D  
DWG. NO. TP-PR-10-10-03 REV. 8

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





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



NOTES

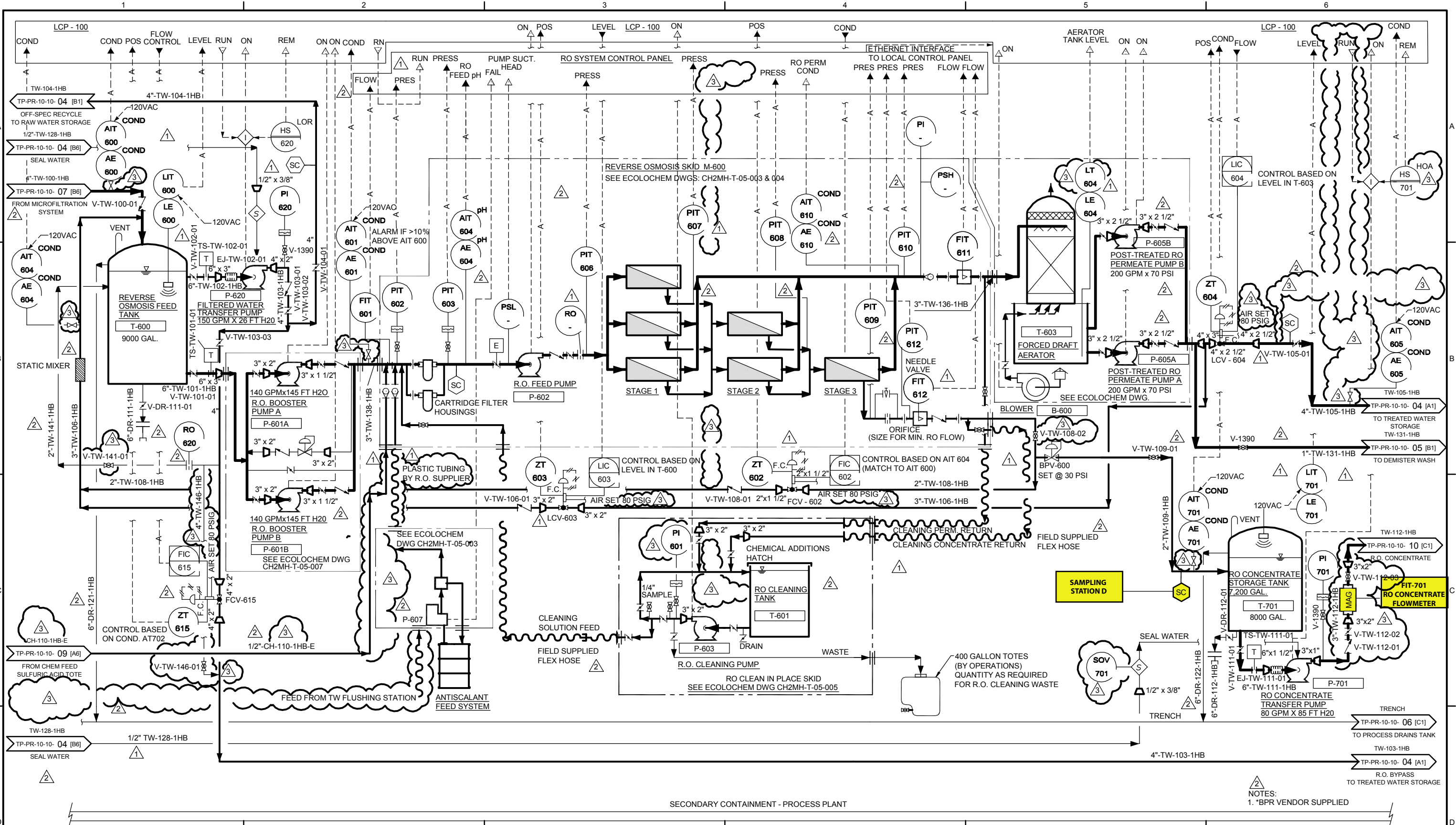
1. PROVIDE LEAK DETECTION AT LOWS AND/OR EVERY 500 FT.

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

SECONDARY CONTAINMENT - PROCESS PLANT

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





RESPONSIBLE ENGINEER: Kenneth L. Martins PE # CH43876 Exp. 6-30-06	NO.	DATE	REVISION		BY	CHK	REVISION APPROVAL		REV 3	DATE 09/21/05	PRINT DISTRIBUTION		STATUS					PACIFIC GAS & ELECTRIC CO. TOPOCK COMPRESSOR STATION INTERIM MEASURE 3 EXPANDED GROUNDWATER EXTRACTION AND TREATMENT SYSTEM  PROJ NO. 315994				PROCESS AND INSTRUMENTATION DIAGRAM SHEET 08 REVERSE OSMOSIS SYSTEM			
	0	07/28/04	FOR INTERNAL REVIEW		EFC	AJ	DISCIPLINE	REVIEWED	DISCIPLINE	REVIEWED	DATE		ISSUED	REV	DATE	SDE	PEM								
	0	09/03/04	APPROVED FOR CONSTRUCTION		EFC	AJ	CIVIL		ELECTRICAL		STATUS		PRELIMINARY												
	1	10/13/04	REVISED AND APPROVED FOR CONSTRUCTION		EFC	AJ	STRUCTURAL		INST & CONTROL		REV.		FOR REVIEW AND APPROVAL	D	07/28/04										
	2	01/23/05	REVISED AND APPROVED FOR CONSTRUCTION		EFC	AJ	MECHANICAL		ARCHITECTURAL		CLIENT		APPROVED FOR CONSTRUCTION	0	09/03/04	KLM	TP								
	3	09/21/05	REVISED PER AS-BUILT CONDITIONS		EFC	AJ	PROCESS		ENVIRONMENTAL		FIELD		REVISED & APPROVED FOR CONSTRUCTION	3	/ /										
							PIPING		GEN. ARRANG.		INTRA CO.														
												SCALE NONE					CH2MHILL				DWG. NO. TP-PR-10-10-08		REV. 3		





## **Appendix A**

### **Laboratory Analytical Reports**

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**Table of Contents**  
**TLI Laboratory Data Package**  
**For Laboratory Number: 952574**

<u>ITEM</u>	<u>Section</u>
Case Narrative	1.0
Summary Table of Final Results	2.0
Final Reports	3.0
Wet Chem Analysis/ Raw Data, Standard, Quality Control and Chain of Custody Records	4.0
Established Retention Time Window and Analytical Raw Data	5.0

## Section 1.0

# Case Narrative

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

March 23, 2006

CH2M HILL  
Mr. Shawn Duffy  
155 Grand Ave., Suite 1000  
Oakland, California 94612

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-036 PROJECT, GROUNDWATER  
MONITORING,  
TLI NO.: 952574

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-036 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, Anions, Ammonia, Total Dissolved Solids, and Title 22 Metals. A summary table for this sample delivery group is included in Section 2. Complete laboratory reports, quality control data and chain of custody forms for sampling period are included in Sections 3 and 4. Analytical raw data have been included under Section 5.

The samples were received and delivered with the chain of custody on March 8, 2006, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Upon receipt, sample SC-701-WDR-036 for Total Metals per Title 22 was preserved with Nitric Acid since its pH was measured at 7 pH units. The pH for the Hexavalent Chromium sample from the same site was measured at 2 pH units. Since it was clear that the sample was inadvertently acidified, the Hexavalent Chromium analysis was performed on a sample designated for Anions.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

Mona Nassimi  
Manager, Analytical Services

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

CC: Mr. Mark Cichy, CH2M HILL Redding CA

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwater Samples

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

**Project No.:** 334168.IM.04.00

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

**Laboratory No.:** 952574

**Date:** March 22, 2006

**Collected:** March 8, 2006

**Received:** March 8, 2006

## ANALYST LIST

EPA Method	Parameter	Analyst
EPA 120.1	Specific Conductivity	Alex Hernandez
EPA 150.1	pH	Alex Hernandez
EPA 160.1	Total Dissolved Solids	Emilia Haley
EPA 180.1	Turbidity	Gautam Savani
EPA 300.0	Anions	Vanna Kho
EPA 350.2	Ammonia	Alex Hernandez
EPA 354.1	Nitrite as N	Hope Trinidad
EPA 200.7	Metals by ICP	Riddhi Patel
EPA 200.8	Metals by ICP/MS	Victoria Than
EPA 245.1	Mercury	Victoria Than
EPA 218.6	Hexavalent Chromium	Jorge Arriaga

## Section 2.0

# Summary Table of Final Results





**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612  
**Attention:** Shawn Duffy

**Project Name:** PG&E Topock Project  
**Project No.:** 334168.JM.04.00  
**P.O. No.:** 911248

**Laboratory No.:** 952574  
**Date Received:** March 8, 2006

## Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>EPA 150.1</u> pH	<u>EPA 120.1</u> EC	<u>EPA 160.1</u> TDS	<u>EPA 180.1</u> Turbidity	<u>EPA 218.6</u> Hexavalent Chromium	<u>EPA 350.2</u> Ammonia
			<u>Units</u>	<u>µmhos/cm</u>	<u>mg/L</u>	<u>NTU</u>	<u>mg/L</u>	<u>mg/L</u>
952574-1	SC-100B-WDR-036	10:30	7.44	10500	5860	ND	2.28	ND
952574-2	SC-700B-WDR-036	10:40	7.96	7730	4040	ND	ND	ND
952574-3	SC-701-WDR-036	10:49	7.88	35800	22400	—	ND	—

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>EPA 300.0</u> Fluoride	<u>EPA 300.0</u> Sulfate	<u>EPA 300.0</u> Nitrate as N	<u>EPA 354.1</u> Nitrite as N
			<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>	<u>mg/L</u>
952574-1	SC-100B-WDR-036	10:30	2.46	687	3.32	0.0059
952574-2	SC-700B-WDR-036	10:40	1.92	482	2.79	0.0073
952574-3	SC-701-WDR-036	10:49	11.4	—	—	—

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

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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

**Client:** CH2M HILL

155 Grand Ave. Suite 1000  
 Oakland, CA 94612

**Attention:** Shawn Duffy

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Laboratory No.:** 952574

**Date Received:** March 8, 2006

## Analytical Results Summary

### METALS ANALYSIS: Total Metal Analyses as Requested

Lab I.D.	Sample ID	Time Coll.	Aluminum EPA 200.7	Antimony EPA 200.8	Arsenic EPA 200.8	Barium EPA 200.7	Beryllium EPA 200.8	Cadmium EPA 200.8	Chromium EPA 200.7	Cobalt EPA 200.8	Copper EPA 200.8	Lead EPA 200.8
952574-1	SC-100B-WDR-036	10:30	ND	ND	ND	ND	—	—	2.65	—	0.0313	0.0024
952574-2	SC-700B-WDR-036	10:40	ND	ND	ND	ND	—	—	ND	—	0.0328	0.0024
952574-3	SC-701-WDR-036	10:49	—	ND	ND	ND	ND	ND	ND	ND	0.0620	ND
<b>Date of Analysis:</b>												
Lab I.D.	Sample ID	Time Coll.	Magnesium EPA 200.7	Manganese EPA 200.7	Mercury EPA 245.1	Molybdenum EPA 200.8	Nickel EPA 200.7	Selenium EPA 200.8	Silver EPA 200.8	Thallium EPA 200.8	Vanadium EPA 200.8	Zinc EPA 200.7
952574-1	SC-100B-WDR-036	10:30	—	ND	—	0.0142	ND	—	—	—	—	0.0809
952574-2	SC-700B-WDR-036	10:40	—	ND	—	0.0082	ND	—	—	—	—	0.0332
952574-3	SC-701-WDR-036	10:49	—	—	ND	0.0511	0.0610	ND	ND	ND	0.0905	0.0615
<b>Date of Analysis:</b>												

Lab I.D.	Sample ID	Time Coll.	Boron EPA 200.7	Calcium EPA 200.7	Iron EPA 200.7	Potassium EPA 200.7	Sodium EPA 200.7
952574-1	SC-100B-WDR-036	10:30	1.66	—	ND	—	—
952574-2	SC-700B-WDR-036	10:40	1.27	—	ND	—	—
952574-3	SC-701-WDR-036	10:49	—	—	—	—	—
<b>Date of Analysis:</b>							

