

Curt Russell

Topock Onsite Project Manager GT&D Remediation

Topock Compressor Station 145453 National Trails Hwy Needles, CA 92363

Mailing Address P.O. Box 337 Needles, CA 92363

760.326.5582 Fax: 760.326.5542 Email: gcr4@pge.com

November 15, 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 R7-2006-0060; WDID No. 7B 36 2033 001

PG&E Topock Compressor Station, Needles, California Interim Measure No. 3 Groundwater Treatment System

Discharge to Injection Wells October 2006 Monitoring Report

Dear Mr. Perdue:

Enclosed is the Board Order R7-2006-0060 October 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 September 20, 2006 by the Colorado River Basin Regional Water Quality Control Board (Water Board) under Order R7-2006-0060 (successor to Order R7-2004-0103). These WDRs apply to IM No. 3 Treatment System discharge by subsurface injection.

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

Sincerely,

Curt Russell

**Topock Onsite Project Manager** 

#### Enclosures:

Order R7-2006-0060 October 2006 Monitoring Report for the IM No. 3 Groundwater Treatment System.

cc: José Cortez, Water Board Liann Chavez, Water Board Tom Vandenberg, Water Board Aaron Yue, DTSC

## October 2006 Monitoring Report for Interim Measure No. 3 Groundwater Treatment System

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

Prepared for

California Regional Water Quality Control Board Colorado River Basin Region

on behalf of

Pacific Gas and Electric Company

November 15, 2006

CH2MHILL 155 Grand Avenue, Suite 1000 Oakland, CA 94612

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

Prepared for Pacific Gas and Electric Company

November 15, 2006

No. C68986

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

Dennis Fink, P.E. No. 68986

Project Engineer

## Contents

		Page
Acro	onyms and Abbreviations	<i>.</i>
1.0	Introduction	1-1
2.0	Sampling Station Locations	2-1
3.0	Description of Activities	3-1
4.0	Groundwater Treatment System Flow Rates	4-1
5.0	Sampling and Analytical Procedures	5-1
6.0	Analytical Results	6-1
7.0	Conclusions	7 <b>-</b> 1
8.0	Certification	8-1
Tabl	les	
1	Sampling Station Descriptions	
2	Flow Monitoring Results	
3	Board Order No. R7-2006-0060 Waste Discharge Requirements Influent Monitoring Results	
4	Board Order No. R7-2006-0060 Waste Discharge Requirements Effluent Monitoring Results	
5	Board Order No. R7-2006-0060 Waste Discharge Requirements Reverse Osm Concentrate Monitoring Results	osis
6	Board Order No. R7-2006-0060 Waste Discharge Requirements Sludge Monitoring Results	
7	Board Order No. R7-2006-0060 Waste Discharge Requirements Monitoring Information	

BAO\063180003

## **Figures**

1 IM No. 3 Project Area Site Features

TP-PR-10-10-03	Effluent Metering Locations
TP-PR-10-10-11	Influent Metering Locations
TP-PR-10-10-04	Raw Water Storage and Treated Water Storage Tanks and Sampling Locations
TP-PR-10-10-08	Reverse Osmosis Storage Tank Sampling and Metering Locations
TP-PR-10-10-06	Sludge Storage Tanks Sampling Locations

## Appendices

- A Laboratory Analytical Reports
- B Certification Signature Authority Delegation Email

BAO\063180003

## **Acronyms and Abbreviations**

HMI human-machine interface

IM Interim Measure

MRP Monitoring and Reporting Program

PG&E Pacific Gas and Electric Company

STL Severn Trent Laboratories, Inc.

Truesdail Laboratories, Inc.

Water Board California Regional Water Quality Control Board, Colorado River

Basin Region

WDR Waste Discharge Requirements

BAO\063180003 V

## 1.0 Introduction

Pacific Gas and Electric Company (PG&E) is implementing an Interim Measure (IM) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The IM consists of groundwater extraction for hydraulic control of the plume boundaries in the Colorado River floodplain and management of extracted groundwater. The groundwater extraction, treatment, and injection systems collectively are referred to as IM No. 3. Figure 1 provides a map of the project area. (All figures are located at the end of this report.)

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

This report covers monitoring activities related to operation of the IM No. 3 groundwater treatment system during October 2006. The groundwater monitoring results for wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D will be submitted under separate cover, as part of the Compliance Monitoring Program.

In addition to Board Order No. R7-2006-0060, 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.

BAO\063180003 1-1

## 2.0 Sampling Station Locations

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

BAO\063180003 2-1

## 3.0 Description of Activities

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

Influent to the treatment facility, permitted by Order R7-2006-0060, includes the following components:

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

During October 2006, groundwater was pumped from extraction wells TW-2D, TW-3D and PE-1. The target groundwater extraction system pump rate was 135 gallons per minute during October 2006 (excluding planned and unplanned downtime, which is described in Section 4.0).

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

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

BAO\063180003 3-1

# 4.0 Groundwater Treatment System Flow Rates

The October 2006 treatment system monthly average flow rates (influent, effluent, and reverse osmosis concentrate) 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).

In addition to groundwater from extraction wells, the IM No. 3 facility treated:

- Approximately 6,850 gallons of water generated from the groundwater monitoring program during October 2006.
- Approximately 11,000 gallons of purge water generated from injection well IW-02 redevelopment during October 2006

One container of solids (approximately 12 cubic yards) from the IM No. 3 facility was transported to the Chemical Waste Management at the Kettleman Hills facility during October 2006.

Periods of planned and unplanned extraction system down time (that resulted in 99 percent runtime during October 2006) are summarized below. The times shown are in Pacific Standard Time (PST) to be consistent with other data collected (e.g. water level data) at the site.

- October 2, 2006 (unplanned): The extraction well system was shut down from 6:52 a.m. to 7:02 a.m. and from 11:29 a.m. until 11:37 a.m. due to City of Needles Electric Department working on power lines in the area. Extraction system downtime was 18 minutes.
- October 3, 2006 (unplanned): The extraction well system was shut down from 12:00 p.m. to 12:08 p.m. and from 12:26 p.m. until 12:30 p.m. while troubleshooting a re-start of the Reverse Osmosis Unit. Extraction system downtime was 12 minutes.
- October 4, 2006 (unplanned): The extraction well system was shut down from 10:45 a.m. until 10:48 a.m. due to a power imbalance from the City Of Needles electric system. Extraction system downtime was 3 minutes.
- October 5, 2006 (unplanned): The extraction well system was automatically shut down due to a high water level alarm in Tank T-100. The extraction wells were temporarily operated in manual mode after the shutdown. Extraction system downtime was 1 minute.

BAO\063180003 4-1

- October 9, 2006 (unplanned): The extraction well system was shut down from 2:50 a.m. to 3:20 a.m. and from 7:12 a.m. until 7:28 a.m. due to a high water level alarm in Tank T-100. Extraction system downtime was 46 minutes.
- October 11, 2006 (unplanned): The extraction well system was shut down from 8:19 a.m. until 8:26 a.m., from 8:38 a.m. until 8:41 a.m., and from 1:04 p.m. until 1:35 p.m. due to troubleshooting power imbalance issues caused by the City Of Needles electric system. Extraction system downtime was 41 minutes.
- October 13, 2006 (unplanned): The extraction well system was shut down from 9:41 a.m. until 9:44 a.m. and from 10:19 a.m. until 10:22 a.m. due to address a power imbalance caused by the City Of Needles electric system. Extraction system downtime was 6 minutes.
- October 19, 2006 (unplanned): The extraction well system was shut down from 6:37 a.m. until 6:46 a.m. to address a power imbalance caused by the City Of Needles electric system. Extraction system downtime was 9 minutes.
- October 26, 2006 (planned): The extraction well system was shut down from 11:53 a.m. until 3:35 p.m. to clean out solids that accumulated in the piping between iron oxidation Tanks T-300A and T-301A. Extraction System downtime was 3 hours 42 minutes.

BAO\063180003 4-2

## 5.0 Sampling and Analytical Procedures

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 sealed container chilled with ice and transported to Truesdail or STL via courier service under chain-of-custody documentation. The laboratories confirmed the samples were received in chilled condition upon arrival.

Truesdail is certified by the California Department of Health Services (Certification No. 1237) under the State of California's Environmental Laboratory Accreditation Program. STL is certified by the California Department of Health Services (Certification No. 1118) under the Environmental Laboratory Accreditation Program. Truesdail forwarded the sludge sample to MBC Laboratory. MBC Laboratory conducted the sludge bioassay test, and is certified by the California Department of Health Services (Certification No. 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 Code of Federal Regulations 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 Order R7-2006-0060, and the procedures and schedules approved in the *Groundwater Compliance Monitoring Plan for Interim Measures No. 3 Injection Area* submitted to the Water Board June 17, 2005. Quarterly groundwater monitoring analytical results for the injection area (wells OW-1S/M/D, OW-2S/M/D, OW-5S/M/D, CW-1M/D, CW-2M/D, CW-3M/D, and CW-4M/D) are reported in a separate document, in conjunction with groundwater level maps of the same monitoring wells.

BAO\063180003 5-1

## 6.0 Analytical Results

Laboratory reports prepared by the certified analytical laboratories are presented in Appendix A. The analytical results from groundwater treatment system influent, effluent, reverse osmosis concentrate, and sludge samples are presented in Tables 3, 4, 5, and 6, respectively.

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

- The influent was sampled monthly; sample date October 4, 2006. Results are presented in Table 3.
- The effluent was sampled weekly; sample dates October 4, 11, 18, and 25, 2006. Results are presented in Table 4.
- The reverse osmosis concentrate was sampled monthly; sample date October 4, 2006. Results are presented in Table 5.
- The sludge was sampled monthly; sample date October 4, 2006. In accordance with WDRs, sludge is sampled each time it is transported offsite (unless sludge is transported offsite more frequently than monthly, in which case the sampling frequency is monthly). Results are presented in Table 6.
- The sludge is required to have an aquatic bioassay test quarterly; the 4<sup>th</sup> Quarter 2006 aquatic bioassay test is scheduled to be conducted with a sludge sample collected in November or December 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

BAO\063180003 6-1

## 7.0 Conclusions

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

In addition, no incidents of non-compliance were identified during the reporting period, 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.

BAO\063180003 7-1

## 8.0 Certification

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. Order R7-2006-0600 is the successor to Order R7-2004-0103; an additional signature authority delegation is not required, as confirmed in an email from Jose Cortez dated October 12, 2006 (Appendix B).

#### **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:	behum
Name:	Curt Russell
Company: _	Pacific Gas and Electric Company
Title:	Topock Onsite Project Manager
Date:	November 15, 2006

BAO\063180003 8-1



TABLE 1 Sampling Station Descriptions October 2006 Report for Interim Measure No. 3 Groundwater Treatment System

Sample Station	Sample ID <sup>a</sup>	Location
Sampling Station A: Groundwater Treatment System Influent	SC-100B-WDR-###	Sample collected from tap on pipe into T-100 (see Figure TP-RP-10-10-04).
Sampling Station B: Groundwater Treatment System Effluent	SC-700B-WDR-###	Sample collected from tap on pipe downstream from T-700 (see Figure TP-RP-10-10-04).
Sampling Station D: Groundwater Treatment System Reverse Osmosis Concentrate	SC-701-WDR-###	Sample collected from tap on pipe into T-701 (see Figure 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>### =</sup> Sequential sample identification number at each sample station.

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

**TABLE 2** Flow Monitoring Results

October 2006 Report for Interim Measure No. 3 Groundwater Treatment System

Parameter	System Influent <sup>a,b</sup>	System Effluent <sup>b,c</sup>	Reverse Osmosis Concentrate <sup>b,d</sup>
Average Monthly Flowrate (gpm)	132.3	122.6	10.8

#### Notes:

gpm: gallons per minute.

<sup>&</sup>lt;sup>a</sup> Extraction wells TW-2D (on October 4th and 5<sup>th</sup>), TW-3D and PE-1 were operated during October 2006.

<sup>&</sup>lt;sup>b</sup> The difference between influent flow rate and the sum of the effluent and reverse osmosis concentrate flow rates was 0.8 percent, which is within the range of acceptable accuracy considering the margin of error for onsite instrumentation, the water contained within the sludge, purge water treated at the IM-3 facility in addition to the extraction wells, and differences in the inventory of water in the treatment system between the beginning and end of the reporting period.

<sup>&</sup>lt;sup>c</sup> Effluent was discharged into injection wells IW-02 and IW-03 during October 2006.

d Reverse Osmosis Concentrate flow meter reading from FIT-701.

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

Required Samplin	ng Frequency	,										ļ	Monthly											
	Analytes Units <sup>b</sup>	TDS mg/L	Turbidity NTU	Specific Conductance umhos/cm	e pH	Chromium	Hexavalent Chromium µg/L	Aluminium μg/L	Ammonia (as N) mg/L	Antimony µg/L	Arsenic µg/L	Barium µg/L	Boron mg/L	Copper µg/L	Fluoride mg/L	Lead µg/L	Manganese μg/L	Molybdenum µg/L	Nickel µg/L	Nitrate (as N) mg/L	Nitrite (as N) mg/L	Sulfate mg/L	Iron μg/L	Zinc µg/L
Sample ID	MDL Date	64	0.016	7.1	0.057	μ <sub>9</sub> /- 0.75	1.8	1.6	0.1	0.28	0.25	0.87	0.00008		0.018	0.25	1.6	0.2	1.5	0.017	0.001	0.77	0.99	2.0
		ļ																						
SC-100B-WDR-067	10/4/2006	5340	0.12	9460	7.15	2030	2000	ND	ND	ND	ND	ND	1.31	33.8		3.00	ND	19.7	ND		0.0115		ND	ND
RL		250	0.1	20	2.0	10	20	52	0.5	3.0	5.0	300	0.2	10		2.0	500	5.0	20		0.005		300	20
SC-100B-WDR-069	10/18/2006														1.88					3.23		631		
RL															0.2					0.2		13		

#### NOTES:

(---) = not required by the WDR Monitoring and Reporting Program  $\mu$ g/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

MDL = method detection limit

<sup>&</sup>lt;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)

**b** Units reported in this table are those units required in the WDRs

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

WDRs Effluent	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
Limits <sup>b</sup>	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 Sampl	ling Frequency			W	eekly											Mont	hly							
	Analytes	TDS	Turbidity	Specific / Conductand	ce pH	Chromium	Hexavalent Chromium	Aluminium	Ammonia (as N)	Antimony	Arsenic	Barium	Boron	Copper	Fluoride	Lead	Manganese	Molybdenum	Nickel	Nitrate (as N)	Nitrite (as N)	Sulfate	Iron	Zinc
	Units <sup>c</sup>	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	mg/L	mg/L	mg/L	μg/L	μg/L
) 1	MDL	64	0.016	7.1	0.057	0.75	0.088	1.6	0.1	0.28	0.25	0.87	0.000087	0.36	0.018	0.25	1.6	0.2	1.5	0.017	0.001	0.77	0.99	2.0
Sample ID	Date																							
SC-700B-WDR-00	67 10/4/2006	4240	ND	9620	7.50	ND	0.20 J	ND	ND	ND	ND	ND	1.14	40.0		4.00	ND	13.4	ND		ND		ND	ND
RL		250	0.1	20	2.0	1.0	0.2	52	0.5	3.0	5.0	300	0.2	10		2.0	500	5.0	20		0.005		300	20
SC-700B-WDR-00	68 10/11/2006	4180	ND	6440	7.53	ND	ND																	
RL		250	0.1	2.0	2.0	1.0	0.2																	
SC-700B-WDR-00	69 10/18/2006	4090	ND	8280	7.18	ND	ND								1.80					2.54		457		
RL		250	0.1	20	2.0	1.0	1.0								0.2					0.2		13		
SC-700B-WDR-0	70 10/25/2006	3790	ND	8620	7.96	ND	ND																	
RL		250	0.1	20	2.0	1.0	1.0																	

#### NOTES:

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

NA = not applicable

μg/L = micrograms per liter

mg/L = milligrams per liter

NTU = nephelometric turbidity units

µmhos/cm = micromhos per centimeter

ND = parameter not detected at the listed reporting limit

J = concentration or reporting limits estimated by laboratory or validation

MDL = method detection limit

<sup>&</sup>lt;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)

b 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>&</sup>lt;sup>c</sup> Units reported in this table are those units required in the WDRs

#### TABLE 5

Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs) Reverse Osmosis Concentrate Results  $^{\bf a}$ 

October 2006 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling Frequency											Mor	thly										
Analytes Units <sup>b</sup>	TDS mg/L	Specific Conductance µmhos/cm	pH pHunits	Chromium mg/L	Hexavalent Chromium mg/L	Antimony mg/L	Arsenic mg/L	Barium mg/L	Beryllium mg/L	Cadmium mg/L	Cobalt mg/L	Copper mg/L	Fluoride mg/L	Lead mg/L	Molybdenum mg/L	Mercury mg/L	Nickel mg/L	Selenium mg/L	Silver mg/L	Thallium mg/L	Vanadium mg/L	Zinc mg/L
Sample ID Date	320	7.1	0.057	0.00027	0.00018	0.0014	0.0012	0.00087	0.00074	0.0012	0.00075	0.0018	0.18	0.0012	0.00098	0.000049	0.0015	0.0066	0.003	0.00098	0.00089	0.002
SC-701-WDR-067 10/4/2006	22400	36700	7.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.3 J	ND	0.0659	ND	ND	ND	ND	ND	ND	ND
RL	1250	20.0	2.00	0.001	0.002	0.0104	0.0104	0.30	0.0052	0.0052	0.0104	0.0104	2.00	0.0052	0.0104	0.0002	0.02	0.0208	0.0104	0.0052	0.0104	0.02

#### 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

MDL = method detection limit

<sup>&</sup>lt;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)

**b** Units reported in this table are those units required in the WDRs

TABLE 6 Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs) Sludge Monitoring Results<sup>a</sup>

October 2006 Monthly Report for Interim Measures No.3 Groundwater Treatment System

Required Sampling F	requency										Monthly	С								
	Analytes		Hexavalent Chromium	Antimony	Arsenic	Barium	Beryllium	Cadmium	Cobalt	Copper	Fluoride	Lead	Molybdenum	Mercury	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
	Units <sup>b</sup>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	MDL	15000	5.50	ND	32.0	100	ND	7.80	ND	99.0	11.9	ND	ND	1.90	38.0	ND	ND	ND	80.0	61.0
Sample ID	Date																			
SC-Sludge-WDR-067	10/4/2006	15000	5.50	ND	32.0	100	ND	7.80	ND	99.0	11.9	ND	ND	1.90	38.0	ND	ND	ND	80.0	61.0
RL		4.9	0.98	29	4.9	9.8	2.5	2.5	25	12	4.0	2.5	20	0.49	20	2.5	4.9	4.9	25	9.8

#### NOTES:

(---) = not required by the WDR Monitoring and Reporting Program ND = parameter not detected at the listed reporting limit

J = concentration or reporting limits estimated by laboratory or validation

mg/kg = milligrams per killogram

mg/L = milligrams per liter

MDL = method detection limit

<sup>&</sup>lt;sup>a</sup> Sampling Location for all Sludge Samples is the Sludge Collection Bin (see attached P&ID TP-PR-10-10-06)

**b** Units reported in this table are those units required in the WDR

c 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. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
October 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-067	David Chaney	10/4/2006	9:30:00 AM	TLI	EPA 120.1	SC	10/12/2006	Kim Luck
					TLI	EPA 150.1	PH	10/5/2006	Tina Acquiat
					TLI	EPA 160.1	TDS	10/10/2006	Tina Acquiat
					TLI	EPA 180.1	TRB	10/5/2006	Gautam Savani
					TLI	EPA 200.7	NI	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	ZN	10/24/2006	Riddhi Patel
					TLI	EPA 200.7	MN	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	FET	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	CRT	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	BA	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	В	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	AL	10/13/2006	Riddhi Patel
					TLI	EPA 200.8	CU	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	MO	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	PB	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	SB	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	AS	10/17/2006	Riddhi Patel
					TLI	EPA 350.2	NH3N	10/13/2006	Iordan Stavrev
					TLI	EPA 354.1	NO2N	10/5/2006	Tina Acquiat
					TLI	EPA Method 218.6	CR6	10/4/2006	Roger Chen
SC-100B	SC-100B-WDR-069	David Chaney	10/18/2006	1:00:00 PM	TLI	EPA 300.0	SO4	10/18/2006	Stanley Hsieh
					TLI	EPA 300.0	NO3N	10/18/2006	Stanley Hsieh
					TLI	EPA 300.0	FL	10/19/2006	Stanley Hsieh
SC-700B	SC-700B-WDR-067	David Chaney	10/4/2006	9:40:00 AM	TLI	EPA 120.1	SC	10/12/2006	Kim Luck
					TLI	EPA 150.1	PH	10/5/2006	Tina Acquiat
					TLI	EPA 160.1	TDS	10/10/2006	Tina Acquiat
					TLI	EPA 180.1	TRB	10/5/2006	Gautam Savani
					TLI	EPA 200.7	В	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	ZN	10/24/2006	Riddhi Patel
					TLI	EPA 200.7	NI	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	MN	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	FET	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	CRT	10/6/2006	Riddhi Patel
					TLI	EPA 200.7	AL	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	BA	10/13/2006	Riddhi Patel
					TLI	EPA 200.8	SB	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	PB	10/17/2006	Riddhi Patel

TABLE 7
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
October 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-067	David Chaney	10/4/2006	9:40:00 AM	TLI	EPA 200.8	MO	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	CU	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	AS	10/17/2006	Riddhi Patel
					TLI	EPA 350.2	NH3N	10/13/2006	Iordan Stavrev
					TLI	EPA 354.1	NO2N	10/5/2006	Tina Acquiat
					TLI	EPA Method 218.6	CR6	10/4/2006	Roger Chen
SC-700B	SC-700B-WDR-068	Erik Johannsen	10/11/2006	1:00:00 PM	TLI	EPA 120.1	SC	10/19/2006	Tina Acquiat
					TLI	EPA 150.1	PH	10/12/2006	Tina Acquiat
					TLI	EPA 160.1	TDS	10/17/2006	Tina Acquiat
					TLI	EPA 180.1	TRB	10/12/2006	Gautam Savani
					TLI	EPA 200.7	CRT	10/17/2006	Riddhi Patel
					TLI	EPA Method 218.6	CR6	10/11/2006	Roger Chen
SC-700B	SC-700B-WDR-069	David Chaney	10/18/2006	1:00:00 PM	TLI	EPA 120.1	SC	10/19/2006	Tina Acquiat
					TLI	EPA 150.1	PH	10/19/2006	Tina Acquiat
					TLI	EPA 160.1	TDS	10/23/2006	Tina Acquiat
					TLI	EPA 180.1	TRB	10/19/2006	Gautam Savani
					TLI	EPA 200.7	CRT	10/25/2006	Riddhi Patel
					TLI	EPA 300.0	FL	10/19/2006	Stanley Hsieh
					TLI	EPA 300.0	NO3N	10/18/2006	Stanley Hsieh
					TLI	EPA 300.0	SO4	10/18/2006	Stanley Hsieh
					TLI	EPA Method 218.6	CR6	10/18/2006	Roger Chen
SC-700B	SC-700B-WDR-070	Chris Knight	10/25/2006	1:45:00 PM	TLI	EPA 120.1	SC	10/26/2006	Tina Acquiat
					TLI	EPA 150.1	PH	10/26/2006	Tina Acquiat
					TLI	EPA 160.1	TDS	10/26/2006	Tina Acquiat
					TLI	EPA 180.1	TRB	10/26/2006	Gautam Savani
					TLI	EPA 200.7	CRT	10/27/2006	Riddhi Patel
					TLI	EPA Method 218.6	CR6	10/26/2006	Stanley Hsieh
SC-701	SC-701-WDR-067	David Chaney	10/4/2006	10:00:00 AM	TLI	EPA 120.1	SC	10/12/2006	Kim Luck
					TLI	EPA 150.1	PH	10/5/2006	Tina Acquiat
					TLI	EPA 160.1	TDS	10/10/2006	Tina Acquiat
					TLI	EPA 200.7	CRT	10/6/2006	Riddhi Patel
					TLI	EPA 200.7	NI	10/13/2006	Riddhi Patel
					TLI	EPA 200.7	ZN	10/24/2006	Riddhi Patel
					TLI	EPA 200.7	BA	10/13/2006	Riddhi Patel
					TLI	EPA 200.8	MO	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	AS	10/17/2006	Riddhi Patel

TABLE 7
Board Order No. R7-2006-0060 Waste Discharge Requirements (WDRs)
Monitoring Information
October 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-701	SC-701-WDR-067	David Chaney	10/4/2006	10:00:00 AM	TLI	EPA 200.8	BE	10/18/2006	Riddhi Patel
					TLI	EPA 200.8	CD	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	CU	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	CO	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	PB	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	SB	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	SE	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	TL	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	V	10/17/2006	Riddhi Patel
					TLI	EPA 200.8	AG	10/18/2006	Riddhi Patel
					TLI	EPA 245.1	HG	10/12/2006	Aksiniya Dimitrova
					TLI	EPA 300.0	FL	11/7/2006	Stanley Hsieh
					TLI	EPA Method 218.6	CR6	10/4/2006	Roger Chen
SC-Sludge	SC-Sludge-WDR-067	Gary Sibble	10/4/2006	9:43:00 AM	STL	EPA 160.3	MOIST	10/7/2006	Janice Salenga
					TLI	EPA 300.0	FL	10/4/2006	Giawad Ghenniwa
					STL	EPA 6010B	NI	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	ZN	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	AS	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	V	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	TL	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	SE	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	SB	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	PB	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	MO	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	CU	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	CRT	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	CO	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	CD	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	BA	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	AG	10/11/2006	Josephine Asuncion
					STL	EPA 6010B	BE	10/11/2006	Josephine Asuncion
					STL	EPA 7471A	HG	10/11/2006	Hao Ton
					STL	SW 7199	CR6	10/13/2006	Yuriy Zakhrabov

#### TABLE 7

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

**Monitoring Information** 

October 2006 Monthly Report for Interim Measures No.3 Groundwater Treatment System

#### NOTES:

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

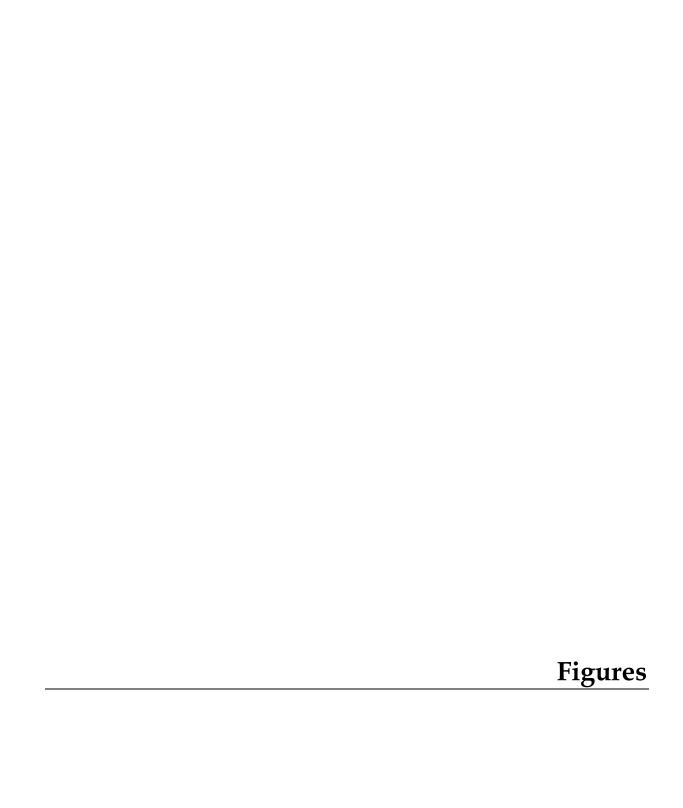
SC-100B = Sampling Location for all Influent Samples is tap on pipe from extraction wells into tank T-100 (see attached P&ID TP-PR-10-10-04)

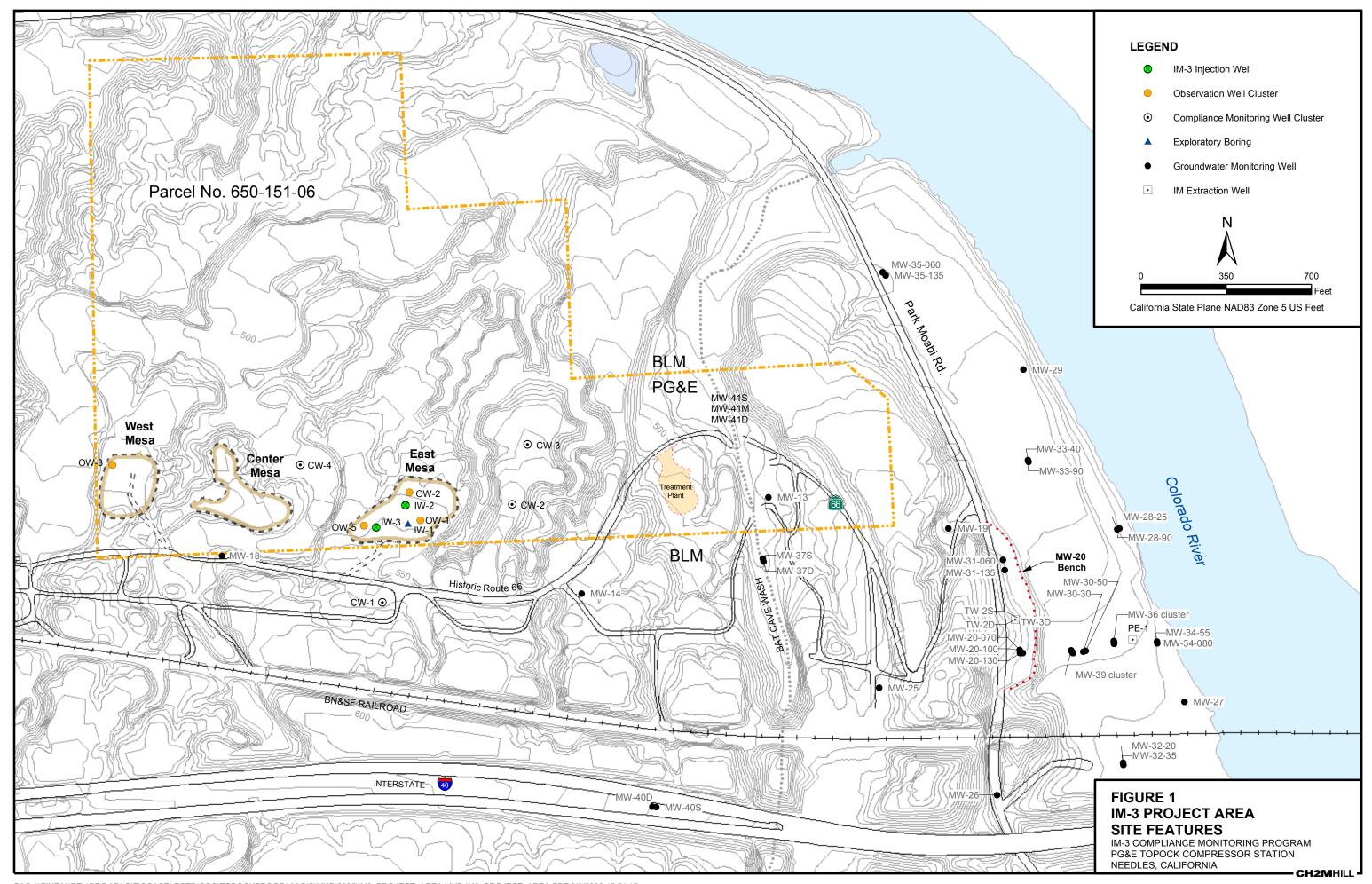
SC-701 = Sampling Location for all Reverse Osmosis Samples is tap on pipe T-701 (see attached P&ID TP-PR-10-10-08)