### NOTES:

ND: Not detected, or below limit of detection

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## Section 3.0

# Final Reports

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

**Sample:** Three (3) Groundwater Samples  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Laboratory No.:** 952574

**Date:** March 22, 2006  
**Collected:** March 8, 2006  
**Received:** March 8, 2006  
**Prep/ Analyzed:** March 9, 2006  
**Analytical Batch:** 03PH06N

**Investigation:**

**pH by EPA 150.1**

### 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>
952574-1	SC-100B-WDR-036	08:35	pH Units	0.0570	2.00	7.44
952574-2	SC-700B-WDR-036	08:40	pH Units	0.0570	2.00	7.96
952574-3	SC-701-WDR-036	08:44	pH Units	0.0570	2.00	7.88

### 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	952573-10	7.65	7.66	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	7.02	7.00	0.02	+ 0.100 Units	Yes
LCS #1	7.02	7.00	0.02	+ 0.100 Units	Yes
LCS #2	7.02	7.00	0.02	+ 0.100 Units	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

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

Mona Nassimi, Manager  
Analytical Services

007

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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwater Samples  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

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www.truesdail.com

**Laboratory No.:** 952574

**Date:** March 22, 2006  
**Collected:** March 8, 2006  
**Received:** March 8, 2006  
**Prep/ Analyzed:** March 9, 2006  
**Analytical Batch:** 03EC06Q

**Investigation:**

**Specific Conductivity by EPA 120.1**

### Analytical Results Specific Conductivity

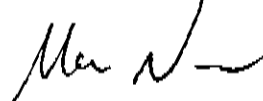
<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
952574-1	SC-100B-WDR-036	µmhos/cm	EPA 120.1	10.0	20.0	10500
952574-2	SC-700B-WDR-036	µmhos/cm	EPA 120.1	10.0	20.0	7730
952574-3	SC-701-WDR-036	µmhos/cm	EPA 120.1	10.0	20.0	35800

### 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	952570-1	125	128	2.37%	≤ 10%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
CCS	680	706	96.3%	90% - 110%	Yes
CVS#1	930	994	93.6%	90% - 110%	Yes
CVS#2	928	994	93.4%	90% - 110%	Yes
LCS	670	706	94.9%	90% - 110%	Yes
LCSD	671	706	95.0%	90% - 110%	Yes

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

  
Mona Nassimi, Manager  
Analytical Services

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INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwater Samples

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

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TUSTIN, CALIFORNIA 92780-7008  
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**Laboratory No.:** 952574

**Date:** March 22, 2006

**Collected:** March 8, 2006

**Received:** March 8, 2006

**Prep/ Analyzed:** March 9, 2006

**Analytical Batch:** 03TDS06E

**Investigation:**

**Total Dissolved Solids by EPA 160.1**

### 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>
952574-1	SC-100B-WDR-036	mg/L	EPA 160.1	250	5860
952574-2	SC-700B-WDR-036	mg/L	EPA 160.1	250	4040
952574-3	SC-701-WDR-036	mg/L	EPA 160.1	833	22400

### QA/QC Summary

<u>QC STD I.D.</u>	<u>Laboratory Number</u>	<u>Concentration</u>	<u>Duplicate Concentration</u>	<u>Percent Difference</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
Duplicate	952574-1	5860	5570	2.54%	≤ 5%	Yes

<u>QC Std I.D.</u>	<u>Measured Concentration</u>	<u>Theoretical Concentration</u>	<u>Percent Recovery</u>	<u>Acceptance Limits</u>	<u>QC Within Control</u>
LCS 1	484	500	96.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

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

Mona Nassimi, Manager  
Analytical Services

009

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## REPORT

**Client:** CH2M HILL  
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Oakland, CA 94612

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www.truesdail.com

**Attention:** Shawn Duffy

**Laboratory No.:** 952574

**Date:** March 22, 2006

**Sample:** Three (3) Groundwater Samples

**Collected:** March 8, 2006

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

**Received:** March 8, 2006

**Project No.:** 334188.IM.04.00

**Prep/ Analyzed:** March 9, 2006

**P.O. No.:** 911248

**Analytical Batch:** 03TUC06G

**Investigation:**

**Turbidity by Method EPA 180.1**

### 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>
952574-1	SC-100B-WDR-036	10:30	NTU	1.00	0.100	ND
952574-2	SC-700B-WDR-036	10:40	NTU	1.00	0.100	ND

### QA/QC Summary


QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	952504-1	0.157	0.160	1.89%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.80	8.00	97.5%	90% - 110%	Yes
LCS	7.77	8.00	97.1%	90% - 110%	Yes
LCS	7.78	8.00	97.3%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

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

  
Mona Nassimi, Manager  
Analytical Services

010

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Client: CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 334168.IM.04.00

P.O. No.: 911248

Prep. Batch: 03CrH06I

Laboratory No.: 952574

Date: March 22, 2006

Collected: March 8, 2006

Received: March 8, 2006

Prep/ Analyzed: March 9, 2006

Analytical Batch: 03CrH06I

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
952574-1	SC-100B-WDR-036	10:30	05:11	mg/L	100	0.0200	2.28
952574-2	SC-700B-WDR-036	10:40	05:48	mg/L	5.00	0.0010	ND
952574-3	SC-701-WDR-036	10:49	06:16	mg/L	10.0	0.0020	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Sample Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	952574-1	2.28	2.28	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	952574-1	2.28	100	0.0200	2.00	4.32	4.28	102%	90-110%	Yes
MS	952574-2	0.00	5.00	0.00100	0.00500	0.00529	0.00500	106%	90-110%	Yes
MS	952574-3	0.00122	10.0	0.00100	0.0100	0.0113	0.0112	101%	90-110%	Yes

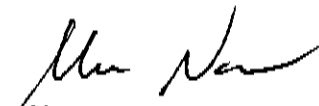
QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00510	0.00500	102%	90% - 110%	Yes
MRCVS#1	0.0102	0.0100	102%	95% - 105%	Yes
MRCVS#2	0.0101	0.0100	101%	95% - 105%	Yes
MRCVS#3	0.00991	0.0100	99.1%	95% - 105%	Yes
MRCVS#4	0.00991	0.0100	99.1%	95% - 105%	Yes
LCS	0.00508	0.00500	102%	90% - 110%	Yes
LCSD	0.00506	0.00500	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

011

  
Mona Nassimi, Manager  
Analytical Services

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## REPORT

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Client: CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 334168.IM.04.00

P.O. No.: 911248

Laboratory No.: 952574

Date: March 22, 2006

Collected: March 8, 2006

Received: March 8, 2006

Prep/ Analyzed: March 13, 2006

Analytical Batch: 03NH306B

Investigation:

Ammonia as N by Method EPA 350.2

### Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	Method	Units	DF	RL	Results
952574-1	SC-100B-WDR-036	10:30	EPA 350.2	mg/L	1.00	0.500	ND
952574-2	SC-700B-WDR-036	10:40	EPA 350.2	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		952574-1	ND	ND		0.0%	≤ 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	952574-2	0.00	1.00	10.0	10.0	8.54	10.0	85.4%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	9.52	10.0	95.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager  
Analytical Services

012

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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwater Samples

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Laboratory No.:** 952574

**Date:** March 22, 2006

**Collected:** March 8, 2006

**Received:** March 8, 2006

**Prep/ Analyzed:** March 9, 2006

**Analytical Batch:** 03AN06H

**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
952574-1	SC-100B-WDR-036	10:30	15:28	mg/L	1.00	0.200	2.46
952574-2	SC-700B-WDR-036	10:40	15:39	mg/L	1.00	0.200	1.92
952574-3	SC-701-WDR-036	10:49	15:50	mg/L	5.00	1.00	11.4

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952574-2	1.92	1.94	1.04%	≤ 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	952574-2	1.92	1.00	2.00	2.00	3.87	3.92	97.5%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	4.16	4.00	104%	90% - 110%	Yes
MRCVS#1	3.10	3.00	103%	90% - 110%	Yes
MRCVS#2	3.11	3.00	104%	90% - 110%	Yes
MRCVS#3	3.12	3.00	104%	90% - 110%	Yes
MRCVS#4	3.11	3.00	104%	90% - 110%	Yes
LCS	4.12	4.00	103%	90% - 110%	Yes
LCSD	4.14	4.00	104%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

  
Mona Nassimi, Manager  
Analytical Services

013

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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:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwater Samples

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Laboratory No.:** 952574

**Date:** March 22, 2006

**Collected:** March 8, 2006

**Received:** March 8, 2006

**Prep/ Analyzed:** March 10, 2006

**Analytical Batch:** 03AN06I

**Investigation:**

**Sulfate by Method EPA 300.0**

### Analytical Results Sulfate

TLI I.D.	Field I.D.	Sample Time	Run Time	Units	DF	RL	Results
952574-1	SC-100B-WDR-036	10:30	12:20	mg/L	50.0	25.0	687
952574-2	SC-700B-WDR-036	10:40	12:31	mg/L	50.0	25.0	482

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952492-2	211	215	1.88%	≤ 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	952492-2	211	100	4.00	400	614	611	101%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	20.2	20.0	101%	90% - 110%	Yes
MRCVS#1	15.1	15.0	101%	90% - 110%	Yes
MRCVS#2	15.0	15.0	100%	90% - 110%	Yes
MRCVS#3	14.9	15.0	99.3%	90% - 110%	Yes
MRCVS#4	15.0	15.0	100%	90% - 110%	Yes
LCS	20.0	20.0	100%	90% - 110%	Yes
LCSD	20.2	20.0	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

Mona Nassimi, Manager  
Analytical Services

014

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

## REPORT

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Client: CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 334168.IM.04.00

P.O. No.: 911248

Laboratory No.: 952574

Date: March 22, 2006

Collected: March 8, 2006

Received: March 8, 2006

Prep/ Analyzed: March 9, 2006

Analytical Batch: 03AN06H

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
952574-1	SC-100B-WDR-036	10:30	15:28	mg/L	1.00	0.200	3.32
952574-2	SC-700B-WDR-036	10:40	15:39	mg/L	1.00	0.200	2.79

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952574-2	2.79	2.78	0.36%	≤ 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	952574-2	2.79	1.00	3.00	3.00	5.66	5.79	95.7%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	4.02	4.00	101%	90% - 110%	Yes
MRCVS#1	2.96	3.00	98.7%	90% - 110%	Yes
MRCVS#2	2.96	3.00	98.7%	90% - 110%	Yes
MRCVS#3	2.97	3.00	99.0%	90% - 110%	Yes
MRCVS#4	2.96	3.00	98.7%	90% - 110%	Yes
LCS	3.98	4.00	99.5%	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.**

Mona Nassimi, Manager  
Analytical Services

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## REPORT

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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** Three (3) Groundwater Samples

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Laboratory No.:** 952574

**Date:** March 22, 2006

**Collected:** March 8, 2006

**Received:** March 8, 2006

**Prep/ Analyzed:** March 13, 2006

**Analytical Batch:** 03NO206G

**Investigation:**

**Nitrite as N by Method EPA 354.1**

### Analytical Results for Nitrite as N

<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	<u>Results</u>
952574-1	SC-100B-WDR-036	10:30	9:51	mg/L	1.00	0.0050	0.0059
952574-2	SC-700B-WDR-036	10:40	9:52	mg/L	1.00	0.0050	0.0073

### 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	952574-2	0.0073	0.0073	0.0%	< 20%	Yes

<u>QC Std I.D.</u>	<u>Lab Number</u>	<u>Conc. of unspiked sample</u>	<u>Dilution Factor</u>	<u>Added Spike Conc.</u>	<u>MS Amount</u>	<u>Measured Conc. of spiked sample</u>	<u>Theoretical Conc. of spiked sample</u>	<u>MS% Recovery</u>	<u>Acceptance limits</u>	<u>QC Within Control</u>
MS	952574-2	0.0073	1.00	0.100	0.100	0.109	0.107	102%	75-125%	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>
MRCCS	0.0994	0.100	99.4%	90% - 110%	Yes
MRCVS#1	0.100	0.100	100%	90% - 110%	Yes
LCS	0.202	0.200	101%	90% - 110%	Yes