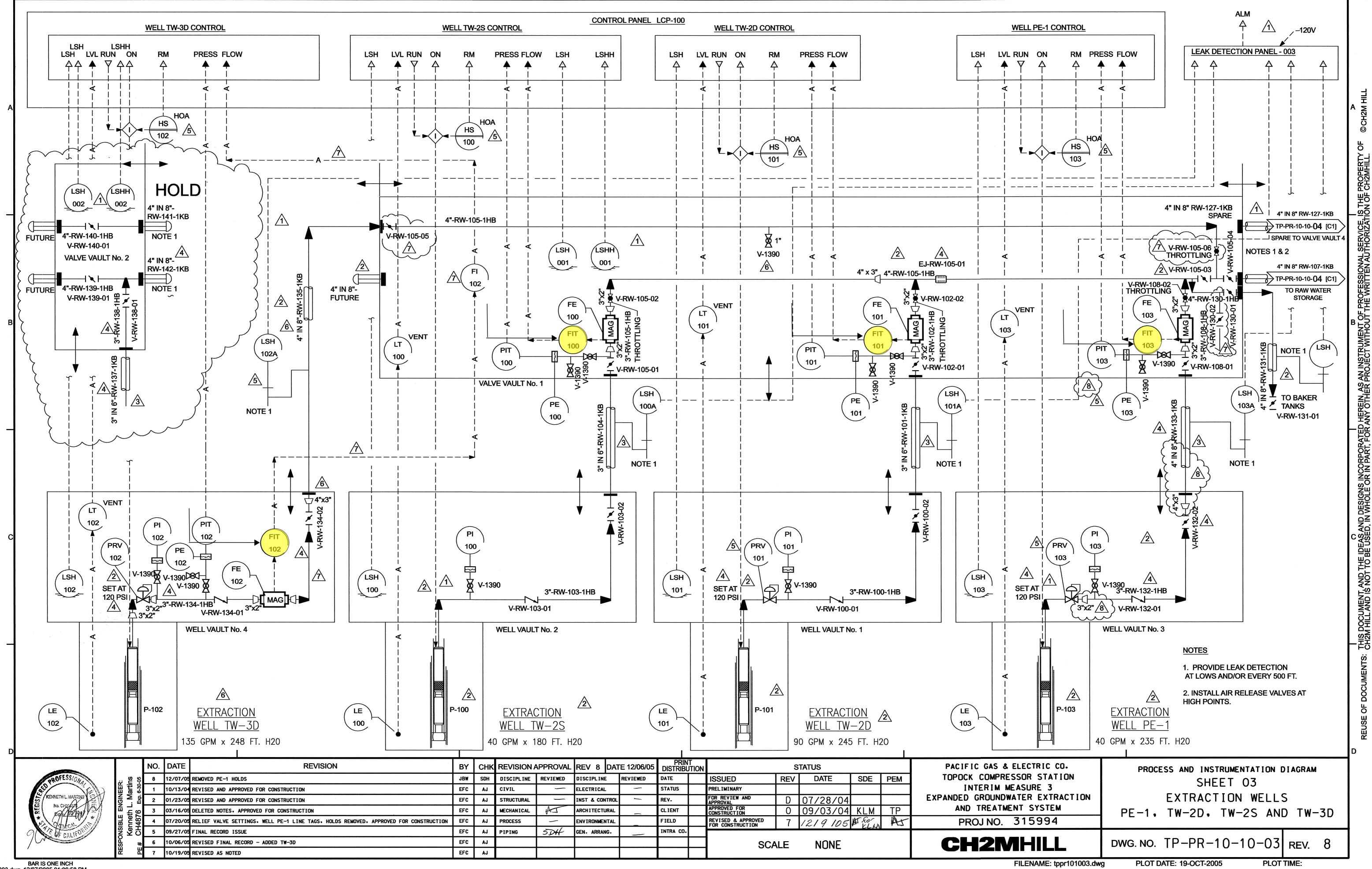
TLI = Truesdail Laboratories, Inc.

STL = Severn Trent Laboratories, Inc.

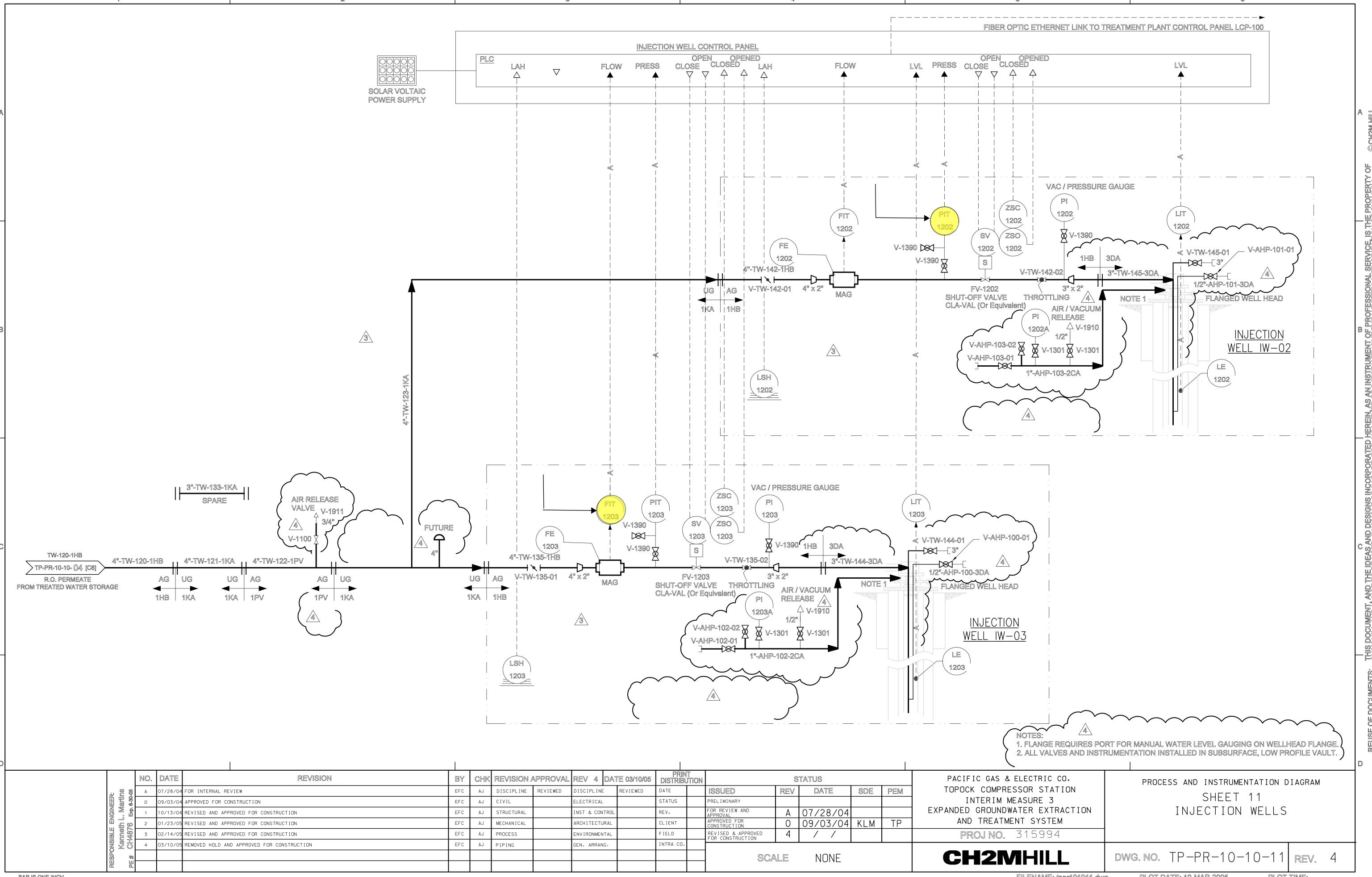
SC =	specific conductance	MO =	molybdenum
PH =	pH	NI =	nickel
TDS =	total dissolved solids	PB =	lead
TRB =	turbidity	HG =	mercury
CRT =	chromium	SE =	selenium
CR6 =	hexavalent chromium	TL =	thallium
FL =	fluoride	CO =	cobalt
AL =	aluminum	CD =	cadmium
B =	boron	BE =	beryllium
FE =	iron	AG =	silver
MN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

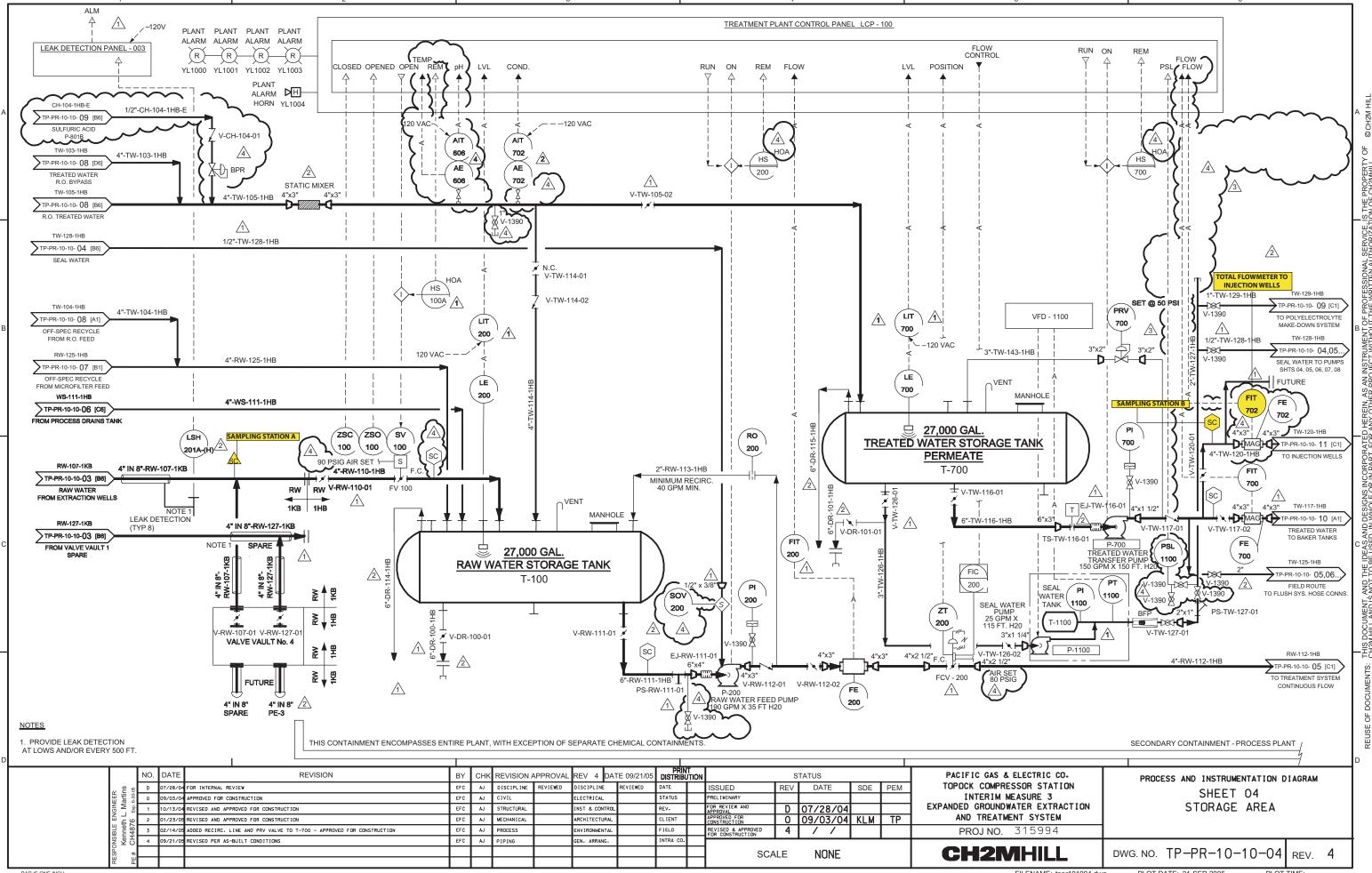


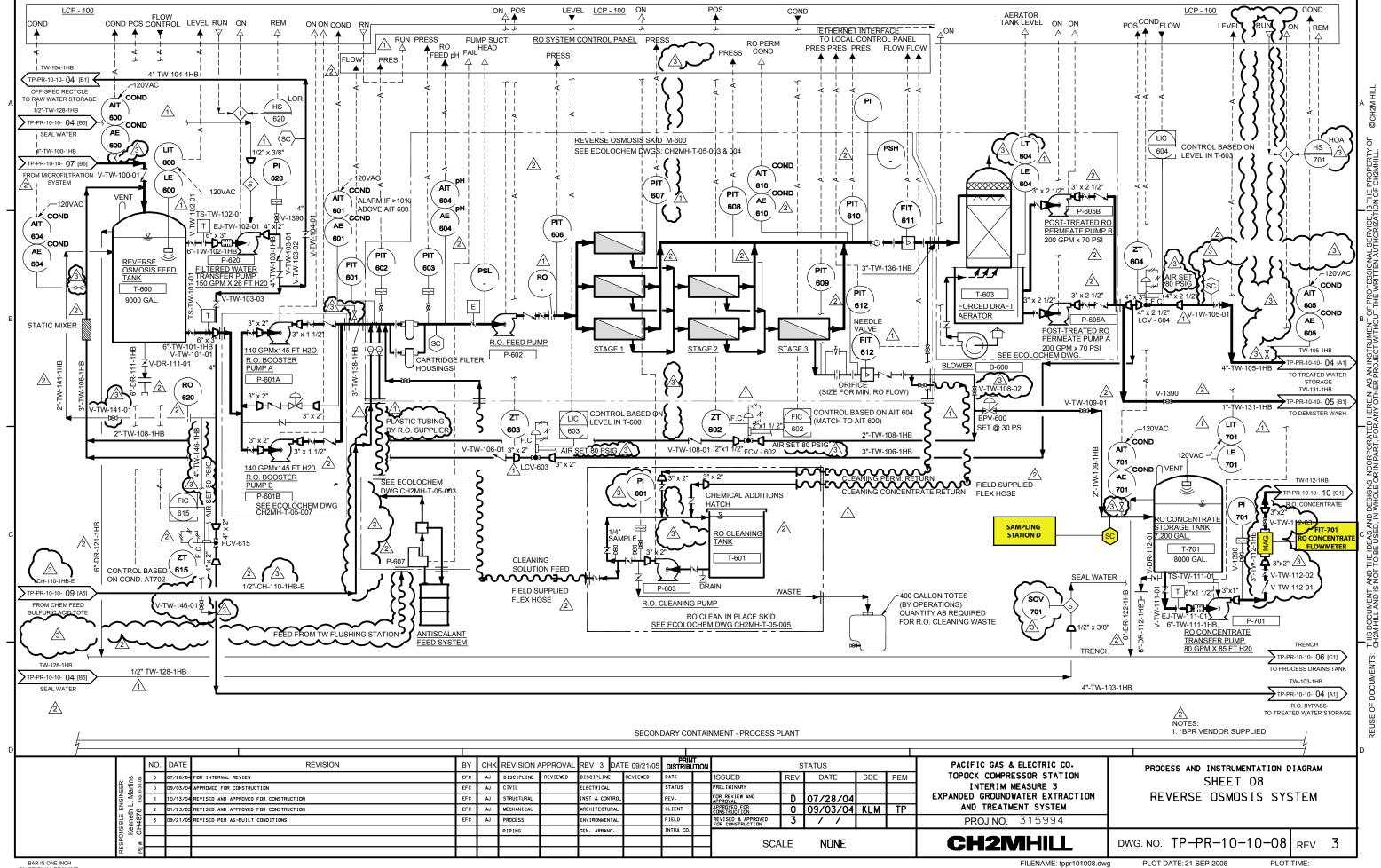


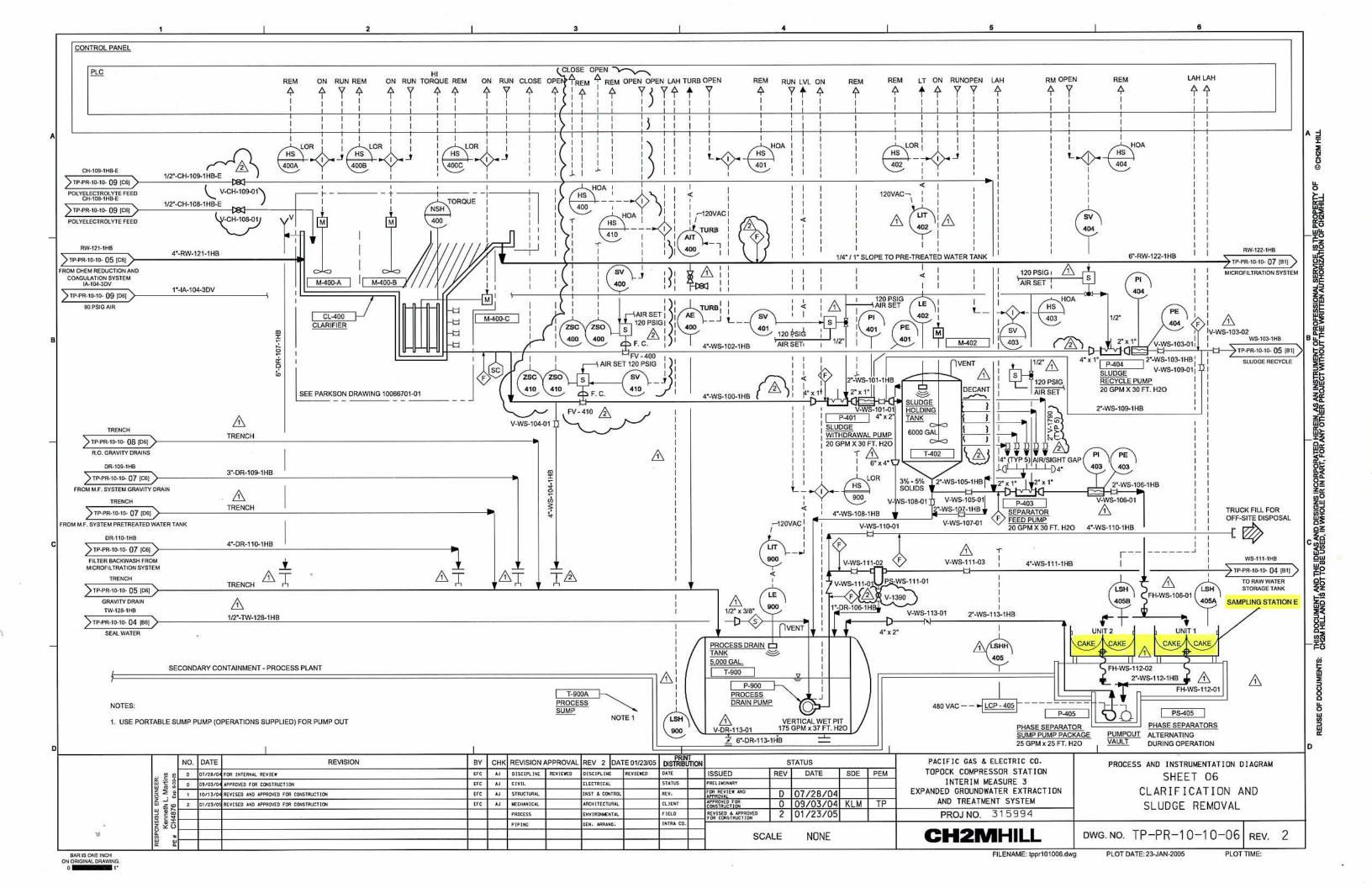


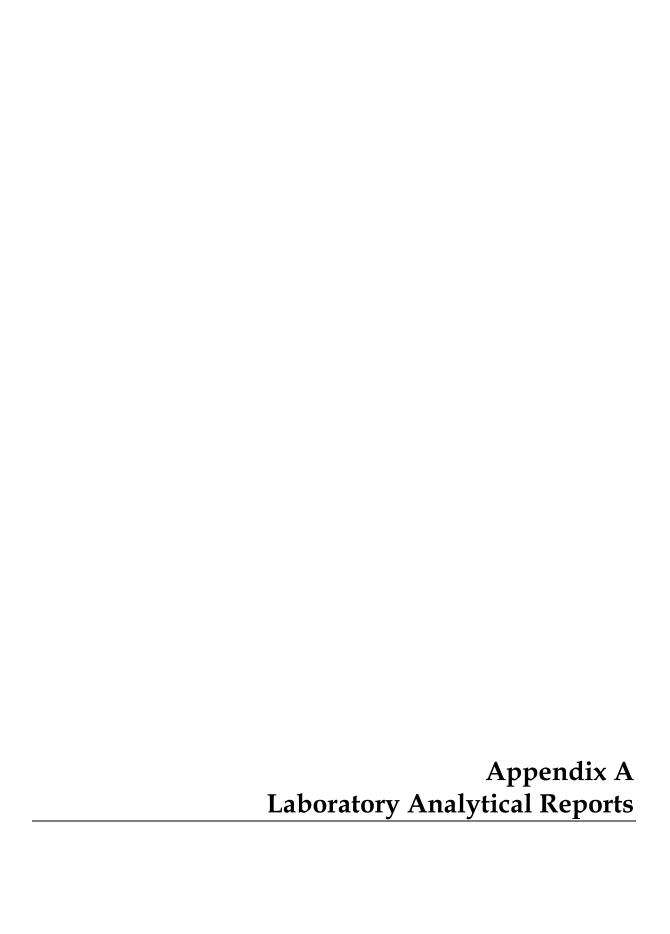
BAR IS ONE INCH tppr101003.dwg 12/07/2005 01:06:58 PM















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

## E2 Consulting Engineers, Inc.

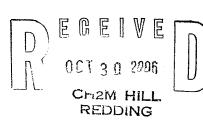
PG&E Topock Project

Laboratory Number: 959459 Received: October 4, 2006

IM3Plant-WDR-067

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2





Prepared for:

E2 Consulting Engineers, Inc.
Attn: Shawn Duffy
2525 Airpark Dr.
Redding, CA 96001

Prepared by:

TRUESDAIL LABORATORIES, INC. TUSTIN, CALIFORNIA

## Table of Contents TLI Laboratory Data Package

For Laboratory Number: 959459

<u>ITEM</u>	Section
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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

14201 FRANKLIN AVENUE

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

November 7, 2006

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

Dear Mr. Duffy:

SUBJECT:

REVISED CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-067 PROJECT,

GROUNDWATER MONITORING,

TLI No.: 959459

Truesdail Laboratorics, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-067 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 October 4, 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.

Due to analyst error, Sample I.D.'s SC-100B-WDR-067 and SC-700B-WDR-067 were not analyzed for Fluoride, Sulfate, and Nitrate as requested on the chain of custody. Shawn Duffy was notified.

Results for Hexavalent Chromium by EPA 218.6 are reported in the matrix spike calculations although they are below the reporting limit due to the small amount of Hexavalent Chromium present in the samples.

Shawn Duffy requested that the Fluoride sample for Sample I.D. SC-701-WDR-067 be re-analyzed at a dilution due to the Chloride interference seen on the chromatogram. The result for the re-analysis was reported but was past the method specified holding time.

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

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

Respectfully Submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi

Manager, Analytical Services

K. R. P. Fyer

K.R.P. Iyer

Quality Assurance/Quality Control Officer

### Section 2.0

## Summary Table of Final Results

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462 www.truesdail.com

Laboratory No.: 959459

Date: November 7, 2006 Collected: October 4, 2006 Received: October 4, 2006

Revision 1

### **ANALYST LIST**

EPA 120.1	Specific Conductivity	Kim Luck
EPA 150.1	рН	Tina Acquiat
EPA 160.1	Total Dissolved Solids	Tina Acquiat
EPA 180.1	Turbidity	Gautam Savani
EPA 300.0	Anions	Giawad Ghenniwa
EPA 350.2	Ammonia	lordan Stavrev
EPA 354.1	Nitrite as N	Tina Acquiat
EPA 200.7	Metals by ICP	Riddhi Patel
EPA 200.8	Metals by ICP/MS	Riddhi Patel
EPA 245.1	Mercury	Akşiniya Dimitrova
EPA 218.6	Hexavalent Chromium	Roger Chen

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



14201 FRANKLIN AVENUE - TUSTIN, CALIFORNIA 92780-7008 [714] 730-6239 - FAX (714) 739-6462 - www.tuesdail.com

Established 1931

Laboratory No.: 959459 Date Received: October 4, 2006 Revision 1

Attention: Shawn Duffy

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

Oakland, CA 94612

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2

## Analytical Results Summary

								Append on the Prince of the Pr			And the latest l	
EPA 350.2 Ammonia	mg/L	2	Ş									
EPA 218.6 Hexavalent Chromium	mg/L	2.00	2	Q					***************************************			
EPA 180.1 Turbidity	WTU	0.120	9									
<b>EPA 160.1</b> <i>TDS</i>	mg/L	5340	4240	22400								
EPA 120.1 EC	umhos/cm	9460	9620	36700		EPA 354.1 Nitrite as N	,	mg/L	0.0115	2		
EPA 150.1 pH	Units	7.15	05.2	7.26	and the same of th	EPA 300.0		mg/L		1	12.3	
Sample Time		08-30	09-40	10:00		Sample Time			06:30	09:40	10:00	
Sample 1.D.		SC-100B-WDR-067	CC.700B_W/UB-067	SC-701.WDR-067		Sample I.D.			SC-100B-WDR-067	SC-7008-WDR-067	SC-701-WDR-067	
Lab I.D.		050450.1	050450.2	050450-3		Lab I.D.			959459-1	959459-2	959459-3	

ND: Non Detacted (tolow reporting limit) mg/L: Militans per liter.

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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

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

Established 1931

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Sulte 1000

Oakland, CA 94612

Project Name: PG&E Topock Project Attention: Shawn Duffy

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Date Received: October 4, 2006 Laboratory No.: 959459

Revision 2

# **Analytical Results Summary**

NETALS	METALS ANALYSIS: Total	Total Metal Analyses as Requested	as Requested									
			Aluminum EPA 200.7	Antimony EPA 200.8	Arsenic EPA 200.8	Barium EPA 200.7	Beryllum EPA 200.8	Cadmium EPA 200.8	Chromium EPA 200.7	Cobalt EPA 200.8	Copper EPA 200.8	Lead EPA 200.8
	ជ	Date of Analysis:	10/13/06	10/17/06	10/17/08	04/11/06	10/18/06	10/17/06	10/13/06	10/17/06	10/17/06	10/17/06
Lab I.D.	Sample ID	Time Coll.	mg/l_	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
959459-1	SC-100B-WDR-067	7 09:30	ON	QN	0.0032	ND	1	1	2.03	1	0.0338	0.0030
959459-2	SC-700B-WDR-067	7 09:40	ON	ON	ND	ON			NO		0.0400	0.0040
959459-3	SC-701-WDR-067	10:00	†	ND	ND	ND	QN	Q	S	ON	0.0247	ND
			Mangarese	Mercury	Molybdenum	Nickel FDA 2007	Setenium Epa 200 8	Silver	Thallium FPA 200 8	Vanadium Fbs 2008	Zinc	
	Q	Date of Analysis:	04/11/06	10/12/06	10/17/06	04/11/06	10/17/06	£0/18/08	10/17/06	10/17/06	10/24/06	
Lab I.D.	Sample 1D	Тіте Coll.	mg/L	mg/l.	mg/L	mg/L	mg/l.	mg/L	mg/l.	mg/L	mg/L	
959459-1	SC-100B-WDR-067	09:30	MD	1	0.0197	ON	1	1	3	3	ON	
959459-2	SC-700B-WDR-067	09:40	0.0678	I	0.0134	ND	ł	1	1.	į	QN	
959459-3	SC-701-WDR-067	10:00	1	Q	0.0659	QN	0.0108	0.0467	ON ON	ND	ND	
			Boron	Iron								
			EPA 200.7	<b>EPA 200.7</b>								
	ď	Date of Analysis:	10/13/06	04/11/06								
Lab I.D.	Sample ID	Time Coll.	mg/L	mg/L								
959459-1	SC-100B-WDR-067	06:30	1.31	ND								

NOTES:

959459-3 959459-2

ND: Not detected, or below limit of detection

Š

1,14

09:40

SC-700B-WDR-067 SC-701-WDR-067

10:00

Section 3.0

## Final Reports

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Laboratory No.: 959459

Date: October 26, 2006 Collected: October 4, 2006 Received: October 4, 2006

Prep/ Analyzed: October 5, 2006

Analytical Batch: 10PH06D

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Investigation:

pH by EPA 150.1

REPORT

### Analytical Results pH

TLI I.D.	Field I.D.	Run Time	<u>Units</u>	MDL	<u>RL</u>	Results
959459-1	SC-100B-WDR-067	08:44	pH Units	0.0570	2.00	7.15
959459-2	SC-700B-WDR-067	08:48	pH Units	0.0570	2.00	7.50
959459-3	SC-701-WDR-067	08:52	pH Units	0.0570	2.00	7.26

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	959455	7.28	7.29	0.01	± 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

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2



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

Laboratory No.: 959459

Date: October 26, 2006 Collected: October 4, 2006

Received: October 4, 2006

Prep/ Analyzed: October 12, 2006

Analytical Batch: 10EC06J

Investigation:

Specific Conductivity by EPA 120.1

### **Analytical Results Specific Conductivity**

TLI I.D.	Field I.D.	<u>Units</u>	<u>Method</u>	<u>DF</u>	<u>RL</u>	Results
959459-1	SC-100B-WDR-067	μmhos/cm	EPA 120.1	10.0	20.0	9460
959459-2	SC-700B-WDR-067	μmhos/cm	EPA 120.1	10.0	20.0	9620
959459-3	SC-701-WDR-067	μmhos/cm	EPA 120.1	10.0	20.0	36700

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	959465-4	19300	19100	1.04%	< 10%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
ccs	700	706	99.2%	90% - 110%	Yes
CVS#1	989	1000	98.9%	90% - 110%	Yes
CVS#2	981	1000	98.1%	90% - 110%	Yes
LCS	720	706	102%	90% - 110%	Yes
LCSD	718	706	102%	90% - 110%	Yes

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.

009

### Truesdail Laboratories, Inc.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2



Established 1931

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

Laboratory No.: 959459

Date: October 26, 2006 Collected: October 4, 2006 Received: October 4, 2006

Prep/ Analyzed: October 10, 2006

Analytical Batch: 10TDS06D

Investigation:

Total Dissolved Solids by EPA 160.1

REPORT

### **Analytical Results Total Dissolved Solids**

TLI I.D.	Field I.D.	<u>Units</u>	Method	RL	Results
959459-1 959459-2	SC-100B-WDR-067 SC-700B-WDR-067	mg/L	EPA 160.1	250	5340
959459-3	SC-700B-WDR-067	mg/L mg/L	EPA 160.1 EPA 160.1	250 1250	4240 22400

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	959409-3	2220	2180	0.91%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	465	500	93.0%	90% - 110%	Yes
LCS 2	493	500	98.6%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

The second second

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

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959459

Date: October 26, 2006

Collected: October 4, 2006 Received: October 4, 2006

Prep/ Analyzed: October 5, 2006

Analytical Batch: 10TUC06G

Investigation:

Turbidity by Method EPA 180.1

REPORT

### **Analytical Results Turbidity**

TLI I.D.	Field I.D.	Sample Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	Results
959459-1	SC-100B-WDR-067	09:30	NTU	1.00	0.100	0.120
959459-2	SC-700B-WDR-067	09:40	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	959459-2	ND	ND	0.00%	≤ 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

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.