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

Mona Nassimi, Manager  
Analytical Services

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INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

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

**Laboratory No.:** 952574

**Reported:** March 22, 2006

**Collected:** March 8, 2006

**Received:** March 8, 2006

**Analyzed:** March 20, 2006

**Attention:** Shawn Duffy

**Samples:** Three (3) Groundwater Samples

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Investigation:** Total Metal Analyses as Requested

## Analytical Results

SAMPLE ID: SC-100B-WDR-036		Time Collected: 10:30		LAB ID: 952574-1				
Parameter	Method	Reported				Batch	Date	Time
		Value	DF	Units	RL		Analyzed	Analyzed
Aluminum	EPA 200.7	ND	1.04	mg/L	0.0520	031306A	03/13/06	11:46
Antimony	EPA 200.8	ND	2.08	mg/L	0.0030	032106A	03/21/06	10:16
Arsenic	EPA 200.8	ND	2.08	mg/L	0.0050	032106A	03/21/06	10:16
Barium	EPA 200.7	ND	1.04	mg/L	0.300	031306A	03/13/06	11:46
Chromium	EPA 200.7	2.65	1.04	mg/L	0.0104	031306A	03/13/06	11:46
Copper	EPA 200.8	0.0313	2.08	mg/L	0.0100	032106A	03/21/06	10:16
Lead	EPA 200.8	0.0024	2.08	mg/L	0.0020	032106A	03/21/06	10:16
Manganese	EPA 200.7	ND	1.04	mg/L	0.500	031306A	03/13/06	11:46
Molybdenum	EPA 200.8	0.0142	2.08	mg/L	0.0050	032106A	03/21/06	10:16
Nickel	EPA 200.7	ND	1.04	mg/L	0.0200	031306A	03/13/06	11:46
Zinc	EPA 200.7	0.0809	1.04	mg/L	0.0200	031306A	03/13/06	11:46
Boron	EPA 200.7	1.66	1.04	mg/L	0.200	031306A	03/13/06	11:46
Iron	EPA 200.7	ND	1.04	mg/L	0.300	031306A	03/13/06	11:46

SAMPLE ID: SC-700B-WDR-036		Time Collected: 10:40		LAB ID: 952574-2				
Parameter	Method	Reported		Units	RL	Batch	Date	Time
		Value	DF				Analyzed	Analyzed
Aluminum	EPA 200.7	ND	1.04	mg/L	0.0520	031306A	03/13/06	12:02
Antimony	EPA 200.8	ND	2.08	mg/L	0.0030	032106A	03/21/06	10:21
Arsenic	EPA 200.8	ND	2.08	mg/L	0.0050	032106A	03/21/06	10:21
Barium	EPA 200.7	ND	1.04	mg/L	0.300	031306A	03/13/06	12:02
Chromium	EPA 200.7	ND	1.04	mg/L	0.0010	031406A	03/14/06	10:03
Copper	EPA 200.8	0.0328	2.08	mg/L	0.0100	032106A	03/21/06	10:21
Lead	EPA 200.8	0.0024	2.08	mg/L	0.0020	032106A	03/21/06	10:21
Manganese	EPA 200.7	ND	1.04	mg/L	0.500	031306A	03/13/06	12:02
Molybdenum	EPA 200.8	0.0082	2.08	mg/L	0.0050	032106A	03/21/06	10:21
Nickel	EPA 200.7	ND	1.04	mg/L	0.0200	031306A	03/13/06	12:02
Zinc	EPA 200.7	0.0332	1.04	mg/L	0.0200	031306A	03/13/06	12:02
Boron	EPA 200.7	1.27	1.04	mg/L	0.200	031306A	03/13/06	12:02
Iron	EPA 200.7	ND	1.04	mg/L	0.300	031306A	03/13/06	12:02

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# TRUESDAIL LABORATORIES, INC.

Report Continued

SAMPLE ID: SC-701-WDR-036		Time Collected: 10:49		LAB ID: 952574-3				
Parameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Antimony	EPA 200.8	ND	10.4	mg/L	0.0104	032106A	03/21/06	10:26
Arsenic	EPA 200.8	ND	10.4	mg/L	0.0104	032106A	03/21/06	10:26
Barium	EPA 200.7	ND	1.04	mg/L	0.300	031306A	03/13/06	12:06
Beryllium	EPA 200.8	ND	10.4	mg/L	0.0052	032206A	03/22/06	12:16
Cadmium	EPA 200.8	ND	10.4	mg/L	0.0052	032106A	03/21/06	10:26
Chromium	EPA 200.7	ND	1.04	mg/L	0.0010	031406A	03/14/06	10:26
Cobalt	EPA 200.8	ND	10.4	mg/L	0.0104	032106A	03/21/06	10:26
Copper	EPA 200.8	0.0620	10.4	mg/L	0.0104	032106A	03/21/06	10:26
Lead	EPA 200.8	ND	10.4	mg/L	0.0052	032106A	03/21/06	10:26
Mercury	EPA 245.1	ND	1.00	mg/L	0.00020	030906A	03/09/06	NA
Molybdenum	EPA 200.8	0.0611	10.4	mg/L	0.0104	032106A	03/21/06	10:26
Nickel	EPA 200.7	0.0610	1.04	mg/L	0.0200	031306A	03/13/06	12:06
Selenium	EPA 200.8	ND	10.4	mg/L	0.0208	032106A	03/21/06	10:26
Silver	EPA 200.8	ND	10.4	mg/L	0.0104	032106A	03/21/06	10:26
Thallium	EPA 200.8	ND	10.4	mg/L	0.0052	032106A	03/21/06	10:26
Vanadium	EPA 200.8	0.0905	10.4	mg/L	0.0104	032106A	03/21/06	10:26
Zinc	EPA 200.7	0.0615	1.04	mg/L	0.0200	031306A	03/13/06	12:06

ND: Not detected, or below limit of detection.

DF: Dilution factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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## Client: CH2M HILL

155 Grand Ave. Suite 1000  
Oakland, CA 94612

## Attention: Shawn Duffy

Samples: Three (3) Groundwater Samples

Project Name: PG&E Topock Project

Project No.: 334168.IM.04.00

P.O. No.: 911248

## Laboratory No.: 952574

Reported: March 22, 2006

Collected: March 8, 2006

Received: March 8, 2006

## Quality Control/Quality Assurance Report

DIGESTED BLANK				IPC		LFB			
Parameter	Method	Batch	Units	LRB	RL	Observed Value	TRUE Value	% Rec	Control Limits %
Mercury	EPA 245.1	030906A	mg/L	ND	0.00020	0.00102	0.00100	102%	95-105%
							0.00098	0.00100	98.0%
									85-115%

### SAMPLE DUPLICATES

LABORATORY CONTROL SAMPLES				SAMPLE DUPLICATES				Precision Control	
Parameter	Method	Units	LCS	Obs.	Theo.	Sample Result	Control Limits	% Rec	Control Limits %
Mercury	EPA 245.1	mg/L	0.00099	0.00100	99.0%	952574-3	ND	0.00%	≤20

### MATRIX SPIKE

Sample ID	Parameter	Method	Units	Method	Blank	Obs.	Sample Result	DF	Spike Level	% Rec	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Control Limits %
952574-3	Mercury	EPA 200.7	mg/L	0.0100	ND	5.07	0.00	1.00	0.00100	101%	0.00100	0.00100	0.00089	89.0%	75-125%

BLANK				MRCCS				MRCVS					
Parameter	Method	Batch	Units	Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Chromium	EPA 200.7	031306A	mg/L	ND	0.0100	5.07	5.00	101%	95-105%	5.21	5.00	104%	90-110%

### SAMPLE DUPLICATES

LABORATORY CONTROL SAMPLES				SAMPLE DUPLICATES				Precision Control	
Parameter	Method	Units	LCS	Obs.	Theo.	Sample Result	Control Limits	% Rec	Control Limits %
Chromium	EPA 200.7	mg/L	5.04	5.00	101%	952574-1	2.65	3.34%	≤20

### MATRIX SPIKE

Sample ID	Parameter	Method	Units	Method	Blank	Obs.	Sample Result	DF	Spike Level	% Rec	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Control Limits %
952574-1	Chromium	EPA 200.7	mg/L	5.00	5.07	1.04	2.65	1.04	2.50	100%	2.60	5.25	5.26	100%	70-130%

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# TRUESDAIL LABORATORIES, INC.

Report Continued

Parameter	Method	Batch	Units	BLANK			MRCCS			MRCVS			
				Blank	RL	Observed Value	TRUE Value	% Rec	Control Limits	Observed Value	TRUE Value	% Rec	Control Limits %
Aluminum	EPA 200.7	031306A	mg/L	ND	0.0500	5.02	5.00	100%	95-105%	5.16	5.00	103%	90-110%
Antimony	EPA 200.8	032106A	mg/L	ND	0.0030	0.0497	0.0500	99.4%	95-105%	0.0496	0.0500	99.2%	90-110%
Arsenic	EPA 200.8	032106A	mg/L	ND	0.0050	0.0500	0.0500	100%	95-105%	0.0496	0.0500	99.2%	90-110%
Barium	EPA 200.7	031306A	mg/L	ND	0.300	5.12	5.00	102%	95-105%	5.30	5.00	106%	90-110%
Beryllium	EPA 200.8	032206A	mg/L	ND	0.0010	0.0511	0.0500	102%	95-105%	0.0534	0.0500	107%	90-110%
Cadmium	EPA 200.8	032106A	mg/L	ND	0.0020	0.0490	0.0500	98.0%	95-105%	0.0500	0.0500	100%	90-110%
Chromium	EPA 200.7	031406A	mg/L	ND	0.0010	0.0101	0.0100	101%	95-105%	0.00940	0.0100	94.0%	90-110%
Cobalt	EPA 200.8	032106A	mg/L	ND	0.0050	0.0487	0.0500	97.4%	95-105%	0.0480	0.0500	96.0%	90-110%
Copper	EPA 200.8	032106A	mg/L	ND	0.0100	0.0508	0.0500	102%	95-105%	0.0501	0.0500	100%	90-110%
Lead	EPA 200.8	032106A	mg/L	ND	0.0020	0.0498	0.0500	99.6%	95-105%	0.0502	0.0500	100%	90-110%
Manganese	EPA 200.7	031306A	mg/L	ND	0.500	5.13	5.00	103%	95-105%	5.21	5.00	104%	90-110%
Molybdenum	EPA 200.8	032106A	mg/L	ND	0.0050	0.0482	0.0500	96.4%	95-105%	0.0487	0.0500	97.4%	90-110%
Nickel	EPA 200.7	031306A	mg/L	ND	0.0200	5.11	5.00	102%	95-105%	5.30	5.00	106%	90-110%
Selenium	EPA 200.8	032106A	mg/L	ND	0.0050	0.0514	0.0500	103%	95-105%	0.0468	0.0500	93.6%	90-110%
Silver	EPA 200.8	032106A	mg/L	ND	0.0050	0.0483	0.0500	96.6%	95-105%	0.0475	0.0500	95.0%	90-110%
Thallium	EPA 200.8	032106A	mg/L	ND	0.0010	0.0486	0.0500	97.2%	95-105%	0.0474	0.0500	94.8%	90-110%
Vanadium	EPA 200.8	032106A	mg/L	ND	0.0050	0.0490	0.0500	98.0%	95-105%	0.0476	0.0500	95.2%	90-110%
Zinc	EPA 200.7	031306A	mg/L	ND	0.0200	5.09	5.00	102%	95-105%	5.37	5.00	107%	90-110%
Boron	EPA 200.7	031306A	mg/L	ND	0.200	4.99	5.00	99.8%	95-105%	5.11	5.00	102%	90-110%
Iron	EPA 200.7	031306A	mg/L	ND	0.300	5.07	5.00	101%	95-105%	5.27	5.00	105%	90-110%