011

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

REPORT

REF

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Prep. Batch: 10CrH06F

Laboratory No.: 959459

Date: October 26, 2006 Collected: October 4, 2006

Received: October 4, 2006 Prep/ Analyzed: October 4, 2006

Analytical Batch: 10CrH06F

Investigation:

Hexavalent Chromium by IC Using Method EPA 218.6

### **Analytical Results Hexavalent Chromium**

TLI I.D.	Field I.D.	Sample Time	Run Time	<u>Units</u>	<u>DF</u>	RL	Results
959459-1	SC-100B-WDR-067	09:30	19:28	mg/L	100	0.0200	2.00
959459-2	SC-700B-WDR-067	09:40	19:08	mg/L	1.05	0.00020	ND
959459-3	SC-701-WDR-067	10:00	22:27	mg/L	10.0	0.0020	ND

**QA/QC Summary** 

	QC ST	) I.D.	Laboratory Number	Sample Concentrati	.	uplicate centration	Relative Percent Difference	Acceptance limits	QC Within Control
	Duplic	ate	959459-1	2.00		2.00	0.00%	≤ 20%	Yes
QC Std	Lab	Conc.c	of	Added	MS	Measured Cons. of	Theoretical	BACO/	Acceptance

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	959459-1	2.00	100	0.0250	2.50	4.56	4.50	102%	90-110%	Yes
MS	959459-2	0.00	1.06	0.00100	0.00106	0.00100	0.00106	94.3%	90-110%	Yes
MS	959459-3	0.00	1.06	0.00100	0.00106	0.00	0.00106	0.00%	90-110%	No
MS	959459-3	0.00	5.00	0.00100	0.00500	0.00	0.00500	0.00%	90-110%	No
MS	959459-3	0.00	10.0	0.00100	0.0100	0.00998	0.0100	99.8%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00493	0.00500	98.6%	90% - 110%	Yes
MRCVS#1	0.00995	0.0100	99.5%	95% - 105%	Yes
MRCVS#2	0.0102	0.0100	102%	95% - 105%	Yes
MRCVS#3	0.0102	0.0100	102%	95% - 105%	Yes
LCS	0.00495	0.00500	99.0%	90% - 110%	Yes
LCSD	0.00492	0.00500	98.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

www.truesdail.com

REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Laboratory No.: 959459

Date: October 26, 2006

Collected: October 4, 2006 Received: October 4, 2006

Prep/ Analyzed: October 13, 2006

Analytical Batch: 10NH306B

Investigation:

Ammonia as N by Method EPA 350.2

### Analytical Results Ammonia as N

TLI I.D.	Field I.D.	Sample Time	<u>Method</u>	<u>Units</u>	<u>DF</u>	<u>RL</u>	Results
959459-1	SC-100B-WDR-067	09:30	EPA 350.2	mg/L	1.00	0.500	ND
959459-2	SC-700B-WDR-067	09:40	EPA 350.2	mg/L	1.00	0.500	ND

**QA/QC Summary** 

	QC STD		1	borato Numbe	r	Concentra	ition	Du Conc			Pe	elative ercent erence	ı	eptance imits	QC Within Control	
,	Duplic	ate	9	59459-	1	ND			ND		(	0.0%	_	20%	Yes	
QC Std I.D.	Lab Number	Conc. unspik samp	ked		ition ctor	Added Spike Conc.		MS nount	C:	easured onc. of spiked sample		neoretical Conc. of spiked sample		MS% covery	Acceptance limits	QC Within Control
MS	959459-2	0.00	)	1.	00	10.0		10.0		10.1		10.0	1	101%	75-125%	Yes
		QC	Std	I.D.		easured centration		neoretica ncentrati		Percei Recove		Accepta Limits		QC Withi Control	1	
			LCS			9.71		10.0		97.1%	6	90% - 11	10%	Yes	-	

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

**Analytical Services** 

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 FAX (714) 730-6462

www.truesdail.com

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959459

Date: November 7, 2006 Collected: October 4, 2006 Received: October 4, 2006

Prep/ Analyzed: November 7, 2006

Analytical Batch: 11AN06D

Revision 1

Investigation:

Fluoride by Ion Chromatography using EPA 300.0

### **Analytical Results Fluoride**

TLI I.D. Field I.D. Sample Time **Run Time** Unite <u>DF</u> RL Results 959459-3 SC-701-WDR-067 10:00 14:33 mg/L 10.0 2.00 12.3

QA/QC Summarv

						QA	<u>/Q</u>	C St	Im	ımar	y						
	QC STE		1	borat Vumb	•	Concentra	ition		plica entr	ate ation	P	elative ercent ference		eptance Imits	1 .	C Within Control	
	Duplic	ate	9	59459	-3	12.3			12.3		0	.447%	4	20%		Yes	
QC 8td I.D.	Lab Number	uns	nc.of piked nple		ation ctor	Added Spike Conc.		MS nount	C	easured onc. of spiked sample	1	heoretical Conc. of spiked sample	1	VIS% covery	Ac	ceptance limits	QC Within Control
MS	960409-5	1.	.09	1	.00	2.00		2.00		3.12	Ι	3.09		102%	7	5-125%	Yes
		C	C Std	I.D.		easured centration		nearetica ncentrati		Percei Recove		Acceptar Limits		QC Wit			
			MRC	cs		4.15		4.00		104%	,	90% - 11	0%	Yes			
		<u></u>	MRCV	S#1		3.15		3.00		105%	Č	90% - 11	0%	Yes			
			MRCV	S#2		3.16		3.00		105%	,	90% - 11	0%	Yes			
			MRCV:	5#3		3.15		3.00		105%	,	90% - 11	0%	Yes			
			LCS	}		4.15		4.00		104%	,	90% - 11	0%	Yes			

4.00

104%

ND: Below the reporting limit (Not Datected).

LCSD

4.15

DF: Dilution Factor.

Respectfully submitted,

90% - 110%

TRUESDAIL LABORATORIES, INC.

Yes

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.

Amonth Illada

### Truesdail Laboratories, Inc.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

www.truesdail.com

### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959459

Date: October 26, 2006 Collected: October 4, 2006

Received: October 4, 2006 Prep/ Analyzed: October 5, 2006

Analytical Batch: 10NO206D

Investigation:

Nitrite as N by Method EPA 354.1

### Analytical Results for Nitrite as N

<u>TLI I.D.</u>	Field I.D.	Sample Time	Run Time	<u>Units</u>	DF	RL	Results
959459-1	SC-100B-WDR-067	09:30	13:44	mg/L	1.00	0.0050	0.0115
959459-2	SC-700B-WDR-067	09:40	13:45	·			
		00.40	10.40	mg/L	1.00	0.0050	ND

QA/QC Summarv

	QC STE	) I.D. l	_aboratory Number	Concentra	ition		plicate entration	Relative Percent Difference	Acceptance limits	QC Within Control	
	Duplic	licate 959459-1		0.0115		0.0121		5.08%	≤ 20%	Yes	
QC Std I.D.	Lab Number	Conc.of unspiked sample	Dilution Factor	Added Spike Conc.	MS Amo		Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	959459-1	0.0115	1.00	0.100 0.1	00	0.107	0.112	95.5%	75-125%	Yes	

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0928	0.0900	103%	90% - 110%	Yes
MRCVS#1	0.0939	0.100	93.9%	90% - 110%	Yes
LCS	0.177	0.180	98.3%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

Analytical Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to authorization from these laboratories.

015

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

Laboratory No.: 959459

Reported: November 9, 2006 Collected: October 4, 2006 Received: October 4, 2006 Analyzed: October 6 - 24, 2006

Revision 2

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

Attention: Shawn Duffy

Samples: Three (3) Groundwater Samples

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Investigation: Total Metal Analyses as Requested

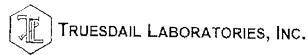
### **Analytical Results**

SAMPLE ID: 5	SC-100B-WDR-067	Time Coll	ected:	09:30		LAB ID:	959459-1	
Perameter	Method	Reported Value	DF	Units	RL	Batch	Date Analyzed	Time Analyzed
Al-uninum	EPA 200.7	ND	1.04	mg/L	0.0520	101306B	10/13/06	18:12
Antimony	EPA 200.8	ND	2.08	mg/L	0.0030	101706A	10/17/06	16:16
Arsenic	EPA 200.8	ND	2.08	mg/L	0.0050	101706A	10/17/06	16:16
β≅rivm	EPA 200.7	ND	1.04	mg/L	0.300	101306B	10/13/06	18:12
CEntornium	EPA 200.7	2.03	1.04	mg/L	0.0104	101306B	10/13/06	18:12
(exper	EPA 200.8	0.0338	2.08	mg/L	0.0100	101706A	10/17/06	16:16
l <b>e</b> ad	EPA 200.8	0.0030	2.08	mg/L	0.0021	101706A	10/17/06	16:16
M=arganese	EPA 200.7	ND	1.04	mg/L	0.500	101306B	10/13/06	18:12
M-olodanum	EPA 200.8	0.0197	2.08	mg/L	0.0050	101706A	10/17/06	16:16
NEdel	EPA 200.7	ND .	1.04	mg/L	0.0208	101306B	10/13/06	18:12
Zanc	EPA 200.7	ND	1.04	mg/L	0.0208	102406A	10/24/08	12:30
B⊂⊃ro⊓	EPA 200.7	1.31	1.04	mg/L	0.200	101306B	10/13/06	18:12
lr\con	EPA 200.7	ND	1.04	mg/L	0.300	101306B	10/13/06	18:12

SEAMPLE ID: SC-70	XB-WDR-067	Time Coll	ected:	09:40		LAB ID:	959459-2	
P≕ameter	Method	Reported Value	DF	Units			Date	Time
Al ับก <b>ม</b> านm	EPA 200.7				RL	Batch	Analyzed	Analyzed
		ND	1.04	mg/L	0.0520	101306B	10/13/06	18:29
<u>Mirouñ</u>	EPA 200.8	ND	2.08	mg/L	0.0030	101706A	10/17/08	16:22
Arsanic	EPA 200.8	<u>N</u> D	2.08	mg/L	0.0050	101706A	10/17/06	16:22
laim	EPA 200.7	ND	1.04	mg/L	0.300	101306B	10/13/06	18:29
( <u>⊫narmium</u>	EPA 200.7	ND	1,04	mg/L	0.0010	100606A	10/06/06	12:02
C⇔per	EPA 200.8	0.0400	2.08	mg/L	0.0100	101706A	10/17/06	16:22
led .	EPA 200.8	0.0040	2.08	mg/L	0.0021	101706A	10/17/06	16:22
M=arganese	EPA 200.7	NÖ	1,04	mg/L	0.500	101306B	10/13/06	18:29
∥ <b>=</b> 0/Ddenum	EPA 200.8	0.0134	2.08	mg/L	0.0050	101706A	10/17/06	16:22
Ni del	EPA 200.7	ND	1.04	mg/L	0.0208	1013068	10/13/06	18:29
Zien:	EPA 200.7	ND	1.04	mg/L	0.0208	102406A	10/24/06	11:31
B⇔n	EPA 200.7	1.14	1.04	mg/L	0.200	101306B	10/13/06	18:29
	EPA 200.7	ND	1.04	mg/L	0.300	101306B	10/13/06	18:29

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.

on an intental



Report Continued

S-AMPLEID: SC-70	)1-WDR-067	Time Coll	ected:	10:00	-	LAB ID:	959459-3	
		Reported					Date	Time
Prameter	Method	Value	DF	Units	RL	Batch	Analyzed	Analyzed
<u>Adlmony</u>	EPA 200.8	ND	10.4	mg/L	0.0052	101708A	10/17/06	16:28
Autenic	EPA 200.8	ND	10.4	mg/L	0.0052	101706A	10/17/06	16:28
<b>Saium</b>	EPA 200.7	ND	1.04	mg/L	0.300	101306B	10/13/06	18:33
8≣ayilium	EPA 200.8	ND	10.4	mg/L	0.0052	101806A	10/18/06	11:21
C:dmium	EPA 200.8	ND	10.4	mg/L	0.0052	101706A	10/17/06	18:28
©tromium	EPA 200.7	ND	1.04	mg/L	0.0010	100606A	10/08/06	12:07
<b>Cobalt</b>	EPA 200.8	ND	10.4	mg/L	0.0052	101706A	10/17/06	16:28
Cipper	EPA 200.8	0.0247	10.4	mg/L	0.0104	101706A	10/17/06	16:28
L_tard	EPA 200.8	ND	10.4	mg/L	0.0104	101706A	10/17/06	16:28
L-Arcury	EPA 245.1	ND	1.00	mg/L	0.00020	10HG06C	10/12/06	14:23
L-blybdenum	EPA 200.8	0.0659	10.4	mg/L	0.0104	101706A	10/17/06	16:28
Mickel	EPA 200.7	ND	1.04	mg/L	0.0208	101306B	10/13/06	18:33
Stentum	EPA 200.8	0.0108	10,4	mg/L	0.0104	101706A	10/17/06	16:28
Siver	EPA 200.8	0.0467	10.4	mg/L	0.0052	101806A	10/18/06	11:21
Ehallum	EPA 200.8	ND	10.4	mg/L	0.0104	101706A	10/17/08	16:28
∐anadium	EPA 200.8	ND	10.4	mg/L	0.0052	101706A	10/17/06	16:28
Znc	EPA 200.7	ND	1.04	mg/L	0.0208	102406A	10/24/06	11:39

►D: Not detected,or below limit of detection.

□F: 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-067]

OF 10 Days PAGE DATE 10-4-06 TURNAROUND TIME COC Number

COMPANY	E2				9		N	//	1	7	5	/		/ /	/ /	,	,		011111
PROJECT NAME	PG&E Topock				<b>5</b>						STATE OF THE PARTY	\	\	7	Rec'd	<i>10/C</i>	10/04/06	<u></u>	COMMENTS
PHONE	(530) 229-3303		FAX (53)	FAX (530) 339-3303	<b>8</b>				EeZa		\			`	6 per	50	4 50		
ADDRESS	155 Grand Ave Ste 1000 Oakland, CA 94612	Ste 1000 1612			·····	pa	ZZ 6	55 £ 100 (7.00)	55 5 101 (100 101 (1001) 101 (1001)			NOZ, NO3	105, NO3				BAZINIATI	B. AZINIATI	
P.O. NUMBER	346/29. IM. OZ. ES	1.02. 压	K 1			### de ### (1.00 ###################################	Dit (1.0	5) SIC.	ST SIDE			705 's	(5.	(1			_ 	VOS	
SAMPLERS (SIGNATURE	ATURE (M)MA		\		381	) (o.,	KIBIOT	a.B.Cc.	(1)	(1.00	(300) E	(008)	95E) en	081) (	<u></u>	\	SERC		
SAMPLE I.D.		DATE	TIME	DESCRIPTION	CY6 (2	MIGIOT	ALAC .	Specifi	OSI) Hd	11) 50	snoin <sup>A</sup>	SIC.	pommA pidiut				BWUN		
SC-100B-WDR-067	R-067	10-4-069:30	9:30	Groundwater	×		×	×	×	×	×	×	×				4	SH-2	
SC-700B-WDR-067		04:6 90-4-01	04:40	Groundwater	×		×	×	×	×	×	×	×				ÿ h	7- m	
SC-701-WDR-067		00:01 90-2-01	10:00	Groundwater	×	×		×	×	×						, ,	3 6	14-2	Đ
										To Carlo Carlo		250		The second second	į		1	TOTAL NUMBE	OTAL NUMBER OF CONTAINERS

For Sample Conditions See Form Attached

ALERTII.

H5, 3	CHAIN OF CUSTODY SIGNATI	SNATURE RECORD		SAMPLE CONDITIONS
Signature ( ) /// (Relinquished)	Printed Duld Chare	Light Company CMI	Date/ /マーヤーのG Time	RECEIVED COOL   WARM
Signature Printed (Received) (1) (1) (2) Name	Printed / Ph. C. P. Rowner Name / Ph. P. Agency	Company/ / / / Z	Date	CUSTODY SEALED YES 🔲 NO 📋
Signature	Printed'	Company/	Date/	SPECIAL REQUIREMENTS:
(Relinquished)	Name	Agency	Time	
Signature	Printed	Company/	Date/	
(Received)	Name	Agency	Time	
Signature	Printed	Company/	Date/	
(Relinquished)	Name	Agency	Time	
Signature	Printed	Company/	Date/	
(Received)	Name	Agency	Time	

082

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

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

www.truesdail.com

October 23, 2006

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-068 PROJECT, GROUNDWATER

MONITORING,

TLI No.: 959696

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-068 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 October 11, 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. gyer

K.R.P. Iyer

Quality Assurance/Quality Control Officer

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Laboratory No.: 959696

Date: October 23, 2006 Collected: October 11, 2006 Received: October 11, 2006

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

**Project Name:** PG&E Topock Project **Project No.:** 346129.IM.02.E2

### **ANALYST LIST**

METHOD	PARAMETER	ANALYST
EPA 120.1	Specific Conductivity	Tina Acquiat
EPA 150.1	рН	Tina Acquiat
EPA 160.1	Total Dissolved Solids	Tina Acquiat
EPA 180.1	Turbidity	Gautam Savani
EPA 200.7	Total Chromium	Riddhi Patel
EPA 218.6	Hexavalent Chromium	Roger Chen

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Prep. Batch: 101706A

Laboratory No.: 959696

Date: October 23, 2006

Collected: October 11, 2006 Received: October 11, 2006

Prep/ Analyzed: October 17, 2006

Analytical Batch: 101706A

Investigation:

Total Dissolved Chromium by Inductively Coupled Argon Plasma Atomic Emission

Spectrometer using EPA 200.7

### **Analytical Results Total Chromium**

**Units** <u>Method</u> **Run Time** DF RL Results TLI I.D. Field I.D. EPA 200.7 11:27 1.04 0.0010 ND SC-700B-WDR-068 mg/L 959696

QA/QC Summarv

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Withi Control
Duplicate	959696	ND	ND	0.00%	<u>&lt;</u> 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
I	MS	959696	0.00	1.04	0.0100	0.0104	0.00843	0.0104	81.1%	75-125%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0104	0.0100	104%	90% - 110%	Yes
MRCVS#1	0.0104	0.0100	104%	90% - 110%	Yes
ICS	0.0102	0.0100	102%	80% - 120%	Yes
LCS	0.0100	0.0100	100%	90% - 110%	Yes