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Report Continued

## LABORATORY CONTROL SAMPLES SAMPLE DUPLICATES

Parameter	Method	Units	LCS Obs.	LCS Theo.	% Rec.	Control Limits	SAMPLE ID	SAMPLE RESULT	DUP RESULT	% RPD	Precision Control Limits %
Aluminum	EPA 200.7	mg/L	4.87	5.00	97.4%	90-110%	952574-1	ND	ND	0.00%	≤20
Antimony	EPA 200.8	mg/L	0.0485	0.0500	97.0%	90-110%	952574-3	ND	ND	0.00%	≤20
Arsenic	EPA 200.8	mg/L	0.0468	0.0500	93.6%	90-110%	952574-3	ND	ND	0.00%	≤20
Barium	EPA 200.7	mg/L	5.10	5.00	102%	90-110%	952574-1	ND	ND	0.00%	≤20
Beryllium	EPA 200.8	mg/L	0.0521	0.0500	104%	90-110%	952574-3	ND	ND	0.00%	≤20
Cadmium	EPA 200.8	mg/L	0.0494	0.0500	98.8%	90-110%	952574-3	ND	ND	0.00%	≤20
Chromium	EPA 200.7	mg/L	0.00945	0.0100	94.5%	90-110%	952573-15	0.0189	0.0190	0.53%	≤20
Cobalt	EPA 200.8	mg/L	0.0480	0.0500	96.0%	90-110%	952574-3	ND	ND	0.00%	≤20
Copper	EPA 200.8	mg/L	0.0492	0.0500	98.4%	90-110%	952574-3	0.0620	0.0612	1.30%	≤20
Lead	EPA 200.8	mg/L	0.0511	0.0500	102%	90-110%	952574-3	ND	ND	0.00%	≤20
Manganese	EPA 200.7	mg/L	5.06	5.00	101%	90-110%	952574-1	ND	ND	0.00%	≤20
Molybdenum	EPA 200.8	mg/L	0.0489	0.0500	97.8%	90-110%	952574-3	0.0611	0.0578	5.55%	≤20
Nickel	EPA 200.7	mg/L	5.05	5.00	101%	90-110%	952574-1	ND	ND	0.00%	≤20
Selenium	EPA 200.8	mg/L	0.0471	0.0500	94.2%	90-110%	952574-3	ND	ND	0.0%	≤20
Silver	EPA 200.8	mg/L	0.0479	0.0500	95.8%	90-110%	952574-3	ND	ND	0.00%	≤20
Thallium	EPA 200.8	mg/L	0.0482	0.0500	96.4%	90-110%	952574-3	ND	ND	0.00%	≤20
Vanadium	EPA 200.8	mg/L	0.0482	0.0500	96.4%	90-110%	952574-3	0.0905	0.0764	16.9%	≤20
Zinc	EPA 200.7	mg/L	5.03	5.00	101%	90-110%	952574-1	0.0809	0.0725	11.0%	≤20
Boron	EPA 200.7	mg/L	4.91	5.00	98.2%	90-110%	952574-1	1.66	1.71	2.97%	≤20
Iron	EPA 200.7	mg/L	4.99	5.00	99.8%	90-110%	952574-1	ND	ND	0.00%	≤20

021

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# TRUESDAIL LABORATORIES, INC.

Report Continued

## MATRIX SPIKE

Sample ID	Parameter	Method	Units	Sample Result	DF	Spike Level	Total Amt. of Spike	Theo. Value	MS Obs.	% Rec.	Accuracy Control Limits %
952574-1	Aluminum	EPA 200.7	mg/L	0.00	1.04	2.50	2.60	2.60	2.88	111%	70-130%
952574-3	Antimony	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.501	96.3%	70-130%
952574-3	Arsenic	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.515	99.0%	70-130%
952574-1	Barium	EPA 200.7	mg/L	0.00	1.04	2.50	2.60	2.60	2.68	103%	70-130%
952574-3	Beryllium	EPA 200.8	mg/L	0.00	10.4	0.0400	0.416	0.416	0.378	90.9%	70-130%
952574-3	Cadmium	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.479	92.1%	70-130%
952573-14	Chromium	EPA 200.7	mg/L	0.00	1.04	0.00800	0.00832	0.00832	0.00733	88.1%	70-130%
952574-3	Cobalt	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.451	86.7%	70-130%
952574-3	Copper	EPA 200.8	mg/L	0.0620	10.4	0.0500	0.520	0.582	0.498	83.8%	70-130%
952574-3	Lead	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.439	84.4%	70-130%
952574-1	Manganese	EPA 200.7	mg/L	0.00	1.04	2.50	2.60	2.60	2.66	102%	70-130%
952574-3	Molybdenum	EPA 200.8	mg/L	0.0611	10.4	0.0500	0.520	0.581	0.541	92.3%	70-130%
952574-1	Nickel	EPA 200.7	mg/L	0.00	1.04	2.50	2.60	2.60	2.53	97.3%	70-130%
952574-3	Selenium	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.520	100%	70-130%
952574-3	Silver	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.428	82.3%	70-130%
952574-3	Thallium	EPA 200.8	mg/L	0.00	10.4	0.0500	0.520	0.520	0.425	81.7%	70-130%
952574-3	Vanadium	EPA 200.8	mg/L	0.0905	10.4	0.0500	0.520	0.611	0.526	83.8%	70-130%
952574-1	Zinc	EPA 200.7	mg/L	0.0809	1.04	2.50	2.60	2.68	2.89	108%	70-130%
952574-1	Boron	EPA 200.7	mg/L	1.66	1.04	2.50	2.60	4.26	4.37	104%	70-130%
952574-1	Iron	EPA 200.7	mg/L	0.00	1.04	2.50	2.60	2.60	2.59	99.6%	70-130%

ND: Not detected, or below limit of detection.

DF: Dilution Factor

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

*Mona Nassimi*  
Mona Nassimi, Manager  
Analytical Services

022

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952574

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

CHAIN OF CUSTODY RECORD  
[IM3Plant-WDR-036]

COC Number 3/9/06 JKS  
TURNAROUND TIME 10 5 Days  
DATE 03-08-06 PAGE 1 OF 1

COMPANY	CH2M HILL	PROJECT NAME		PG&E Topock	PHONE		(510) 251-2888	FAX	(510) 622-7086
ADDRESS		155 Grand Ave Ste 1000 Oakland, CA 94612							
P.O. NUMBER		334168.IM.04.00							
SAMPLERS (SIGNATURE)									
SAMPLE ID.	DATE	TIME	DESCRIPTION	COMMENTS					
SC-100B-WDR-036	03-08-06	1030	Groundwater	pH = 2					
SC-700B-WDR-036	03-08-06	1040	Groundwater	pH = 2					
SC-701-WDR-036	03-08-06	1049	Groundwater	pH = 7					
				NUMBER OF CONTAINERS				TOTAL NUMBER OF CONTAINERS	
				4				12	

For Sample Conditions  
See Form Attached

ALERT!!  
Level III QC

Rec'd 03/08/06  
952574

CHAIN OF CUSTODY SIGNATURE RECORD				SAMPLE CONDITIONS			
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	RECEIVED	COOL	WARM	°F
	Daniel Chae	CH2M HILL	03-08-06 11:31	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED	YES	NO	
	Rafael Davila	PG&E	03-08-06 20:50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:			
	Rafael Davila	PG&E	03-08-06 20:50	RUSH			
Signature (Received)	Printed Name	Company/ Agency	Date/ Time				
	Rafael Davila	PG&E	03-08-06 20:50				



## Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILLLab # 952574Date Delivered: 3/8/06 Time: 2050 By: ☐ Mail ☐ Field Service ☒ Client

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

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

17. Sample Check-In completed by Truesdail Log-In/Receiving: J Brown

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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March 7, 2006

CH2M HILL  
Mr. Shawn Duffy  
155 Grand Ave., Suite 1000  
Oakland, California 94612

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-037 PROJECT, GROUNDWATER  
MONITORING,  
TLI NO.: 952322

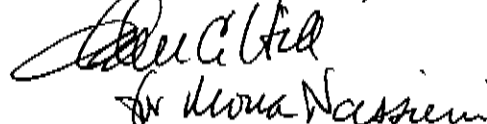
Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-037 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, and Total Dissolved Solids. A summary table for this sample delivery group is included in Section 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.

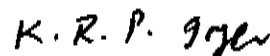
The samples were received and delivered with the chain of custody on March 1, 2006, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi  
Manager, Analytical Services



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

CC: Mr. Mark Cichy, CH2M HILL Redding CA

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

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TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 · FAX (714) 730-6462  
[www.truesdail.com](http://www.truesdail.com)

**Laboratory No.:** 952322

**Date:** March 7, 2006

**Collected:** March 1, 2006

**Received:** March 1, 2006

## ANALYST LIST

EPA 120.1	Specific Conductivity	Alex Hernandez
EPA 150.1	pH	Alex Hernandez
EPA 160.1	Total Dissolved Solids	Emilia Haley
EPA 180.1	Turbidity	Gautam Savani
SW 6010B	Total Chromium	Riddhi Patel
SW 7199	Hexavalent Chromium	Jorge Arriaga

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## Section 2.0

# Summary Table of Final Results



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Client: CH2M HILL

155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Laboratory No.: 952322

Date Received: March 1, 2006

Project Name: PG&E Topock Project  
Project No.: 334168.IM.04.00  
P.O. No.: 911248

## Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>SW 6010B</u> Chromium Total mg/L	<u>SW 7199</u> Chromium Hexavalent mg/L	<u>EPA 180.1</u> Turbidity NTU	<u>EPA 150.1</u> pH Unit	<u>EPA 120.1</u> EC µmhos/cm	<u>EPA 160.1</u> TDS mg/L
952322	SC-700B-WDR-037	15:00	ND	ND	ND	7.88	7750	4170

ND: Non Detected (below reporting limit)

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

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

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

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

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## Section 3.0

# Final Reports

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

## REPORT

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

**Laboratory No.:** 952322

**Date:** March 7, 2006

**Collected:** March 1, 2006

**Received:** March 1, 2006

**Prep/ Analyzed:** March 3, 2006

**Analytical Batch:** 03EC06E

**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>
952322	SC-700B-WDR-037	µmhos/cm	EPA 120.1	10.0	20.0	7750

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	952257-3	42.3	43.1	1.87%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
CCS	673	706	95.3%	90% - 110%	Yes
CVS#1	933	998	93.5%	90% - 110%	Yes
CVS#2	930	998	93.2%	90% - 110%	Yes
LCS	673	706	95.3%	90% - 110%	Yes
LCSD	674	706	95.5%	90% - 110%	Yes

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

*Shawn A. Hill*  
*for Mona Nassimi*  
Mona Nassimi, Manager  
Analytical Services

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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248  
**Prep. Batch:** 030306A

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

**Laboratory No.:** 952322

**Date:** March 7, 2006  
**Collected:** March 1, 2006  
**Received:** March 1, 2006  
**Prep/ Analyzed:** March 3, 2006  
**Analytical Batch:** 030306A

**Investigation:** Total Chromium by Inductively Coupled Argon Plasma  
Using Method SW 6010B

### 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>
952322	SC-700B-WDR-037	mg/L	SW 6010B	10:20	1.04	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952320-2	ND	ND	0.00%	≤20%	Yes

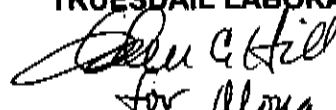
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	952093	0.00	1.04	0.0100	0.0104	0.00808	0.0104	77.7%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00995	0.0100	99.5%	90% - 110%	Yes
MRCVS#1	0.00981	0.0100	98.1%	90% - 110%	Yes
ICS	0.0101	0.0100	101%	80% - 120%	Yes
LCS	0.00958	0.0100	95.8%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
for Mona Nassimi  
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

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www.truesdail.com

**Laboratory No.:** 952322

**Date:** March 7, 2006

**Collected:** March 1, 2006

**Received:** March 1, 2006

**Prep/ Analyzed:** March 2, 2006

**Analytical Batch:** 03PH06E

**Investigation:**

pH by EPA 150.1

### 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>
952322	SC-700B-WDR-037	15:00	07:05	pH Units	0.0570	2.00	7.88

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	952322	7.88	7.88	0.00	+ 0.100 Units	Yes

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

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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## REPORT

**Client:** CH2M HILL  
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Oakland, CA 94612

**Attention:** Shawn Duffy

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TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 - FAX (714) 730-6462  
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**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Laboratory No.:** 952322

**Date:** March 7, 2006  
**Collected:** March 1, 2006  
**Received:** March 1, 2006  
**Prep/ Analyzed:** March 2, 2006  
**Analytical Batch:** 03TDS06B

**Investigation:**

**Total Dissolved Solids by EPA 160.1**

### 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>
952322	SC-700B-WDR-037	mg/L	EPA 160.1	250	4170

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	952322	4170	4180	0.12%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	471	500	94.2%	90% - 110%	Yes
LCS 2	491	500	98.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

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

*for Mona Nassimi*  
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

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

**Laboratory No.:** 952322

**Date:** March 7, 2006  
**Collected:** March 1, 2006  
**Received:** March 1, 2006  
**Prep/ Analyzed:** March 2, 2006  
**Analytical Batch:** 03CrH06B

**Investigation:**

**Hexavalent Chromium by 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>
952322	SC-700B-WDR-037	15:00	12:54	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	952323-1	0.0089	0.0089	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	952322	0.00	5.00	0.00100	0.00500	0.00506	0.00500	101%	85-115%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00540	0.00500	108%	90% - 110%	Yes
MRCVS#1	0.0104	0.0100	104%	90% - 110%	Yes
MRCVS#2	0.0103	0.0100	103%	90% - 110%	Yes
MRCVS#3	0.00996	0.0100	99.6%	90% - 110%	Yes
MRCVS#4	0.00989	0.0100	98.9%	90% - 110%	Yes
MRCVS#5	0.00996	0.0100	99.6%	90% - 110%	Yes
LCS	0.00541	0.00500	108%	90% - 110%	Yes
LCSD	0.00542	0.00500	108%	90% - 110%	Yes

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

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

*Mona Nassimi*  
Mona Nassimi, Manager  
Analytical Services

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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## REPORT

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

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Laboratory No.:** 952322

**Date:** March 7, 2006

**Collected:** March 1, 2006

**Received:** March 1, 2006

**Prep/ Analyzed:** March 2, 2006

**Analytical Batch:** 03TUC06B

**Investigation:**

**Turbidity by Method EPA 180.1**

### 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>
952322	SC-700B-WDR-037	15:00	NTU	1.00	0.100	ND

### QA/QC Summary

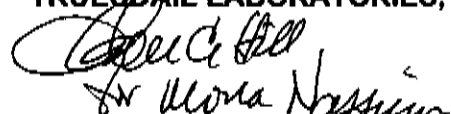
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	952303-84	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.78	8.00	97.3%	90% - 110%	Yes
LCS	7.70	8.00	96.3%	90% - 110%	Yes
LCS	7.80	8.00	97.5%	90% - 110%	Yes

**ND:** Below the reporting limit (Not Detected).

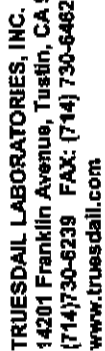
**DF:** Dilution Factor.

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

  
Mona Nassimi, Manager  
Analytical Services

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952322  
[IM3Plant-WDR-037]

COC Number

5 Days

### TURNAROUND TIME

DATE 3-1-06 PAGE 1 OF 1

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

**RUSH!**

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

## For Sample Conditions See Form Attached



# Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILLLab # 952322Date Delivered: 03/01/06 Time: 19:30 By: ☐ Mail ☐ Field Service ☒ Client

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

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

17. Sample Check-In completed by Truesdail Log-In/Receiving: L. Shabunine

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

March 21, 2006

CH2M HILL  
Mr. Shawn Duffy  
155 Grand Ave., Suite 1000  
Oakland, California 94612

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-038 PROJECT, GROUNDWATER  
MONITORING,  
TLI No.: 952800

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-038 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.

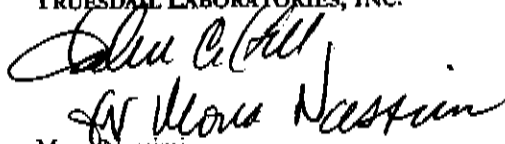
The samples were received and delivered with the chain of custody on March 15, 2006, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

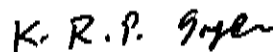
Upon receipt, the Total Chromium SC-700B-WDR-038 sample was preserved with Nitric Acid since its pH was measured at 7 pH units.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi  
Manager, Analytical Services



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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

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

**Laboratory No.:** 952800

**Date:** March 21, 2006

**Collected:** March 15, 2006

**Received:** March 15, 2006

## ANALYST LIST

EPA 120.1	Specific Conductivity	Alex Hernandez
EPA 150.1	pH	Alex Hernandez
EPA 160.1	Total Dissolved Solids	Emilia Haley
EPA 180.1	Turbidity	Gautam Savani
EPA 200.7	Total Chromium	Riddhi Patel
EPA 218.6	Hexavalent Chromium	Vanna Kho

## Section 2.0

# Summary Table of Final Results

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## Client: CH2M HILL

155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 334168.IM.04.00

P.O. No.: 911248

Laboratory No.: 952800

Date Received: March 15, 2006

## Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>EPA 200.7</u> Chromium Total mg/L	<u>EPA 218.6</u> Chromium Hexavalent mg/L	<u>EPA 180.1</u> Turbidity NTU	<u>EPA 150.1</u> pH	<u>EPA 120.1</u> EC	<u>EPA 160.1</u> TDS
952800	SC-700B-WDR-038	15:35	ND	ND	ND	7.74	7720	4270

005

ND: Non Detected (below reporting limit)

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

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

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

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

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## Section 3.0

# Final Reports

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

## REPORT

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

**Attention:** Shawn Duffy

**Laboratory No.:** 952800

**Date:** March 21, 2006

**Collected:** March 15, 2006

**Received:** March 15, 2006

**Prep/ Analyzed:** March 20, 2006

**Analytical Batch:** 032006A

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248  
**Prep. Batch:** 032006A

**Investigation:**

**Total Chromium by Inductively Coupled Argon Plasma  
Using Method EPA 200.7**

### 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>
952800	SC-700B-WDR-038	mg/L	EPA 200.7	13:33	1.04	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952802-6	0.0169	0.0172	1.76%	≤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	952802-2	0.0101	1.04	0.0100	0.0104	0.0196	0.0205	91.3%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00958	0.0100	95.8%	95% - 105%	Yes
MRCVS#1	0.0106	0.0100	106%	90% - 110%	Yes
MRCVS#2	0.0103	0.0100	103%	90% - 110%	Yes
ICS	0.0116	0.0100	116%	80% - 120%	Yes
LCS	0.0106	0.0100	106%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

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

  
Mona Nassimi, Manager  
Analytical Services

007

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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Laboratory No.:** 952800

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Date:** March 21, 2006  
**Collected:** March 15, 2006  
**Received:** March 15, 2006  
**Prep/ Analyzed:** March 16, 2006  
**Analytical Batch:** 03CrH06Q

**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>
952800	SC-700B-WDR-038	15:35	11:28	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	952802-3	0.0253	0.0235	7.38%	≤ 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	952800	0.00	5.00	0.00100	0.00500	0.00491	0.00500	98.2%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCSS	0.00503	0.00500	101%	90% - 110%	Yes
MRCVS#1	0.0101	0.0100	101%	95% - 105%	Yes
MRCVS#2	0.00996	0.0100	99.6%	95% - 105%	Yes
MRCVS#3	0.00976	0.0100	97.6%	95% - 105%	Yes
MRCVS#4	0.00965	0.0100	96.5%	95% - 105%	Yes
LCS	0.00498	0.00500	99.6%	90% - 110%	Yes
LCSD	0.00499	0.00500	99.8%	90% - 110%	Yes

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

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

  
Mona Nassimi, Manager  
Analytical Services

008

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

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**Laboratory No.:** 952800

**Date:** March 21, 2006

**Collected:** March 15, 2006

**Received:** March 15, 2006

**Prep/ Analyzed:** March 16, 2006

**Analytical Batch:** 03TUC06N

**Investigation:**

**Turbidity by Method EPA 180.1**

### 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>
952800	SC-700B-WDR-038	15:35	NTU	1.00	0.100	ND

### QA/QC Summary

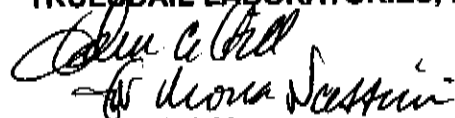
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952793-2	ND	ND	0.00%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.80	8.00	97.5%	90% - 110%	Yes
LCS	7.75	8.00	96.9%	90% - 110%	Yes
LCS	7.82	8.00	97.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

  
Mona Nassimi, Manager  
Analytical Services

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**Client:** CH2M HILL  
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**Attention:** Shawn Duffy

**Laboratory No.:** 952800

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Date:** March 21, 2006  
**Collected:** March 15, 2006  
**Received:** March 15, 2006  
**Prep/ Analyzed:** March 16, 2006  
**Analytical Batch:** 03PH06V

**Investigation:**

pH by EPA 150.1

### 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>
952800	SC-700B-WDR-038	15:35	07:06	pH Units	0.0570	2.00	7.74

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	952803-7	7.64	7.65	0.01	+ 0.100 Units	Yes

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

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

  
Mona Nassimi, Manager  
Analytical Services

010

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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

## REPORT

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

**Attention:** Shawn Duffy

**Laboratory No.:** 952800

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Date:** March 21, 2006  
**Collected:** March 15, 2006  
**Received:** March 15, 2006  
**Prep/ Analyzed:** March 16, 2006  
**Analytical Batch:** 03EC06X

**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>
952800	SC-700B-WDR-038	µmhos/cm	EPA 120.1	10.0	20.0	7720

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952803-4	2680	2700	0.74%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
CCS	680	706	96.3%	90% - 110%	Yes
CVS#1	932	994	93.8%	90% - 110%	Yes
CVS#2	930	994	93.6%	90% - 110%	Yes
LCS	670	706	94.9%	90% - 110%	Yes
LCSD	671	706	95.0%	90% - 110%	Yes

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

  
Mona Nassimi, Manager  
Analytical Services

011

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# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

## REPORT

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**Attention:** Shawn Duffy

**Laboratory No.:** 952800

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

**Date:** March 21, 2006

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

**Collected:** March 15, 2006

**Project No.:** 334168.IM.04.00

**Received:** March 15, 2006

**P.O. No.:** 911248

**Prep/ Analyzed:** March 16, 2006

**Analytical Batch:** 03TDS06J

**Investigation:**

**Total Dissolved Solids by EPA 160.1**

### 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>
952800	SC-700B-WDR-038	mg/L	EPA 160.1	250	4270

### QA/QC Summary

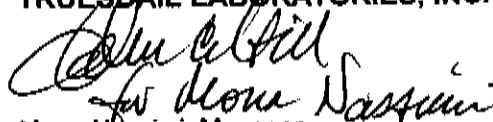
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	952800	4270	4230	0.47%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	508	500	102%	90% - 110%	Yes
LCS 2	461	500	92.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

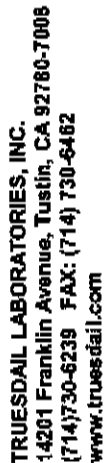
RL: Reporting Limit.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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## CHAIN OF CUSTODY RECORD

**[IM3Plant-WDR-038]**

COC Number

**TURNAROUND TIME**  
**5 Days**

DATE 3-15-2006

COMPANY	CH2M HILL	DATE		TIME	DESCRIPTION	SAMPLE ID.	SC-700B-WDR-038	3-15-2006	1535	Groundwater	CR6 (7199) Lab Filtered	Total Mer (6070B) Total Chromium	Specific Conductance (120.7)	PH (150.7)	TDS (160.7)	Turbidity (180.7)	NUMBER OF CONTAINERS	COMMENTS
PROJECT NAME	PG&E Topock	PHONE	(510) 251-2888	FAX	(510) 622-7086													
ADDRESS	155 Grand Ave Ste 1000	Oakland, CA 94612																
P.O. NUMBER	334168	IM.04.00																
SAMPLERS (SIGNATURE)																		
<div style="text-align: center;"> <p>Rec'd 03/15/06</p> <p><del>3500</del> 952800</p> </div>																		
<div style="text-align: right;"> <p>PH=7</p> <p>TOTAL NUMBER OF CONTAINERS</p> <p>3</p> </div>																		