ND: Not detected at reporting limit

DF: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mond Nassimi, Manager Analytical Services

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Relative

Established 1931

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

www.truesdail.com

### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129.IM.02.E2 **P.O. No.:** 346129.IM.02.E2 Laboratory No.: 959696

Date: October 23, 2006 Collected: October 11, 2006

Received: October 11, 2006 Prep/ Analyzed: October 11, 2006

Analytical Batch: 10CrH06P

Investigation:

**Hexavalent Chromium by EPA 218.6** 

### **Analytical Results Hexavalent Chromium**

Field I.D. TLI I.D. Sample Time Run Time Units DF RL Results 959696 SC-700B-WDR-068 13:00 20:45 mg/L 1.05 0.00020 ND

QA/QC Summary

	QC STI	D I.D.		oratory umber	Co	ncentrat	ion		ntration	Percent Difference		eptance imits		Control	
	Duplio	ate	9	59696		ND		1	ND D	0.00%		20%		Yes	
QC Std I.D.	Lab Number	unsp	c.of piked aple	Dilutio Facto	i i	ed Spike Conc.	1	MS nount	Measured Conc. of spiked sample	Theoretica Conc. of spiked sample	Ì	MS% covery	Accep	otance limits	QC Within Control
MS	959696	0.1	00	1.06	0.	00100	0.0	00106	0.00107	0.00106		101%	g	90-110%	Yes
MSD	959696	0.0	00	1.06	0.	00100	0.0	00106	0.00112	0.00106	<u>]</u>	106%	<u> </u>	90-110%	Yes
		Q	C Std	I.D.		sured ntration	1	neoretical	1	,		QC With	1		

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00491	0.00500	98.2%	90% - 110%	Yes
MRCVS#1	0.0101	0.0100	101%	95% - 105%	Yes
MRCVS#2	0.0101	0.0100	101%	95% - 105%	Yes
LCS	0.00495	0.00500	99.0%	90% - 110%	Yes
LCSD	0.00492	0.00500	98.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor

Respectfully submitted,

**Analytical Services** 

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959696

Date: October 23, 2006

Collected: October 11, 2006

Received: October 11, 2006 Prep/ Analyzed: October 12, 2006

Analytical Batch: 10TUC06L

Investigation:

**Turbidity by Method EPA 180.1** 

**Analytical Results Turbidity** 

Results Sample Time Units RL DF TLI I.D. Field I.D. NTU 0.100 SC-700B-WDR-068 13:00 1.00 ND 959696

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	959612-3	0.0640	0.0670	4.58%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.55	8.00	94.4%	90% - 110%	Yes
LCS	7.50	8.00	93.8%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959696

Date: October 23, 2006

Collected: October 11, 2006

Received: October 11, 2006 Prep/ Analyzed: October 12, 2006

Analytical Batch: 10PH06J

Investigation:

pH by EPA 150.1

### Analytical Results pH

Sample Time MDL RL Results **Run Time** Units TLI I.D. Field I.D. 2.00 7.53 959696 SC-700B-WDR-068 13:00 09:18 pH Units 0.0570

### **QA/QC Summary**

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	959698-5	7.42	7.42	0.00	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
LCS	7.00	7.00	0.00	<u>+</u> 0.100 Units	Yes
LCS #1	7.01	7.00	0.01	± 0.100 Units	Yes

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

**Project No.:** 346129.IM.02.E2 **P.O. No.:** 346129.IM.02.E2

Laboratory No.: 959696

Date: October 23, 2006

Collected: October 11, 2006

Received: October 11, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462

www.truesdail.com

Prep/ Analyzed: October 19, 2006

Analytical Batch: 10EC06S

Investigation:

Specific Conductivity by EPA 120.1

### **Analytical Results Specific Conductivity**

TLI I.D.

Field I.D.

CVS#1

CVS#2

LCS

Units

<u>Method</u>

<u>DF</u>

<u>RL</u>

Results

959696

SC-700B-WDR-068

981

989

706

μmhos/cm

EPA 120.1

98.1%

98.9%

100%

1.00

2.00

6440

**QA/QC Summary** 

QC S1		Laboratory Number		Concentration			Duplicate encentration		ative Percent Difference		eptance imits	QC Within Control
Duplica	ate	959934-	7	17000		17000			0.00%	<u>&lt;</u> 10%		Yes
	QC Std I.D.			Measured oncentration		heoretical oncentration	Perce Recov		Acceptanc Limits	е	QC With	1
ľ		CCS		711		706	1019	6	90% - 110%	6	Yes	

1000

1000

706

90% - 110% Yes 90% - 110% Yes

90% - 110%

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Yes

Mona Nassimi, Manager

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

\_ -

REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959696

Date: October 23, 2006

Collected: October 11, 2006 Received: October 11, 2006

Prep/ Analyzed: October 19, 2006

Analytical Batch: 10TDS06l

Investigation:

Total Dissolved Solids by EPA 160.1

### **Analytical Results Total Dissolved Solids**

TLI I.D. 959696

Field I.D. SC-700B-WDR-068 Units mg/L Method EPA 160.1 <u>RL</u> 250 Results 4180

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance limits	QC Within Control
Duplicate	959698-5	0.0601	0.0585	1.35%	≤ 5%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS 1	480	500	96.0%	90% - 110%	Yes
LCS 2	466	500	93.2%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

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-068]

TURNABOLI

TURNAROUND TIME 5 Days

DATE 70 - 1 OF 1

POTAL NUMBER OF CONTAINERS COMMENTS NUMBER OF CONTAINERS M 59696 10/11/06 6 mets Rec'dTurbidity (180.1) (1.091) 201 × Specific Conductance (120,1) × (7,005) sleidM leioT × CKG (218.6) Lab Fillered × × Groundwater DESCRIPTION FAX (530) 339-3303 300 TIME 10-11-06 155 Grand Ave Ste 1000 346129. IM. 02, EZ DATE Oakland, CA 94612 (530) 229-3303 PG&E Topock SC-700B-WDR-068 SAMPLERS (SIGNATURE E2 PROJECT NAME P.O. NUMBER SAMPLE 1.D. COMPANY ADDRESS PHONE

For Sample Conditions See Form Attached



	CHAIN OF CUSTODY SIGNATURE RECORD	IGNATURE RECORD	Date/ / 0-//-04	SAMPLE CC
	Name Eagle Johnsonsiss Agency	→ Agency Omit	Time /530	RECEIVED COOL   WARM
J. R.M.	Printed XXX	Company/ Agency	Date/ 10~11~0 を Time つん・ロ	CUSTODY SEALED YES \( \Boxed{\omega}\) NO \( \Boxed{\omega}\)
1000	1			
Signature Relinguished)	Printed Name	Company/ Agency	Date/ Time	SPECIAL REQUIREMENTS:
	Printed	Company/	Date/	
	Name	Agency	Time	
	Printed	Company/	Date/	
Relinquished)	Name	Agency	Time	
	Printed	Company/	Date/	
	Name	Agency	Time	

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462

www.truesdail.com

October 26, 2006

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

Dear Mt. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-069 PROJECT, GROUNDWATER

MONITORING,

TLI No.: 959933

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock IM3Plant-WDR-069 project groundwater monitoring for Hexavalent and Total Chromium, Turbidity, Specific Conductivity, pH, Anions (NO3, SO4, F), 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 October 18, 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 Nassim

Manager, Analytical Services

K. R. P. gyen

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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

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

Laboratory No.: 959933

Date: October 27, 2006 Collected: October 18, 2006 Received: October 18, 2006

### **ANALYST LIST**

EPA 120.1	Specific Conductivity	Tina Acquiat
EPA 150.1	рН	Tina Acquiat
EPA 160.1	Total Dissolved Solids	Tina Acquiat
EPA 180.1	Turbidity	Gautam Savani
EPA 200.7	Total Chromium	Riddhì Patel
EPA 218.6	Hexavalent Chromium	Roger Chen

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462

www.truesdail.com

### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project
Project No.: 346129.IM.02.E2
P.O. No.: 346129.IM.02.E2

Prep. Batch: 102506A

Laboratory No.: 959933

Date: November 3, 2006 Collected: October 18, 2006

Received: October 18, 2006 Prep/ Analyzed: October 25, 2006

Analytical Batch: 102506A

Revision 1

Investigation:

Total Dissolved Chromium by Inductively Coupled Argon Plasma Atomic Emission

Spectrometer using EPA 200.7

### **Analytical Results Total Chromium**

TLI I.D. Field I.D. Units Method **Run Time** DF RL Results 959933-1 SC-700B-WDR-069 mg/L **EPA 200.7** 10:37 1.04 0.0010 ND

QA/QC Summary

				441 17	<del></del>	iai y		
	QC ST	3 I.U. I	aboratory Number	Concentration Duplicate Concentration		Percent	Acceptance limits	QC Within Control
	Duplic	ate	959933-1	ND	ND	0.00%	<u>&lt;</u> 20%	Yes
00.844	1 ah	Conc.of	Ollusian	Added	Mea	sured Theoretica	1	

	Std .D.	Lab Number	Conc.of unspiked sample	Ollution Factor	Added Spike Conc.	MS Amount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS		959933-1	0.00	1.04	0.0100	0.0104	0.00749	0.0104	72.0%	70-130%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0104	0.0100	104%	90% - 110%	Yes
MRCVS#1	0.0102	0.0100	102%	90% - 110%	Yes
ICS	0.0103	0.0100	103%	80% - 120%	Yes
LCS	0.00963	0.0100	96.3%	90% - 110%	Yes

ND: Not detected at reporting limit

**DF:** Dilution Factor

Respectfully submitted,

TRUEȘDĂIL LABORATORIES, INC

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.

mend 1/3 log

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2

Laboratory No.: 959933

Date: October 27, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 FAX (714) 730-6462

www.truesdail.com

Collected: October 18, 2006

Received: October 18, 2006 Prep/ Analyzed: October 18, 2006

Analytical Batch: 10CrH06AA

•

Investigation:

Hexavalent Chromium by EPA 218.6

### Analytical Results Hexavalent Chromium

DF Results TLI I.D. Field I.D. Sample Time **Run Time** <u>Units</u> RL 5.00 0.00100 ND SC-700B-WDR-069 13:00 21:14 mg/L 959933-1

**QA/QC Summary** 

	QC STC	) I.D.		oratory umber	Concentrati	on	,	olicate entration		Relative Percent lifference		eptance imits		QC Within Control		
	Duplic	ate	95	9933-1	ND			ND		0.00%		20%		Yes		
QC Std	Lab Number	Conc.of unsplked sample		Dilutio Facto	1	I .	MS nount	Measured Conc. of spiked sample		Theoretical Conc. of spiked sample		MS% Recovery		ceptance limi	QC Within Control	
MS	959933-1	0.0	00	5,00	0.00100	0.0	00500	0.004	9	0.00500	<u> </u>	97.8%		70-130%	Yes	
-		Q	C Std	1 1.D.	Measured Concentration	1	neoretica ncentrati	1.	cent			QC Wit Contr				
			MRC	cs	0.00494		0.00500	98	.8%	90% - 11	0%	Yes				
		N	RCV	S#2	0.00992		0.0100	99	.2%	95% - 10	5%	Yes				

0.00500

ND: Below the reporting limit (Not Detected).

LCS

0.00489

**nF**• Dilution Factor

Respectfully submitted,

90% - 110%

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Mana

Analytical Services

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959933

Date: October 27, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462

www.truesdail.com

Collected: October 18, 2006

Received: October 18, 2006 Prep/ Analyzed: October 19, 2006

Analytical Batch: 10TUC06R

investigation:

**Turbidity by Method EPA 180.1** 

### Analytical Results Turbidity

TLI I.D. Field I.D.

Sample Time

<u>Units</u>

<u>DF</u>

Results

959933-1

SC-700B-WDR-069

13:00

NTU

1.00

<u>RL</u> 0.100

ND

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	959886-2	0.0850	0.0870	2.33%	≤ 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control	
ĻÇS	7.35	8.00	91.9%	90% - 110%	Yes	
LCS	7.30	8.00	91.3%	90% - 110%	Yes	

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

**Analytical Services** 

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2

Laboratory No.: 959933

Date: October 27, 2006 Collected: October 18, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462

www.truesdail.com

Received: October 18, 2006

Prep/ Analyzed: October 19, 2006

Analytical Batch: 10PH06Q

investigation:

pH by EPA 150.1

### Analytical Results pH

Results MDL RL Run Time Units Field I.D. Sample Time TLI I.D. 7.18 0.0570 2.00 07:45 pH Units SC-700B-WDR-069 13:00 959933-1

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	959934-7	7.02	7.02	0.00	+ 0.100 Units	Yes

	QC Std I.D.	QC Std I.D. Measured Concentration		Difference (Units)	Acceptance Limits	QC Within Control
1	LCS	7.02	7.00	0.0200	+ 0.100 Units	Yes
-	LCS #1	7.01	7.00	0.0100	+ 0.100 Units	Yes

Respectfully submitted,

RUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2

Laboratory No.: 959933

Date: October 27, 2006 Collected: October 18, 2006

Received: October 18, 2006 Prep/ Analyzed: October 19, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 - FAX (714) 730-6462

www.truesdail.com

Analytical Batch: 10EC06S

Investigation:

Specific Conductivity by EPA 120.1

### Analytical Results Specific Conductivity

TLI I.D. Field I.D. 959933-1 SC-700B-WDR-069

Units µmhos/cm

Method EPA 120.1

DF 10.0

RL Results 20.0

8280

**QA/QC Summary** 

QC ST I.D.	D Laborato Number	1 Concentration		Duplica Concentra			ative Percent Difference	Acceptance limits ≤ 10%		QC Within Control
Duplica	ite 959934-	7 17000		17000			0.00%			Yes
	QC Std I.D.	Measured Concentration	1	Theoretical Concentration		nt ery			QC With Contro	
	ccs	711		706	1019	6	90% - 110%	6	Yes	
	ÇV\$#1	981		1000	98.1	%	90% - 1109	6	Yes	
	CVS#2	989		1000	98.9	%	90% - 1109	/a	Yes	
	LCS	706		706	1009	%	90% - 1109	% Ye		

Respectfully submitted,

TRUEŞDAIL LABORATORIES, INC.

Mona Nassimi, Manager

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2

Laboratory No.: 959933

Date: October 27, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 - FAX (714) 730-6462

www.truesdail.com

Collected: October 18, 2006

Received: October 18, 2006 Prep/ Analyzed: October 20, 2006

Analytical Batch: 10TDS06L

Investigation:

Total Dissolved Solids by EPA 160.1

### **Analytical Results Total Dissolved Solids**

TLI I.D.

Field I.D.

<u>Units</u>

<u>Method</u>

<u>RL</u>

Results

959933-1

SC-700B-WDR-069

mg/L

**EPA 160.1** 

250

4090

QA/QC Summary

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Percent Difference	Acceptance Ilmits	QC Within Control	
Duplicate	959934-7	0.0676	0.0673	0.222%	<u>≤</u> 5%	Yes	

QC Std I.D.	Measured	Theoretical	Percent	Acceptance	QC Within
	Concentration	Concentration	Recovery	Limits	Control
LCS 1	472	500	94.4%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Analytical Services

, many mount of those

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2



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

Laboratory No.: 959933

Date: October 27, 2006

Collected: October 18, 2006

Received: October 18, 2006 Prep/ Analyzed: October 19, 2006

Acceptance | QC Within

Analytical Batch: 10AN06U

Investigation:

Fluoride by Ion Chromatography using EPA 300.0

### **Analytical Results Fluoride**

TLI I.D.	Fleid I.D.	Sample Time	Run Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	Results
959933-1	SC-700B-WDR-069	13:00	17:46	mg/L	1.00	0.200	1.80
959933-2	SC-100B-WDR-069	13:00	17:57	mg/L	1.00	0.200	1.88

QA/QC Summary

Duplicate

	Dupilo		Number 959932	 1.60	10011	Concer	itration 58	Difference		mits	Control Yes	
QC Std I,D.	Lab Number	Conc.of unspiked sample	Dilutte	 Added Spike Conc.	l .		Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	TV		Acceptance limits	QC Within Control
MS	959932	1.60	1.00	2.00	2	2.00	3.76	3.60	1	08%	75-125%	Yes
		QC Sto	11.D.	 sured ntration	1	eoretical centratio	Percei			QC Within		

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	4.15	4.00	104%	90% - 110%	Yes
MRCVS#1	3.16	3.00	105%	90% - 110%	Yes
LCS	4.13	4.00	103%	90% - 110%	Yes
LCSD	4.10	4.00	103%	90% - 110%_	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESPAIL LABORATORIES, INC.