**For Sample Conditions  
See Form Attached**

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

042

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



# Sample Integrity & Analysis Discrepancy Form

Client: CHEN HILLLab # 952800Date Delivered: 3/15/06 Time: 2040 By: ☐ Mail ☐ Field Service ☒ Client1. Was a Chain of Custody received and signed? ☒ Yes ☐ No ☐ N/A2. Does Customer require acknowledgment of the COC? ☐ Yes ☐ No ☒ N/A3. Are there any special requirements or notes on the COC? ☐ Yes ☐ No ☒ N/A4. If a letter was sent with the COC, does it match the COC? ☐ Yes ☐ No ☒ N/A5. Were all requested analyses understood and acceptable? ☒ Yes ☐ No ☐ N/A6. Were samples received in a chilled condition?  
Temperature (if yes)? 4 °C ☒ Yes ☐ No ☐ N/A7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc..)? ☒ Yes ☐ No ☐ N/A8. Were sample custody seals intact? ☐ Yes ☐ No ☒ N/A9. Does the number of samples received agree with COC? ☒ Yes ☐ No ☐ N/A10. Did sample labels correspond with the client ID's? ☒ Yes ☐ No ☐ N/A11. Did sample labels indicate proper preservation?  
Preserved (if yes) by: ☒ Truesdail ☐ Client ☐ Yes ☐ No ☒ N/A12. Were samples pH checked? pH = See COC ☒ Yes ☐ No ☐ N/A13. Were all analyses within holding time at time of receipt?  
If not, notify Project Manager. ☒ Yes ☐ No ☐ N/A14. Have Project due date been met and accepted?  
Turn Around Time (TAT): ☒ RUSH ☐ Std ☐ Yes ☐ No ☐ N/A15. Sample Matrix: ☐ Liquid ☐ Drinking Water ☒ Ground Water ☐ Waste Water  
☐ Sludge ☐ Soil ☐ Wipe ☐ Paint ☐ Solid ☐ Other \_\_\_\_\_

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

17. Sample Check-In completed by Truesdail Log-In/Receiving: J Brown

**Table of Contents**  
**TLI Laboratory Data Package**  
**For Laboratory Number: 953038**

<u>ITEM</u>	<u>Section</u>
Case Narrative and Analyst List	1.0
Summary Table of Final Results	2.0
Final Reports	3.0
Wet Chem Analysis/ Raw Data, Standard, Quality Control and Chain of Custody Records	4.0
Established Retention Time Window and Analytical Raw Data	5.0

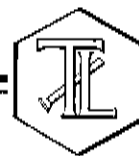


## Section 1.0

# Case Narrative

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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March 29, 2006

CH2M HILL  
Mr. Shawn Duffy  
155 Grand Ave., Suite 1000  
Oakland, California 94612

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-039 PROJECT, GROUNDWATER  
MONITORING,  
TLI No.: 953038

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-039 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 March 22, 2006, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

Upon receipt, the pH of the Total Chromium SC-700B-WDR-039 sample was measured at 7 pH units and therefore the sample was preserved with Nitric Acid.

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

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

Mona Nassimi  
Manager, Analytical Services

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

02

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

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

**Laboratory No.:** 953038

**Date:** March 29, 2006

**Collected:** March 22, 2006

**Received:** March 22, 2006

## ANALYST LIST

METHODS		
EPA 120.1	Specific Conductivity	Alex Hernandez
EPA 150.1	pH	Alex Hernandez
EPA 160.1	Total Dissolved Solids	Emilia Haley
EPA 180.1	Turbidity	Gautam Savani
EPA 200.7	Total Chromium	Riddhi Patel
EPA 218.6	Hexavalent Chromium	Jorge Arriaga

## Section 2.0

# Summary Table of Final Results

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Client: CH2M HILL

155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 334168.IM.04.00

P.O. No.: 911248

Laboratory No.: 953038

Date Received: March 22, 2006

## Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>EPA 200.7</u> Chromium Total mg/L	<u>EPA 218.6</u> Chromium Hexavalent mg/L	<u>EPA 180.1</u> Turbidity NTU	<u>EPA 150.1</u> pH Unit	<u>EPA 120.1</u> EC $\mu$ mhos/cm	<u>EPA 160.1</u> TDS mg/L
953038	SC-700B-WDR-039	14:30	ND	ND	ND	7.93	7460	4130

ND: Non Detected (below reporting limit)

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

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

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

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

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## Section 3.0

# Final Reports

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

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

**Laboratory No.:** 953038

**Date:** March 29, 2006

**Collected:** March 22, 2006

**Received:** March 22, 2006

**Prep/ Analyzed:** March 23, 2006

**Analytical Batch:** 03TUC06R

**Investigation:**

**Turbidity by Method EPA 180.1**

### 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>
953038	SC-700B-WDR-039	14:30	NTU	1.00	0.100	ND

### QA/QC Summary

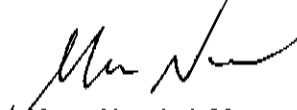
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	952969-8	0.108	0.104	3.77%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.90	8.00	98.6%	90% - 110%	Yes
LCS	7.91	8.00	98.9%	90% - 110%	Yes
LCS	7.94	8.00	99.3%	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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**Attention:** Shawn Duffy

## REPORT

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**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Laboratory No.:** 953038

**Date:** March 29, 2006  
**Collected:** March 22, 2006  
**Received:** March 22, 2006  
**Prep/ Analyzed:** March 23, 2006  
**Analytical Batch:** 03PH06Z

**Investigation:**

pH by EPA 150.1

### 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>
953038	SC-700B-WDR-039	14:30	07:09	pH Units	0.0570	2.00	7.93

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	953038	7.93	7.95	0.02	+ 0.100 Units	Yes

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

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

Mona Nassimi, Manager  
Analytical Services



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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

## REPORT

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

**Laboratory No.:** 953038

**Date:** March 29, 2006

**Collected:** March 22, 2006

**Received:** March 22, 2006

**Prep/ Analyzed:** March 24, 2006

**Analytical Batch:** 03EC06AA

**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>
953038	SC-700B-WDR-039	µmhos/cm	EPA 120.1	10.0	20.0	7460


### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance Limits	QC Within Control
Duplicate	953062-1	328	332	1.21%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
CCS	682	706	96.6%	90% - 110%	Yes
CVS#1	931	994	93.7%	90% - 110%	Yes
CVS#2	932	994	93.8%	90% - 110%	Yes
LCS	670	706	94.9%	90% - 110%	Yes
LCSD	672	706	95.2%	90% - 110%	Yes

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Analytical Services

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**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

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**Laboratory No.:** 953038

**Date:** March 29, 2006

**Collected:** March 22, 2006

**Received:** March 22, 2006

**Prep/ Analyzed:** March 24, 2006

**Analytical Batch:** 03TDS06M

**Investigation:**

**Total Dissolved Solids by EPA 160.1**

### 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>
953038	SC-700B-WDR-039	mg/L	EPA 160.1	208	4130

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance Limits	QC Within Control
Duplicate	953038	4130	4230	1.20%	≤ 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.**

Mona Nassimi, Manager  
Analytical Services

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**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

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TUSTIN, CALIFORNIA 92780-7008  
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**Laboratory No.:** 953038

**Date:** March 29, 2006  
**Collected:** March 22, 2006  
**Received:** March 22, 2006  
**Prep/ Analyzed:** March 23, 2006  
**Analytical Batch:** 03CrH06Y

**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>
953038	SC-700B-WDR-039	14:30	13:14	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	953040-2	1.44	1.44	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	953038	0.00	5.00	0.00100	0.00500	0.00514	0.00500	103%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00508	0.00500	102%	90% - 110%	Yes
MRCVS#1	0.0104	0.0100	104%	95% - 105%	Yes
MRCVS#2	0.00969	0.0100	96.9%	95% - 105%	Yes
MRCVS#3	0.0102	0.0100	102%	95% - 105%	Yes
MRCVS#4	0.00956	0.0100	95.6%	95% - 105%	Yes
LCS	0.00510	0.00500	102%	90% - 110%	Yes
LCSD	0.00506	0.00500	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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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248  
**Prep. Batch:** 033106A

**Laboratory No.:** 953038

**Date:** March 29, 2006  
**Collected:** March 22, 2006  
**Received:** March 22, 2006  
**Prep/ Analyzed:** March 31, 2006  
**Analytical Batch:** 033106A

**Investigation:**

**Total Chromium by Inductively Coupled Argon Plasma  
Using Method EPA 200.7**

### 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>
953038	SC-700B-WDR-039	mg/L	EPA 200.7	10:31	1.04	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	953276	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	953276	0.00	1.04	0.0100	0.0104	0.00887	0.0104	85.3%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00956	0.0100	95.6%	95% - 105%	Yes
MRCVS#1	0.00935	0.0100	93.5%	90% - 110%	Yes
ICS	0.0109	0.0100	109%	80% - 120%	Yes
LCS	0.00911	0.0100	91.1%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

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

Mona Nassimi, Manager  
Analytical Services



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

# CHAIN OF CUSTODY RECORD

IM3Plant-WDR-039

COC Number

TURNAROUND TIME 5 Days

DATE 3-22-06 PAGE 1 OF 1

COMPANY CH2M HILL  
PROJECT NAME PG&E Topock  
PHONE (510) 251-2888 FAX (510) 622-7086  
ADDRESS 155 Grand Ave Ste 1000  
Oakland, CA 94612  
P.O. NUMBER 334168-IM.04.00

SAMPLERS (SIGNATURE) *J. Lundberg*

SAMPLE I.D. SC-700B-WDR-039 DATE 3-22-06 TIME 14:30 DESCRIPTION Groundwater

NUMBER OF CONTAINERS										COMMENTS									
3																			
3																			

Rec'd 03/22/06  
53038

CR6 (7199) Lab Filtered  
Total Met (60108) Total Chromium  
Specific Conductance (120.1)  
PH (150.1)  
TDS (160.1)  
Turbidity (180.1)

3  
TOTAL NUMBER OF CONTAINERS

ALERT!!  
Level III QC

RUSH!

## CHAIN OF CUSTODY SIGNATURE RECORD

Signature (Relinquished)	<i>J. Lundberg</i>	Printed Name	J. Lundberg	Company/Agency	OMI	Date/Time	3-22-06 15:00
Signature (Received)	<i>L. Shabunina</i>	Printed Name	L. Shabunina	Company/Agency	TLI	Date/Time	3-22-06 20:40
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 ☐  
CUSTODY SEALED YES ☐ NO ☐

SPECIAL REQUIREMENTS:

For Sample Conditions  
See Form Attached



# Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL

Lab # 953038

Date Delivered: 03/22/06 Time: 20:40 By: ☐ Mail ☐ Field Service ☒ Client

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

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

17. Sample Check-In completed by Truesdail Log-In/Receiving: L. Stoburne

**Table of Contents**  
**TLI Laboratory Data Package**  
**For Laboratory Number: 953276**

<u>ITEM</u>	<u>Section</u>
Case Narrative and Analyst List	1.0
Summary Table of Final Results	2.0
Final Reports	3.0
Wet Chem Analysis/ Raw Data, Standard, Quality Control and Chain of Custody Records	4.0
Established Retention Time Window and Analytical Raw Data	5.0

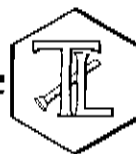
## Section 1.0

# Case Narrative



# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



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April 4, 2006

CH2M HILL  
Mr. Shawn Duffy  
155 Grand Ave., Suite 1000  
Oakland, California 94612

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

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-040 PROJECT, GROUNDWATER  
MONITORING,  
TLI No.: 953276

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-040 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 March 29, 2006, intact and in chilled condition. The samples will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,  
**TRUESDAIL LABORATORIES, INC.**

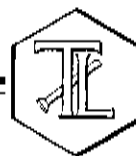
Mona Nassimi  
Manager, Analytical Services

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

CC: Mr. Mark Cichy, CH2M HILL Redding CA

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

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TUSTIN, CALIFORNIA 92780-7008  
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[www.truesdail.com](http://www.truesdail.com)

**Laboratory No.:** 953276

**Date:** April 4, 2006

**Collected:** March 29, 2006

**Received:** March 29, 2006

## ANALYST LIST

EPA 120.1	Specific Conductivity	Alex Hernandez
EPA 150.1	pH	Alex Hernandez
EPA 160.1	Total Dissolved Solids	Emilia Haley
EPA 180.1	Turbidity	Gautam Savani
EPA 200.7	Total Chromium	Riddhi Patel
EPA 218.6	Hexavalent Chromium	Jorge Arriaga

## Section 2.0

# Summary Table of Final Results

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Client: CH2M HILL

155 Grand Ave, Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Project Name: PG&E Topock Project

Project No.: 334168 IM.04.00

P.O. No.: 911248

Laboratory No.: 953276

Date Received: March 29, 2006

## Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Sample Time</u>	<u>EPA 200.7</u> <u>Chromium</u> <u>Total</u> <u>mg/L</u> <u>ND</u>	<u>EPA 218.6</u> <u>Chromium</u> <u>Hexavalent</u> <u>mg/L</u> <u>ND</u>	<u>EPA 180.1</u> <u>Turbidity</u> <u>NTU</u> <u>ND</u>	<u>EPA 150.1</u> <u>pH</u> <u>Unit</u> <u>8.06</u>	<u>EPA 120.1</u> <u>EC</u> <u>µmhos/cm</u> <u>8530</u>	<u>EPA 160.1</u> <u>TDS</u> <u>mg/L</u> <u>4250</u>
953276	SC-700B-WDR-040	14:00						

ND: Non Detected (below reporting limit)

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

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

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

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

000

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## Section 3.0

# Final Reports

# TRUESDAIL LABORATORIES, INC.

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## REPORT

Client: CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample  
Project Name: PG&E Topock Project  
Project No.: 334168.IM.04.00  
P.O. No.: 911248  
Prep. Batch: 033106A

Laboratory No.: 953276

Date: April 4, 2006  
Collected: March 29, 2006  
Received: March 29, 2006  
Prep/ Analyzed: March 31, 2006  
Analytical Batch: 033106A

Investigation:

Total Chromium by Inductively Coupled Argon Plasma  
Using Method EPA 200.7

### 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>
953276	SC-700B-WDR-040	mg/L	EPA 200.7	10:35	1.04	0.0010	ND

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	953276	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	953276	0.00	1.04	0.0100	0.0104	0.00887	0.0104	85.3%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00956	0.0100	95.6%	95% - 105%	Yes
MRCVS#1	0.00935	0.0100	93.5%	90% - 110%	Yes
ICS	0.0109	0.0100	109%	80% - 120%	Yes
LCS	0.00911	0.0100	91.1%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Laboratory No.:** 953276

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Date:** April 4, 2006  
**Collected:** March 29, 2006  
**Received:** March 29, 2006  
**Prep/ Analyzed:** March 30, 2006  
**Analytical Batch:** 03CrH06AF

**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>
953276	SC-700B-WDR-040	14:00	06:44	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	953276	ND	ND	0.00%	≤ 20%	Yes

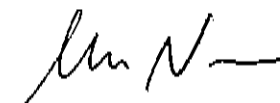
QC Std I.D.	Lab Number	Conc. of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance Limits	QC Within Control
MS	953276	0.00	5.00	0.00100	0.00500	0.00525	0.00500	105%	90-110%	Yes
MS	953276	0.00	5.00	0.00100	0.00500	0.00525	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	0.0101	0.0100	101%	95% - 105%	Yes
MRCVS#2	0.0101	0.0100	101%	95% - 105%	Yes
LCS	0.00497	0.00500	99.4%	90% - 110%	Yes
LCSD	0.00497	0.00500	99.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

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

  
Mona Nassimi, Manager  
Analytical Services

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## REPORT

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www.truesdail.com

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Laboratory No.:** 953276

**Date:** April 4, 2006

**Collected:** March 29, 2006

**Received:** March 29, 2006

**Prep/ Analyzed:** March 30, 2006

**Analytical Batch:** 03TUC06W

**Investigation:**

**Turbidity by Method EPA 180.1**

### 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>
953276	SC-700B-WDR-040	14:00	NTU	1.00	0.100	ND

### QA/QC Summary

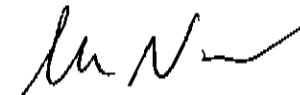
QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	953286	9.92	10.1	1.80%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.60	8.00	95.0%	90% - 110%	Yes
LCS	7.65	8.00	95.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,  
TRUESDAIL LABORATORIES, INC.

  
Mona Nassimi, Manager  
Analytical Services

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## REPORT

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
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**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
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**P.O. No.:** 911248

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TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 · FAX (714) 730-6462  
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**Laboratory No.:** 953276

**Date:** April 4, 2006  
**Collected:** March 29, 2006  
**Received:** March 29, 2006  
**Prep/ Analyzed:** March 30, 2006  
**Analytical Batch:** 03PH06AE

**Investigation:**

pH by EPA 150.1

### Analytical Results pH

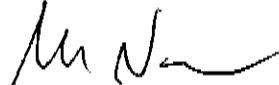
<u>TLI I.D.</u>	<u>Field I.D.</u>	<u>Sample Time</u>	<u>Run Time</u>	<u>Units</u>	<u>MDL</u>	<u>RL</u>	<u>Results</u>
953276	SC-700B-WDR-040	14:00	07:06	pH Units	0.0570	2.00	8.06

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	953278	8.05	8.05	0.00	+ 0.100 Units	Yes

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

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

  
Mona Nassimi, Manager  
Analytical Services

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## REPORT

Client: CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample  
Project Name: PG&E Topock Project  
Project No.: 334168.IM.04.00  
P.O. No.: 911248

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

Laboratory No.: 953276

Date: April 4, 2006

Collected: March 29, 2006

Received: March 29, 2006

Prep/ Analyzed: March 30, 2006

Analytical Batch: 03EC06AC

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>
953276	SC-700B-WDR-040	µmhos/cm	EPA 120.1	10.0	20.0	8530

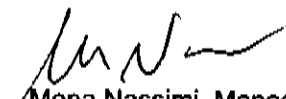
### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	953244	514	512	0.39%	≤ 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
CCS	680	706	96.3%	90% - 110%	Yes
CVS#1	931	994	93.7%	90% - 110%	Yes
CVS#2	932	994	93.8%	90% - 110%	Yes
LCS	671	706	95.0%	90% - 110%	Yes
LCSD	673	706	95.3%	90% - 110%	Yes

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

  
Mona Nassimi, Manager  
Analytical Services

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Established 1931

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

**Sample:** One (1) Groundwater Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

## REPORT

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

**Laboratory No.:** 953276

**Date:** April 4, 2006  
**Collected:** March 29, 2006  
**Received:** March 29, 2006  
**Prep/ Analyzed:** March 30, 2006  
**Analytical Batch:** 03TDS06O

**Investigation:**

**Total Dissolved Solids by EPA 160.1**

### 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>
953276	SC-700B-WDR-040	mg/L	EPA 160.1	250	4250

### QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	953276	4250	4220	0.35%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	466	500	93.2%	90% - 110%	Yes
LCS 2	495	500	99.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

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 these laboratories.



TRUESDAIL LABORATORIES, INC.  
14291 Franklin Avenue, Tustin, CA 92780-7008  
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# CHAIN OF CUSTODY RECORD

[IM3] Plant-WDR-040]

COC Number

5 Days

TURNAROUND TIME

DATE 3-29-06 PAGE 1 OF 1

953276

COMPANY	CH2M HILL	PROJECT NAME	PG&E Topock	PHONE	(510) 251-2888	FAX	(510) 622-7086	ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	P.O. NUMBER	334168.IM.04.00	SAMPLERS (SIGNATURE)	Chen Hwangto	SAMPLE I.D.	SC-700B-WDR-040	DATE	3-29-06	TIME	14:00	DESCRIPTION	Groundwater	CR6 (7199) Lab Filtered	X	Total Met (60106) Total Chromium	X	Specific Conductance (120.1)	X	PH (150.1)	X	TDS (180.1)	X	Turbidity (180.1)	X	Rec'd 03/29/06 sl'd 953276	COMMENTS
																NUMBER OF CONTAINERS										3		TOTAL NUMBER OF CONTAINERS		3					
																3										2H=7									

RUSH!

For Sample Conditions  
See Form Attached

CHAIN OF CUSTODY SIGNATURE RECORD										SAMPLE CONDITIONS				RECEIVED		COOL		WARM		*F											
Signature (Relinquished)	Chen Hwangto	Printed Name	Chen Hwangto	Company/Agency	OMA	Date/Time	3-29-06 14:00	Signature (Received)	M.L.	Printed Name	Miguel Lagunas	Company/Agency	EXECUTIVE	Date/Time	3/29/06 15:40	Signature (Relinquished)	M.L.	Printed Name	M. Lagunas	Company/Agency	EXECUTIVE	Date/Time	3/29/06 20:15	Signature (Received)	Shalene	Printed Name	Shalene	Company/Agency	TCI	Date/Time	3/29/06 20:15
														CUSTODY SEALED		YES		NO													
														SPECIAL REQUIREMENTS:																	
														ALERT!!																	
														Level III QC																	

036



# Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILLLab # 953276Date Delivered: 03/28/06 Time: 20:15 By: ☐ Mail ☐ Field Service ☒ Client

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

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

17. Sample Check-In completed by Truesdail Log-In/Receiving: L. Shafuine

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

# **ANALYTICAL REPORT**

PROJECT NO. 334168.IM.04.00

PG&E TOPOCK GWM

Lot #: E6C090243

Shawn Duffy

CH2M Hill Inc

SEVERN TRENT LABORATORIES, INC.

Marisol Tabirara  
Project Manager

March 30, 2006

## EXECUTIVE SUMMARY - Detection Highlights

E6C090243

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
SC-SLUDGE-WDR-036 03/08/06 10:50 001				
Chromium	130	0.10	mg/L	SW846 6010B
Zinc	1.3	1.0	mg/L	SW846 6010B
Mercury	1.6	0.70	mg/kg	SW846 7471A
Arsenic	15	7.0	mg/kg	SW846 6010B
Barium	110	14	mg/kg	SW846 6010B
Chromium	25000	7.0	mg/kg	SW846 6010B
Selenium	8.0	3.5	mg/kg	SW846 6010B
Copper	130	18	mg/kg	SW846 6010B
Molybdenum	56	28	mg/kg	SW846 6010B
Nickel	52	28	mg/kg	SW846 6010B
Thallium	23	7.0	mg/kg	SW846 6010B
Vanadium	110	35	mg/kg	SW846 6010B
Zinc	54	14	mg/kg	SW846 6010B
Percent Moisture	86	0.10	%	MCAWW 160.3 MOD
Hexavalent Chromium	220	14	mg/kg	SW846 7199

# METHODS SUMMARY

E6C090243

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Hexavalent Chromium	SW846 7199	SW846 3060A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 CAM TITLE
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 1311/3010
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 3050B
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	SW846 CAM TITLE
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	SW846 1311/7470
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

## References:

- MCAWW "Methods for Chemical Analysis of Water and Wastes",  
EPA-600/4-79-020, March 1983 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical  
Methods", Third Edition, November 1986 and its updates.