Analytical Services

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931

### REPORT

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2 Laboratory No.: 959933

Date: October 27, 2006 Collected: October 18, 2006

Received: October 18, 2006 Prep/ Analyzed: October 18, 2006

Analytical Batch: 10AN06T

Investigation:

Sulfate by Method EPA 300.0

### **Analytical Results Sulfate**

<u>TLI I.D.</u>	Field I.D.	<u>Sample Time</u>	Run Time	<u>Units</u>	<u>DF</u>	<u>RL</u>	Results
959933-1	SC-700B-WDR-069	13:00	12:49	mg/L	25.0	12.5	457
959933-2	SC-100B-WDR-069	13:00	13:00	mg/L	25.0	12.5	631

QA/QC Summary

	QC STE	I.D.		aboral Numb	-	Concentra	tion	Duj Conce	plica entra	1	Pe	ercent ference	1	eptance imits	QC Within Control	
	Duplic	ate	9	5993	1-8	225			223	L	0.	.893%	5	20%	Yes	
QC Std I,D,	Lab Number	uns	nc.of plked mple		ution ctor	Added Spike Conc.	Ā	MS mount	Co 8	asured onc. of piked ample	'	neoretical Conc. of spiked sample		MS% covery	Acceptance limits	QC Within Control
MS	959931-8	2	25	2	5.0	20.0		500		726	$oldsymbol{\mathbb{L}}$	725		100%	75-125%	Yes
		C	QC Std	I.D.	1	easured centration	I	heoretica ncentrati	· 1	Percer Recove	- 1	Acceptai Limits		QC With Contro	1	
			MRC	CS		19.8		20.0		99.0%	6	90% - 11	0%	Yes		
			MRCV	S#1		15.1		15.0		100%	,	90% - 11	0%_	Yes		
			MRCV	S#2_		15.1		15.0		101%	,	90% - 11	0%	Yes		
			MRCV	S#3		15.0		15.0		100%		90% - 11	0%	Yes		
			MRCV	S#4		15.0		15.0		100%		90% - 11	0%	Yes		
			LC	5		19.9		20.0		99.6%	6	90% - 11	0%	Yes	_	
			LCS	D		19.8		20.0		98.9%	6	90% - 11	0%	Yes		

NO: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager

**Analytical Services** 

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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931



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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: Two (2) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.1M.02.E2

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

Laboratory No.: 959933

Date: October 27, 2006 Collected: October 18, 2006 Received: October 18, 2006

Prepi Analyzed: October 18, 2006

Analytical Batch: 10AN06T

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	<u>Units</u>	<u>DF</u>	RL	Results
959933-1	SC-700B-WDR-069	13:00	12:14	mg/L	1.00	0.200	2.54
959933-2	SC-100B-WDR-069	13:00	12:26	mg/L	1.00	0.200	3.23

QA/QC Summary

	QC STD	I.D	Number	Concentré	ition		entration	Percent Difference	limits	Control	
	Duplica	ite	958595-1	8.04			3.05	0.0373%	≤ 20%	Yes	
QC Std I.D,	Lab Number	Conc.of unspiked sample	Dilution	Added Spike Conc.		MS rount	Measured Conc. of spiked sample	Theoretica Conc. of spiked sample	MS% Recovery	Acceptance limits	QC Within Control
MS	959931-8	8.04	5.00	2.00	1	0.00	18.5	18.0	104%	75-125%	Yes

Relative

QC Std 1.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	4.02	4.00	101%	90% - 110%	Yes
MRCVS#1	2.99	3.00	99.8%	90% - 110%	Yes
MRCVS#2	3.01	3.00	100%	90% - 110%	Yes
MRCVS#3	2.99	3.00	99.8%	90% - 110%	Yes
MRCVS#4	2.99	3.00	99.6%	90% - 110%_	Yes
LCS	4.06	4.00	101%	90% - 110%	Yes
LCSD	4.03	4.00	101%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

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.

TOTAL WARREN OF COATAUNEDS COMMENTS 6 5 Days のドル PAGE FOR NUMBER OF CONTAINERS DATE 10-18-0G TURNAROUND TIME 959933 90/61/01 COC Number Rec'd 559933 CHAIN OF CUSTODY RECORD (1,001) Validas ( [IM3Plant-WDR-069] Specific Conducience (120.1) TOWN CHANNELL × Groundwater DESCRIPTION FAX (530) 339-3303 TRUESDAR, LABORATORIES, INC. 14201 Franklin Avenue, Tustin, CA 92780-7308 (714)730-6239 FAX: (714) 730-6462 www.truesdail.com 罪 10-180 13to , 07806 11300 155 Grand Ave Ste 1000 DATE 346129, 120.02, 62 Oakland, CA 94612 (530) 229-3303 PG&E Topock -2 Sc- 100 B-WDR-069 SC-700B-WDR-069 SAMPLERS (SIGNATURE 囧 PROJECT NAME P.O. NUMBER SAMPLE LD. COMPANY ADCRESS 035 7

	CHAIN OF CUSTODY SIGNAL	SNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished L)	Printed   Savi & Chin	Company/ OMI	Date 10-18-00 Time 15:30	RECEIVED COOL   WARM
Signature (Received) A. Maleun	Make mountained. The becele	Company! FZ/	16	CUSTODY SEALED YES   NO
Signature (Relinquished)	Printed Name	Company/ Agency	Date/ /9 4 U	SPECIAL REQUIREMENTS:
Signature (Received)	Printed Name	Company/ Agency		Saliza
Signature (Reimquished)	Printed Name	Company/ Agency		See Form Conditions
Signature (Received)	Printed Name	Company/ Agency	Date/ Time	All Allachen

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

November 1, 2006

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

Dear Mr. Duffy:

SUBJECT:

CASE NARRATIVE PG&E TOPOCK IM3PLANT-WDR-070 PROJECT, GROUNDWATER

MONITORING,

TLJ No.: 960134

Truesdail Laboratories, Inc. is pleased to submit this report summatizing the Topock IM3Plant-WDR-070 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 October 25, 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. gge

K.R.P. lycr

Quality Assurance/Quality Control Officer

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 Laboratory No.: 960134

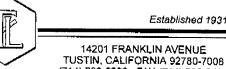
Date: November 1, 2006

Collected: October 25, 2006 Received: October 25, 2006

#### **ANALYST LIST**

		AVALVA
EPA 120.1	Specific Conductivity	Tina Acquiat
EPA 150.1	рН	Tina Acquiat
EPA 160.1	Total Dissolved Solids	Tina Acquiat
EPA 180.1	Turbidity	Gautam Savani
EPA 200.7	Total Chromium	Riddhi Patel
EPA 218.6	Hexavalent Chromium	Stanley Hsieh

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

#### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2 Prep. Batch: 102706A

Laboratory No.: 960134

Date: November 1, 2006 Collected: October 25, 2006

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

Received: October 25, 2006

Prep/ Analyzed: October 27, 2006

Analytical Batch: 102706A

Investigation:

Total Dissolved Chromium by Inductively Coupled Argon Plasma Atomic Emission

Spectrometer using EPA 200.7

# **Analytical Results Total Chromium**

TLI I.D. Field I.D. <u>Units</u> Method Run Time DF RL Results 960134 SC-700B-WDR-070 mg/L **EPA 200.7** 10:54 1.04 0.0010 ND

QA/QC Summary

					<b>V4/V</b>	-	<del>5 0 u</del>		iidi y	,					
	QC STD	/ L.D. 1	borato	-	Concentra	tlon	Du Conc	plica entra	ition	Relative Percent Difference		eptance ilmits	1	Vithin ntroi	
	Duplic	ate	960134	,	ΝĎ			ND		0.00%		≤20%	Y	es	
QC Std I.D.	Lab Number	Conc.of unspiked sample	Ditut Fac		Added Spike Conc.		MS nount	C	easured onc. of spiked ample	Theoretical Conc. of spiked sample		MS% scovery		ptance nits	QC Within Control
MS	960134	0.00	1.0	)4	0.0100	0.	.0104	0	.00771	0.0104	1	74.1%	70-1	130%	Yes
		QC St	1 I.D.		Measured ncentration		neoretica ncentrati	- 1	Percer Recove	1		QC Witi			

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.0101	0.0100	101%	90% - 110%	Yes
MRCVS#1	0.0105	0.0100	105%	90% - 110%	Yes
ICS	0.00974	0.0100	97.4%	80% - 120%	Yes
LCS	0.00959	0.0100	95.9%	90% - 110%	Yes

ND: Not detected at reporting limit

**DF**: Dilution Factor

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

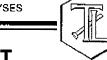
Mona Nassimi, Manager Analytical Services

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these laboratories. 007

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

Laboratory No.: 960134

Date: November 1, 2006

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Collected: October 25, 2006 Received: October 25, 2006 Prep/ Analyzed: October 26, 2006 Analytical Batch: 10CrH06AG

Investigation:

Hexavalent Chromium by EPA 218.6

### **Analytical Results Hexavalent Chromium**

TLI I.D. Field I.D. Sample Time Run Time Units DF RL Results 960134 SC-700B-WDR-070 13:45 08:46 mg/L 5.00 0.0010 ND

QA/QC Summary

	QC ST	) I.D.   1	boratory lumber	Concentration	on		plicate entration	Percent Difference	Acceptance Ilmits	Control	
	Duplic	ate	360134	ND		<u> </u>	ND ]	0.00%	<u>&lt; 20%</u>	Yes	
QC Std I.D.	Lab Number	Conc.of unspiked sample	1 Dilution	Added Spike Conc.		MS nount	Measured Conc. of spiked sample	Theoretical Conc. of spiked sample	MS% Recovery	Acceptance limit	QC Within Control
мѕ	960134	0.00	1.06	0.00100	0.0	00106	0.00098	0.00106	92.4%	90-110%	Yes
MS	960134	0.00	5.00	0.00100	0.0	00500	0.00490	0.00500	98.0%	90-110%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
MRCCS	0.00499	0.00500	99.8%	90% - 110%	Yes
MRCVS#1	0.00995	0.0100	99.5%	95% - 105%	Yes
MRCVS#2	0.00989	0.0100	98.9%	95% - 105%	Yes
LÇS	0.00498	0.00500	99.6%	90% - 110%	Yes
LCSD	0.00499	0.00500	99.8%	90% - 110%	Vas

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

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager **Analytical Services** 

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

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

#### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.; 346129.IM.02.E2

Laboratory No.: 960134

Date: November 1, 2006

14201 FRANKLIN AVENUE

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

Collected: October 25, 2006

Received: October 25, 2006

Prep/ Analyzed: October 26, 2006

Analytical Batch: 10TUC06V

Investigation:

Turbidity by Method EPA 180.1

### **Analytical Results Turbidity**

 TLI I.D.
 Field I.D.
 Sample Time
 Units
 DF
 RL
 Results

 960134
 SC-700B-WDR-070
 13:45
 NTU
 1.00
 0.100
 ND

QA/QC Summarv

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Relative Percent Difference	Acceptance limits	QC Within Control
Duplicate	960112-2	1,22	1.25	2.43%	<u>&lt;</u> 20%	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
LCS	7.42	8,00	92.8%	90% - 110%	Yes
LCS	7.50	8.00	93.8%	90% - 110%	Yes
LCS	7.52	8.00	94.0%	90% - 110%	Yes

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted.

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

009

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

www.truesdail.com

REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

P.O. No.: 346129.IM.02.E2

Laboratory No.: 960134

Date: November 1, 2006

Collected: October 25, 2006 Received: October 25, 2006

Prep/ Analyzed: October 26, 2006

Analytical Batch: 10PH06U

Investigation:

pH by EPA 150.1

### **Analytical Results pH**

TLI I.D. Field I.D. Sample Time Run Time Units MDL RL Results 960134 SC-700B-WDR-070 13:45 08:35 pH Units 0.0570 2.00 7.96

**QA/QC Summary** 

QC STD I.D.	Laboratory Number	Concentration	Duplicate Concentration	Difference (Units)	Acceptance limits	QC Within Control
Duplicate	960134	7.96	7.98	0.02	+ 0.100 Units	Yes

QC Std I.D.	Measured Concentration	Theoretical Concentration	Difference (Units)	Acceptance Limits	QC Within Control
LCS	7.00	7.00	0.00	<u>+</u> 0.100 Units	Yes
LCS #1	7.00	7.00	0.00	+ 0.100 Units	Yes

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.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

#### REPORT

Client: E2 Consulting Engineers, Inc.

155 Grand Ave. Suite 1000

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129.IM.02.E2 P.O. No.: 346129.IM.02.E2

Laboratory No.: 960134

Date: November 1, 2006

Collected: October 25, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 · FAX (714) 730-6462

www.truesdail.com

Received: October 25, 2006 Prep/ Analyzed: October 26, 2006

Analytical Batch: 10EC06V

Investigation:

Specific Conductivity by EPA 120.1

# **Analytical Results Specific Conductivity**

TLI I.D. 960134 Field I.D.

SC-700B-WDR-070

Units μmhos/cm

**Method** EPA 120.1

DF 10.0

RL 20.0 Results 8620

QA/QC Summarv

QC STD I.D.	Laboratory Number	Concentration	Duplicat Concentrat		elative Percent Difference	Acceptance limits	QC Within Control
Duplicate	960134	8620	8650		0.35%	<u>&lt;</u> 10%	Yes
١,		Measured	Theoretical	Percent	Accentance	e OC With	in in

QC Std I.D.	Measured Concentration	Theoretical Concentration	Percent Recovery	Acceptance Limits	QC Within Control
ccs	697	706	98.7%	90% - 110%	Yes
CVS#1	950	1000	95.0%	90% - 110%	Yés
LCS	697	706	98.7%	90% - 110%	Yes

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.

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

Established 1931



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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Groundwater Sample

Project Name: PG&E Topock Project

Project No.: 346129,IM.02,E2 P.O. No.: 346129,IM.02,E2 Laboratory No.: 960134

Date: November 1, 2006 Collected: October 25, 2006

14201 FRANKLIN AVENUE

TUSTIN, CALIFORNIA 92780-7008 (714) 730-6239 FAX (714) 730-6462

www.truesdail.com

Received: October 25, 2006

Prep/ Analyzed: October 26, 2006

Analytical Batch: 10TDS06Q

Investigation:

Total Dissolved Solids by EPA 160,1

### **Analytical Results Total Dissolved Solids**

TLI I.D.

Field I.D.

<u>Units</u>

<u>Method</u>

<u>RL</u>

Results

960134

SC-700B-WDR-070

mg/L

EPA 160.1

250

3790

**QA/QC Summary** 

QC STD I.	D.	Laboratory Number	Concentrat	ion	Dupli Concen		-	ercent fference	eptance limits	QC Within Control
Duplicate	9	960134	3790		347	0		4.41%	≤ 5%	Yes
	QC :	Std I.D.	Measured		oretical	Percer		Accepta	QC Within	

 QC Std I.D.
 Measured Concentration
 Theoretical Concentration
 Percent Recovery
 Acceptance Limits
 QC Within Control

 LCS 1
 478
 500
 95.6%
 90% - 110%
 Yes

ND: Below the reporting limit (Not Detected).

RL: Reporting Limit.

Respectfully submitted.

TRUESDAIL LABORATORIES, INC.

-Mona Nassimi, Manager Analytical Services

TRUESDAR, LABORATORSES, INC. 14201 Franklin Avenue, Tustin, CA 92780-7508 - [714]730-6462 FAX: (714) 730-6462 www.truesdall.com

CHAIN OF CUSTODY RECORD [IM3Plant-WDR-070]

ጛ PAGE 1 DATE 10-25-06 TURNAROUND TIME COC Number

			<del></del>					
	COMMENIS		SPENATION OF THE PROPERTY OF T	VO <sub>D</sub>	O FEE	The same of the sa	7-49	TOTAL NUMBER OF CONTAINERS
***	*****					N	22	3
		****	~ \(\frac{1}{2}\)	ξ (C)	-	******		
1			7.50	6013	-	*****		
C	Ñ	*****		(ပုံ) (တ	-			
		_		_	-	********		
è		•	P. 20 Q					
-	Ž			_	*****	***********		
7	Ö	****		****	-	******		
1	3)		-		Lines	*****		
-	****		-	•	(1081)	pour	×	
*****	-	*****	(I'm	•	405	12821	×	!
*****		-	(1201)	â DURDO	Pum	SL)Hd	×	
	*****	***	Pal Orona	01 60	20 Sec.	ioeds	×	
			Pa	OF ARE	7 (90.	V KODI	×	
					10 81	380	×	
		FAX (530) 339-3303				DESCRIPTION	10-25-06 13:45 Groundwater	
		FAX (530	1 1			TIME	13:45	
	_		e Ste 1000 94612	n,02.F2	200	C	10-25-06	
E2	AME PG&E Topock	(530) 229-3303	155 Grand Ave Ste 1000 Oakland, CA 94612	* 346129. 1M.02.82	SKHATURE OU.		SC-700B-WDR-070	
COMPANY	PROJECT NAME	PHONE	ADDRESS	P.O. NUMBER	SAMPLERS (SIGNATURE	SAMPLE 1.D.	SC-700B-	

Level III QC **ALERT!!** 

For Sample Conditions See Form Attached

主	CHAIN OF CUSTODY SIGNATURE RECORD	NATURE RECOR	g.		SAMPLE CONDITIONS
Printed Chals Willout Agency	₹.	SEL I	104244 17 Time 15:30	10,75.06 15130	RECEIVED COOL WARM [] *F
Printed HAVEARUTA	21	1-1	Datte/	\$5:387	CUSTODY SEALED YES   NO
Printed	1	Company	Dafe		
Name	٠.	Agency	Time		SPECIAL RECARREMENTS:
		Company/	Date/		
Name	5	Agency	Time		
		Company/	Cate/		
	37	Agency	Time		
	7.	omparry/	Date,		
Name	٠.	Agency	Time		
	ĺ				Commence of the Commence of th

032



STL Los Angeles 1721 South Grand Avenue Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921 www.stl-inc.com

October 27, 2006

STL LOT NUMBER: **E6J050265** PO/CONTRACT: 346129.1M.02.E2

Chip Poalinelli E2 Consulting Engineers, Inc 1900 Powell Street, Suite 250 Emeryville, CA 94608



Dear Mr. Poalinelli,

This report contains the analytical results for the sample received under chain of custody by STL Los Angeles on October 5, 2006. This sample is associated with your PG&E TOPOCK GWM project.

STL Los Angeles certifies that the test results provided in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA / E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the cooler received for this project can be found on the Project Receipt Checklist. Historical control limits for the LCS are used to define the estimate of uncertainty for a method. All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

Preliminary results were sent via facsimile on October 16, 2006

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains \_\_\_\_\_\_ pages.



#### **CASE NARRATIVE**

The RPD (Relative Percent Difference) for percent moisture in the sample duplicate for Prep Batch # 6279326 exceeded acceptance criteria of 10%. However, please note that the laboratory controls the percent solids and not the percent moisture in the duplicates. In this particular batch, the RPD of the percent solids is 2.5%.

If you have any questions, please feel free to call me at (714) 258-8610.

Sincerely,

Marisol Tabirara Project Manager

cc: Project File

597.02019]

Severn Trent Laboratories 1721 Grand Ave, Santa Ana, CA 92705 (714)258-8610

CHAIN OF CUSTODY RECORD

[Sludge Sample-13]

Я 10 Days PAGE TURNAROUND TIME DATE 10-4-06 COC Number

TOTAL NUMBER OF CONTAINERS COMMENTS NUMBER OF CONTAINERS Mercury (7471A) (6617) SIEJƏM Metals (60703) 2189-87 × DESCRIPTION FAX (530) 339-3303 Soil 346129.12,02. FZ TEAM TIME 155 Grand Ave Ste 1000 30-5-0 DATE PG&E Topock GWM Oakland, CA 94612 (530) 229-3303 SC-Sludge-WDR-067 SAMPLERS (SIGNATURE E2 PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE

Ö	CHAIN OF CUSTODY SIGNATURI	GNATURE RECORD		SAMPLE CONDITIONS
Signature (Relinquished)	Printed CONS STARTE Name	Companyl Topock ZM3 Date/10-4-06 Agency OMI Time 10-38	Date/ <i>1つ-4-06</i> Time <i>1つつ</i> ぎ	RECEIVED COOL   WARM
Signature 🦪 (Received)	Printed Name	Company/ Agency	Date/ Time	CUSTODY SEALED YES 🔲 NO 📋
Signature (Relinquished)	Printed Compain Name Mile ACON Agency	Company/ 7 - L /	Time // 20	SPECIAL REQUIREMENTS:
Signature (Received) (4) HAM (MANN)	Name/Wett / 1854/cb	Company/ STC	Date/ 1055-06 Time // 23	
Signature (Relinquished) (Math	Printed/WHC MCFick	WCFC Agency STC	Date/01/11/40	
Signature (Received)	Printed FUR GOYZE US	Company/ ST C Agency	Date/ (1/5/06 /11/10	
	1		/ /	

000003

### METHOD / ANALYST SUMMARY

#### E6J050265

ANALYTICAL		ANALYST
METHOD	ANALYST	<u>ID</u>
MCAWW 160.3 MOD	Janice Salenga	403147
SW846 6010B	Josephine Asuncion	021088
SW846 7199	Yuriy Zakhrabov	000022
SW846 7471A	Hao Ton	000023
References:		
	s for Chemical Analysis of Water and Wa /4-79-020, March 1983 and subsequent re	
	ethods for Evaluating Solid Waste, Phy. " Third Edition, November 1986 and it	

#### E2 Consulting Engineers, Inc

#### Client Sample ID: SC-SLUDGE-WDR-067

#### TOTAL Metals

Lot-Sample #...: E6J050265-00: Matrix....: S0

Date Sampled...: 10/04/06 09:43 Date Received..: 10/05/06 11:40

% Moisture....: 80

		REPORTING		PREPARATION- WORK
PARAMETER	RESULT	LIMIT UNITS	METHOD	ANALYSIS DATE ORDER #
Prep Batch #				70/70 70/77/05 TOAT 77
Arsenic	32	4.9 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AA
		Dilution Factor: 1	Analysis Time: 15:54	
		Instrument ID: M01	MS Run #: 62844	35
Antimony	ND	29 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AC
-		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	35
Barium	100	9.8 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AD
Barrum	100	Dilution Factor: 1	Analysis Time: 15:54	
		Instrument ID: M01	MS Run #: 62844	<u>-</u>
		II. Det amend april 1101		
Cadmium	7.8	2.5 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AE
		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	35
		-		
Chromium	15000	4.9 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4LLAF
		Dilution Factor: 1	Analysis Time: 15:54	- · · · · · · · · · · · · · · · · · · ·
		Instrument ID.:: M01	MS Run #: 62844	35
Beryllium	ND	2.5 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AG
•		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	35
~ a	NID	2.5 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AH
Lead	1017	Dilution Factor: 1	Analysis Time: 15:54	,
		Instrument ID.:: M01	MS Run #: 62844	•
		instrument ib Moi	M5 Run # 62044	
Selenium	ND	2.5 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AJ
		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	135
G : 3		4 0 mg/3	SW846 6010B	10/10-10/11/06 JFQ4L1AK
Silver	NID	4.9 mg/kg		
		Dilution Factor: 1	Analysis Time: 15:54	•
		Instrument ID: M01	MS Run # 62844	: Ç Ç

(Continued on next page)

#### E2 Consulting Engineers, Inc

#### Client Sample ID: SC-SLUDGE-WDR-067

#### TOTAL Metals

Lot-Sample #...: E6J050265-001

Matrix....: SO

		REPORTING		PREPARATION- WORK
PARAMETER	RESULT	LIMIT UNITS	METHOD	ANALYSIS DATE ORDER #
Cobalt	ND	25 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AL
		D:.lution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run # 62844	35
Copper	99	12 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4LlAM
		D:.lution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run # 62844	35
Molybdenum	ND	20 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AN
-		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	35
Nickel	38	20 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AP
		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run # 62844	35
Thallium	ИD	4.9 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AQ
		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	35
Vanadium	80	25 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AR
		D:.lution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	35
Zinc	61	9.8 mg/kg	SW846 6010B	10/10-10/11/06 JFQ4L1AT
		Dilution Factor: 1	Analysis Time: 15:54	Analyst ID: 021088
		Instrument ID: M01	MS Run #: 62844	35
Prep Batch #.		0.40 - Mar	CU04C 74713	10/11/06 TECATION
Mercury	1.9	0.49 mg/kg	SW846 7471A	10/11/06 JFQ4L1AU
		Dilution Factor: 1	Analysis Time: 14:42	-
		Instrument ID: M04	MS Run #: 62842	.12

13

Results and reporting limits have been adjusted for dry weight.

NOTE(S):

#### E2 Consulting Engineers, Inc

#### Client Sample ID: SC-SLUDGE-WDR-067

#### General Chemistry

Lot-Sample #...: E6J050265-001 Work Order #...: JFQ4L Matrix.....: S0
Date Sampled...: 10/04/06 09:43 Date Received..: 10/05/06 11:40

% Moisture....: 80

PARAMETER Hexavalent Chromium	RESULT	RL 0.98	UNITS mg/kg	METHOD SW846 7199	PREPARATION- ANALYSIS DATE 10/12-10/13/06	PREP BATCH # 6282179			
	_	Dilution Factor: 1 Instrument ID: W18		Analysis Time: 09:31 MS Run #: 628209	Analyst ID: 000022				
Percent Moisture	_	0.10 Dilution Fact Enstrument ID		MCAWW 160.3 MOD Analysis Time: 13:30 MS Run #: 627920	10/06-10/07/06 Analyst ID				

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

RL Reporting Limit

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES

October 13, 2006

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



Established 1931

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 PROJECT, SLUDGE SAMPLE-13,

TLI No.: 959454

Truesdail Laboratories, Inc. is pleased to submit this report summarizing the Topock project, Sludge Sample-13. 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 October 4, 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. ggen

K.R.P. Iyer

Quality Assurance/Quality Control Officer

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

Laboratory No.: 959454

Date: October 12, 2006 Collected: October 4, 2006 Received: October 4, 2006

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Soil Sample Project Name: PG&E Topock Project Project No.: 346129.IM.02.E2

### **ANALYST LIST**

EPA 300.0	Fluoride	Giawad Ghenniwa
METHOD	PARAMETER	ANALYST

INDEPENDENT TESTING, FORENSIC SCIENCE, AND ENVIRONMENTAL ANALYSES



Established 1931

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

#### REPORT

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

Oakland, CA 94612

Attention: Shawn Duffy

Sample: One (1) Soil Sample
Project Name: PG&E Topock Project
Project No.: 346129.IM.02.E2

**P.O. No.:** 346129.IM.02.E2

Laboratory No.: 959454

Date: October 12, 2006 Collected: October 4, 2006 Received: October 4, 2006

Prep/ Analyzed: October 6, 2006

Analytical Batch: 10AN06G

Investigation:

Fluoride by Ion Chromatography Using EPA 300.0

#### **Analytical Results Fluoride**

TLI I.D.	Field I.D.	<u>Units</u>	Method	Run Time	<u>DF</u>	RL	<u>Results</u>
959454	SC-Sludge-WDR-067	mg/kg	EPA 300.0	14:25	20.0	4.00	11.9

**QA/QC Summary** 

						— ·	_			~.,																				
	QC STE	I.D.		Laboratory Number		Concentra	tion Duplicate Concentration			Relative Percent Difference		Acceptance limits		QC Within Control																
	Duplic	ate		959454		11.9			13.9	9		15.7%	≤20	%		Yes														
QC Std I.D.	Lab Number	uns	nc.of piked nple	Dilution Fac	ctor	Added Spike Conc.			MS Co		/IS Conc ount spik				Conc. of spiked		IS Corount sp		MS Co mount sp		Conc.		1	Theoretical Conc. of spiked sample	MS Reco		Acc	eptance limi	ts	QC Within Control
MS	959454	1	1.9	20.0		2.00	40.0		56.4		51.9	111%			85-115%		Yes													
			QC:	Std I.D.		Measured ncentration	i e	eoretica centrati	- 1	Percer Recove	- 1	Accepta Limit		QC With Cont	in															
			M	RCCS		4.14		4.00		103%		90% - 1	10%	Yes	3															
			MR	CVS#1		3.14		3.00		105%		90% - 1	10%	Yes	3															
			MR	CVS#2		3.11		3.00		104%		90% - 1	10%	Yes	3															
				_CS		4.16		4.00		104%		90% - 1	10%	Yes	s															
		1	L	CSD		4.08		4.00		102%		90% - 1	10%	Yes	s															

ND: Below the reporting limit (Not Detected).

DF: Dilution Factor.

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Mona Nassimi, Manager Analytical Services

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

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

**CHAIN OF CUSTODY RECORD** 

[Sludge Sample-13]

TURNAROUND TIME COC Number

10 Days PAGE DATE 10-4:06

TOTAL NUMBER OF CONTAINERS COMMENTS NUMBER OF CONTAINERS 959454 10/04/06 Rec'd THE STATE OF THE S 17 (0.00E) STOINA × DESCRIPTION FAX (530) 339-3303 Soil TIME 40-5-01 155 Grand Ave Ste 1000 DATE Oakland, CA 94612 (530) 229-3303 PG&E Topock SC-Sludge-WDR-067 SAMPLERS (SIGNATURE E2 PROJECT NAME P.O. NUMBER SAMPLE I.D. COMPANY ADDRESS PHONE

For Sample Conditions See Form Attached

SAMPLE CONDITIONS	RECEIVED COOL   WARM   °F	CUSTODY SEALED YES \( \Boxed{\omega}\) NO \( \Boxed{\omega}\)		SPECIAL REQUIREMENTS:						
CORD	Printed Sun Y SIMILE Company TOPOICE TIME Date 10-4-66 Name Agency	$\mathcal{L}$ . $\mathcal{L}$ Date/ $\mathcal{F}$ :50	Date/	Time	Date/	Time	Date/	Time	Date/	Time
CHAIN OF CUSTODY SIGNATURE RECORD	Company 75000 Agency Agency	Up WE ARONA Agency	Company/	Agency	Company/	Agency	Company/	Agency	Company/	Agency
CHAIN OF C	Printed C. Name	M H 16 G P. O. Name	/ Printed /	Name	Printed	Name	Printed	Name	Printed	Name
	Signature (Relinquished)	Signature (Received)	Signature	(Relinquished)	Signature	(Received)	Signature	(Relinquished)	Signature	(Received)

Appendix B Certification Signature Authority Delegation Email From:

Eakins, Julie/BAO

Sent:

Thursday, October 12, 2006 10:46 AM

To:

Meeks, Yvonne J; Curt Russell (gcr4@pge.com); Barbara Benson (BSB2@pge.com); Jayo,

Juan (Law

Cc:

Johns, Mathew/DEN; Ring, George/PHX

Subject:

FW: Order R7-2006-0060

I received this email from Jose Cortez that we will not need another Delegation of Authority letter for future monitoring reports submitted under Order R7-2004-0060.

Julie Eakins, PE CH2M HILL 155 Grand Avenue, Suite 1000 Oakland, CA 94612 ph.510-587-7647 fax 510-622-9147

----Original Message----

From: Jose Cortez [mailto:jcortez@waterboards.ca.gov]

Sent: Thursday, October 12, 2006 10:41 AM

To: Eakins, Julie/BAO

Subject: Re: Order R7-2006-0060

Julie,

You will not need to submit a new Delegation of Authority for R7-2006-0060 unless the authorized person has changed.

Jose Cortez

Water Resources Control Engineer Regional Water Quality Control Board Colorado River Basin Region 73-720 Fred Waring Drive, Suite 100 Palm Desert, CA 92260 Phone: (760) 776-8963

Phone: (760) 776-8963 Fax: (760) 341-6820

email: jcortez@waterboards.ca.gov

>>> <Julie.Eakins@CH2M.com> 10/9/2006 2:53 PM >>> Hi Jose,

This is to confirm your voice mail message from September 25, 2006 for submittal of monitoring reports for discharge from the PG&E Topock IM-3 project. As confirmed by your voice mail, the October 15, 2006 monitoring reports can be filed under the previous Order R7-2004-0103.

A copy of R7-2006-0060 (adopted September 20, 2006) has now been received, and future monitoring reports (post October 15, 2006) will be submitted under the new Order R7-2006-0060.

Attached is the Delegation of Authority for signing monitoring reports under Order R7-2004-0103. Will you require a new Delegation of Authority for monitoring reports submitted under R7-2006-0060?

Sincerely, Julie Eakins, PE CH2M HILL 155 Grand Avenue, Suite 1000 Oakland, CA 94612 ph.510-587-7647 fax 510-622-9147