## METHOD / ANALYST SUMMARY

E6C090243

ANALYTICAL METHOD	ANALYST	ANALYST ID
MCAWW 160.3 MOD	FLORIAN ZIMMERMANN	000064
SW846 6010B	Josephine Asuncion	021088
SW846 7199	Yuriy Zakhrabov	000022
SW846 7470A	Hao Ton	000023
SW846 7471A	Hao Ton	000023

### References:

MCAWW	"Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
SW846	"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

## SAMPLE SUMMARY

E6C090243

WO #	SAMPLE#	CLIENT	SAMPLE ID	SAMPLED DATE	SAMP TIME
H0X97	001	SC-SLUDGE-WDR-036		03/08/06	10:50

### NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

## CH2M Hill Inc

Client Sample ID: SC-SLUDGE-WDR-036

## TOTAL Metals

Lot-Sample #...: E6C090243-001

Matrix.....: SO

Date Sampled...: 03/08/06 10:50 Date Received...: 03/09/06 11:00

% Moisture.....: 86

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 6072185						
Arsenic	15	7.0	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AC
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Antimony	ND	42	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AD
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Barium	110	14	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AE
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Cadmium	ND	3.5	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AF
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Chromium	25000	7.0	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AG
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Beryllium	ND	3.5	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AH
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Lead	ND	3.5	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AJ
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Selenium	8.0	3.5	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AK
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Silver	ND	7.0	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AL
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		

(Continued on next page)

## CH2M Hill Inc

Client Sample ID: SC-SLUDGE-WDR-036

## TOTAL Metals

Lot-Sample #...: E6C090243-001

Matrix.....: SO

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Cobalt	ND	35	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AM
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Copper	130	18	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AN
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Molybdenum	56	28	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AP
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Nickel	52	28	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AQ
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Thallium	23	7.0	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AR
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Vanadium	110	35	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AT
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Zinc	54	14	mg/kg	SW846 6010B	03/13-03/14/06	H0X971AU
		Dilution Factor: 1		Analysis Time..: 13:05	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6072121		
Prep Batch #...	6072188					
Mercury	1.6	0.70	mg/kg	SW846 7471A	03/13/06	H0X971AV
		Dilution Factor: 1		Analysis Time..: 14:17	Analyst ID.....: 000023	
		Instrument ID..: M04		MS Run #.....: 6072126		

**NOTE(S):**

Results and reporting limits have been adjusted for dry weight.

CH2M Hill Inc

Client Sample ID: SC-SLUDGE-WDR-036

TCLP Metals

Lot-Sample #...: E6C090243-001

Matrix.....: SO

Date Sampled...: 03/08/06 10:50 Date Received...: 03/09/06 11:00

Leach Date.....: 03/23/06 Leach Batch #...: P608213

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>Prep Batch #...: 6083541</b>						
Arsenic	ND	0.50	mg/L	SW846 6010B	03/24-03/25/06	H0X971DQ
		Dilution Factor: 1		Analysis Time..: 20:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6083331		
Barium	ND	10	mg/L	SW846 6010B	03/24-03/25/06	H0X971DR
		Dilution Factor: 1		Analysis Time..: 20:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6083331		
Cadmium	ND	0.10	mg/L	SW846 6010B	03/24-03/25/06	H0X971DT
		Dilution Factor: 1		Analysis Time..: 20:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6083331		
Chromium	ND	0.50	mg/L	SW846 6010B	03/24-03/25/06	H0X971DU
		Dilution Factor: 1		Analysis Time..: 20:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6083331		
Lead	ND	0.50	mg/L	SW846 6010B	03/24-03/25/06	H0X971DV
		Dilution Factor: 1		Analysis Time..: 20:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6083331		
Selenium	ND	0.25	mg/L	SW846 6010B	03/24-03/25/06	H0X971DW
		Dilution Factor: 1		Analysis Time..: 20:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6083331		
Silver	ND	0.50	mg/L	SW846 6010B	03/24-03/25/06	H0X971DX
		Dilution Factor: 1		Analysis Time..: 20:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6083331		
<b>Prep Batch #...: 6083542</b>						
Mercury	ND	0.0020	mg/L	SW846 7470A	03/28/06	H0X971D0
		Dilution Factor: 1		Analysis Time..: 13:47	Analyst ID.....: 000023	
		Instrument ID..: M04		MS Run #.....: 6083332		

**NOTE(S):**

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

## CH2M Hill Inc

Client Sample ID: SC-SLUDGE-WDR-036

## STLC Metals

Lot-Sample #...: E6C090243-001

Matrix.....: SO

Date Sampled...: 03/08/06 10:50 Date Received...: 03/09/06 11:00

Leach Date.....: 03/25/06

Leach Batch #...: P608304

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>Prep Batch #...: 6086451</b>						
Antimony	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971C6
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Arsenic	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971C7
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Barium	ND	10	mg/L	SW846 6010B	03/27-03/29/06	H0X971C8
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Beryllium	ND	0.10	mg/L	SW846 6010B	03/27-03/29/06	H0X971C9
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Cadmium	ND	0.10	mg/L	SW846 6010B	03/27-03/29/06	H0X971DA
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Chromium	130	0.10	mg/L	SW846 6010B	03/27-03/29/06	H0X971DC
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Cobalt	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DD
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Copper	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DE
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Lead	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DF
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		

(Continued on next page)

**CH2M Hill Inc**

**Client Sample ID: SC-SLUDGE-WDR-036**

**STLC Metals**

**Lot-Sample #...: E6C090243-001**

**Matrix.....: SO**

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>	<u>PREPARATION-</u>	<u>WORK</u>
		<u>LIMIT</u>	<u>UNITS</u>		<u>ANALYSIS DATE</u>	<u>ORDER #</u>
Molybdenum	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DG
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Nickel	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DH
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Selenium	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DJ
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Silver	ND	0.10	mg/L	SW846 6010B	03/27-03/29/06	H0X971DK
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Thallium	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DL
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
Vanadium	ND	1.0	mg/L	SW846 6010B	03/27-03/29/06	H0X971DM
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		
<b>Zinc</b>	<b>1.3</b>	<b>1.0</b>	<b>mg/L</b>	<b>SW846 6010B</b>	<b>03/27-03/29/06</b>	<b>H0X971DN</b>
		Dilution Factor: 1		Analysis Time..: 17:35	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 6086286		

**Prep Batch #...: 6086454**

Mercury	ND	0.0020	mg/L	SW846 7470A	03/28/06	H0X971DP
		Dilution Factor: 1		Analysis Time..: 13:57	Analyst ID.....: 000023	
		Instrument ID..: M04		MS Run #.....: 6086288		

**NOTE(S):**

Soluble Threshold Limit Concentration (STLC) done in accordance with App II: Waste Extraction procedures. CCR Title 22.

CH2M Hill Inc

Client Sample ID: SC-SLUDGE-WDR-036

General Chemistry

Lot-Sample #...: E6C090243-001    Work Order #...: H0X97    Matrix.....: SO  
 Date Sampled...: 03/08/06 10:50    Date Received..: 03/09/06 11:00  
 % Moisture.....: 86

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	220	14	mg/kg	SW846 7199	03/10/06	6069113
				Dilution Factor: 5 Instrument ID..: W18	Analysis Time..: 10:15 MS Run #.....: 6069061	Analyst ID.....: 000022
Percent Moisture	86	0.10	%	MCAWW 160.3 MOD	03/14-03/15/06	6073467
				Dilution Factor: 1 Instrument ID..: W15	Analysis Time..: 12:35 MS Run #.....: 6073254	Analyst ID.....: 0000641

**NOTE(S):**

RL Reporting Limit

Results and reporting limits have been adjusted for dry weight.



# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

March 14, 2006

CH2M HILL  
Mr. Shawn Duffy  
155 Grand Ave., Suite 1000  
Oakland, California 94612

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TUSTIN, CALIFORNIA 92780-7008  
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[www.truesdail.com](http://www.truesdail.com)

Dear Mr. Duffy:

SUBJECT: CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-036 PROJECT, SLUDGE SAMPLE-5,  
TLI NO.: 952577

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-036 project, Sludge Sample-6. A summary table for this sample delivery group is included in Section 2. Complete laboratory report, 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 sample was received and delivered with the chain of custody on March 8, 2006, intact and in chilled condition. The sample will be kept in a locked refrigerator for 30 days; thereafter it will be kept in warm storage for an additional 2 months before disposal.

No violations or nonconformance actions occurred for this data package.

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

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

Mona Nassimi  
Manager, Analytical Services

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

# TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



*Established 1931*

**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

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

**Project No.:** 334168.IM.04.00

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

**Laboratory No.:** 952577

**Date:** March 14, 2006

**Collected:** March 8, 2006

**Received:** March 8, 2006

## ANALYST LIST

EPA 300.0	Fluoride	Vanna Kho

## Section 2.0

# Summary Table of Final Results

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## REPORT

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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy

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

**Project No.:** 334168.IM.04.00

**P.O. No.:** 911248

**Laboratory No.:** 952577

**Date Received:** March 8, 2006

## Analytical Results Summary

<u>Lab I.D.</u>	<u>Sample I.D.</u>	<u>Time Sampled</u>	<u>EPA 300.0</u> <i>Fluoride</i> <i>mg/kg</i>
952577	SC-Sludge-WDR-036	10:50	11.2

ND: Non Detected (below reporting limit)

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

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

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

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

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

## Section 3.0

# Final Report

# TRUESDAIL LABORATORIES, INC.

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## REPORT

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**Client:** CH2M HILL  
155 Grand Ave. Suite 1000  
Oakland, CA 94612

**Attention:** Shawn Duffy  
**Sample:** One (1) Soil Sample  
**Project Name:** PG&E Topock Project  
**Project No.:** 334168.IM.04.00  
**P.O. No.:** 911248

**Laboratory No.:** 952577  
**Date:** March 14, 2006  
**Collected:** March 8, 2006  
**Received:** March 8, 2006  
**Prep/ Analyzed:** March 10, 2006  
**Analytical Batch:** 03AN061

### Investigation:

Fluoride by Ion Chromatography Using EPA 300.0

### Analytical Results Fluoride

<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>
952577	SC-Sludge-WDR-036	mg/kg	EPA 300.0	12:53	19.2	3.84	11.2

### QA/QC Summary

QC STD I.D.		Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control	
Duplicate		952492-2	0.285	0.264	0.38%	≤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	952492-2	0.265	1.00	2.00	2.00	2.26	2.27	99.8%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	4.14	4.00	104%	90% - 110%	Yes
MRCVS#1	3.14	3.00	105%	90% - 110%	Yes
MRCVS#2	3.09	3.00	103%	90% - 110%	Yes
MRCVS#3	3.10	3.00	103%	90% - 110%	Yes
MRCVS#4	3.23	3.00	108%	90% - 110%	Yes
LCS	4.11	4.00	103%	90% - 110%	Yes
LCSD	4.16	4.00	104%	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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**[Sludge Sample-5]**

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COC Number

**TURNAROUND TIME** | ~~5~~ Days

DATE 3-8-06

**PAGE 1 OF 1**

COMPANY	PROJECT NAME	PHONE	ADDRESS	P.O. NUMBER	SAMPLERS (SIGNATURE)	SAMPLE ID.	DATE	TIME	DESCRIPTION
CH2M HILL	PG&E Topock	(510) 251-2888	155 Grand Ave Ste 1000 Oakland, CA 94612	334168.IM.04.00		SC-Studge-WDR-036	3-8-06	10:50	Soil
					<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> ALERT II Level III QC </div>				
					<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> Cancelled per Shawn Duffy 3/9/06 </div>				
					<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> Anons (300) F Biossey, Don A. </div>				
					<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> NUMBER OF CONTAINERS </div>				
					<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> COMMENTS </div>				
					<div style="border: 1px solid black; padding: 5px; transform: rotate(-15deg); display: inline-block;"> TOTAL NUMBER OF CONTAINERS </div>				

Rec'd 03/08/06  
952577

**For Sample Conditions  
See Form Attached**

# THIS

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



TRUESDAIL LABORATORIES, INC.

## Sample Integrity & Analysis Discrepancy Form

Client: CH2M HILL

Lab # 952577

Date Delivered: 3/8/06 Time: 2050 By: ☐ Mail ☐ Field Service ☒ Client

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

**RUSH**

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

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

17. Sample Check-In completed by Truesdail Log-In/Receiving: J Braun